PORTFOLIO PAPER

From Probability to Prevention

Reforming NHS Dentistry: the clinical, economic and ethical case for a prevention-led contract

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Submitted to the Department of Health and Social Care

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A Prevention-Led, Risk-Weighted Case for Replacing the NHS Dental Contract in England

Title	From Probability to Prevention
Subtitle	A Prevention-Led, Risk-Weighted Case for Replacing the NHS Dental Contract in England
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Purpose	This document presents a fully specified replacement for the NHS dental contract in England, comprising the funding formula, tariff schedule, care-pathway architecture and investment case, supported by a defined framework for assurance, calibration and implementation. It is submitted for independent review and policy consultation.

About this paper

The NHS dental contract in England has not been fundamentally reformed since 2006. This paper argues that the contract cannot be repaired through further modification of the UDA architecture and sets out a fully specified replacement.

The proposed Population Oral Health Contract is prevention-led and risk-weighted. It is built around registered population responsibility, the Annual Contract Value formula — Bc × Rp × Ru + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc — a four-pathway care model, a ten-year contractual structure with formal gate reviews, and a demonstrator programme designed for independent evaluation.

The investment case shows that the central model can be constructed within the broad range of current gross expenditure per patient, while expanding coverage, improving access and directing resources more deliberately towards need.

The paper is submitted for independent review and policy consultation in the belief that the evidence base is now sufficient, the financial case coherent, the implementation and assurance route specified, and the political moment present.

Submitted to the Department of Health and Social Care

Executive Summary: Case, Model and Recommendations

A Prevention-Led, Risk-Weighted Case for Replacing the NHS Dental Contract in England

The Proposition

This paper proposes the **Population Oral Health Contract** as the replacement architecture for the 2006 NHS dental contract in England.

The central argument is simple:

NHS dentistry should stop buying activity after disease has occurred and instead commission registered responsibility for the oral health trajectory of a defined population.

The Population Oral Health Contract is prevention-led and risk-weighted. It is built around a named dental home, registered population responsibility, delivered prevention tariffs, urgent-to-continuity access, transparent patient charge reconciliation, and risk-adjusted measures of quality and public value.

Its financial architecture is expressed through the Annual Contract Value formula:

$$\mathbf{ACV = (Bc \times Rp \times Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc}$$

In plain English: contract value equals registered population responsibility, adjusted for risk, plus delivered prevention, legitimate Pathway 3 laboratory costs, urgent access capacity and quality reward, minus patient charge income.

This paper does not propose another modification to the UDA contract. Nor does it propose immediate national implementation without evaluation. It proposes a specified replacement architecture, to be tested, assured and refined through staged demonstrators before national adoption.

The demonstrator is not the destination. It is the assurance route.

The Problem

The NHS dental contract in England has not been fundamentally reformed since 2006. Measuring dental activity through Units of Dental Activity rather than population health outcomes has become a structural fixture. The current contract prices activity, not risk. It rewards treatment after disease has occurred, not prevention before disease escalates. It does not systematically recognise deprivation, fluoridation status, local disease prevalence, urgent demand or the unequal distribution of oral disease across communities.

The result is a contract that misallocates resource. It serves those already able to attend more reliably than those with the greatest unmet need, disease burden and access barriers.

That is Tudor Hart's inverse care law in operation. The 2006 Units of Dental Activity (UDA) contract does not merely reflect that pattern. It funds and entrenches it.

The National Audit Office and Public Accounts Committee have confirmed that the current architecture has not delivered the access improvement required. NHS England's 2023 prototype evaluation showed that prevention activity increases when incentives change, but the prototype programme did not produce a scalable national replacement contract. The lesson is therefore not that prevention-led reform is unrealistic; it is that reform must be specified as a replacement architecture, rather than layered onto the UDA system.

Two decades on from the 2006 contract, the consequences are no longer theoretical. In 2024/25, 27 million adults received no NHS dental care. Only 40% of adults had seen an NHS dentist in the previous 24 months, and only 57% of children in the previous 12 months. There were 33,976 decay-related hospital extraction episodes for children aged 0–19. In 2023/24, there were 73,088 A&E attendances with a primary dental diagnosis. The CQC has reported that 25% of care-home providers were unable to access NHS dental care for residents.

The crisis in NHS dentistry is not simply an access problem.
It is a purchasing problem: the NHS is buying activity
when it needs to buy responsibility, prevention and continuity.

The Replacement Model – A Population Oral Health Contract

The Population Oral Health Contract changes the unit of accountability.

The current contract asks: how much activity has been delivered?

The Population Oral Health Contract asks a different question: what level of investment is required to maintain and improve the oral health of a defined registered population, taking account of disease risk, prevention need, urgent care burden and patient charge income?

Element	Purpose
Registered population responsibility	Every patient has a named dental home responsible for recall, prevention, urgent access and return from referred care.
Risk-weighted capitation —Bc × Rp × Ru	Core funding is adjusted for deprivation, fluoridation, local caries prevalence and historic urgent demand.
Delivered prevention and laboratory support — Pt(d), Ls(P3)	Prevention is paid when delivered and recorded; legitimate Pathway 3 laboratory costs are protected.
Urgent-to-continuity access — Uc(r), Uc(a)	Unregistered urgent care is funded during transition and used as an entry point into registration.
Quality and charge reconciliation — Qp, Pc	Quality improvement is rewarded and patient charge income is deducted from gross contract value.

Professional and provider confidence

The Population Oral Health Contract must not become an unfunded transfer of risk from the NHS to practices. Its purpose is the opposite: to replace unstable activity-based delivery with a clearer income architecture in which registered responsibility is funded prospectively,

risk is priced explicitly, delivered prevention is paid for, legitimate laboratory costs are protected, urgent access is commissioned, and quality improvement is rewarded.

Providers should receive one-twelfth of agreed ACV each month, with proportionate annual reconciliation against validated delivery, patient charge income, list movement, prevention activity, urgent-to-continuity conversion, legitimate Ls(P3) claims and quality premium achievement.

Shadow pricing, provider-income sensitivity analysis and distributional modelling should precede financial consequences, so that practices are not asked to absorb unfunded risk, unpredictable losses or abrupt cash-flow shocks.

The professional compact is explicit: greater responsibility must come with explicit risk pricing, stable monthly income, protected legitimate costs, paid prevention, funded urgent access, proportionate reconciliation and transition protection.

The investment case

The programme-weighted central model produces an indicative gross ACV of £118.08 per registered patient at go-live. Current gross NHS dental expenditure equates to approximately £124.82 per patient seen. These figures provide a 5.4% lower unit-cost affordability reference, but they are not directly equivalent commissioning products. Current expenditure purchases a heterogeneous mixture of episodic urgent, routine and complex treatment; the proposed ACV purchases prospective registered responsibility, prevention, continuity, urgent access and population-risk management over time. The final opening tariff must therefore be calibrated through actuarial review, shadow pricing and provider-income modelling before financial consequences are activated.

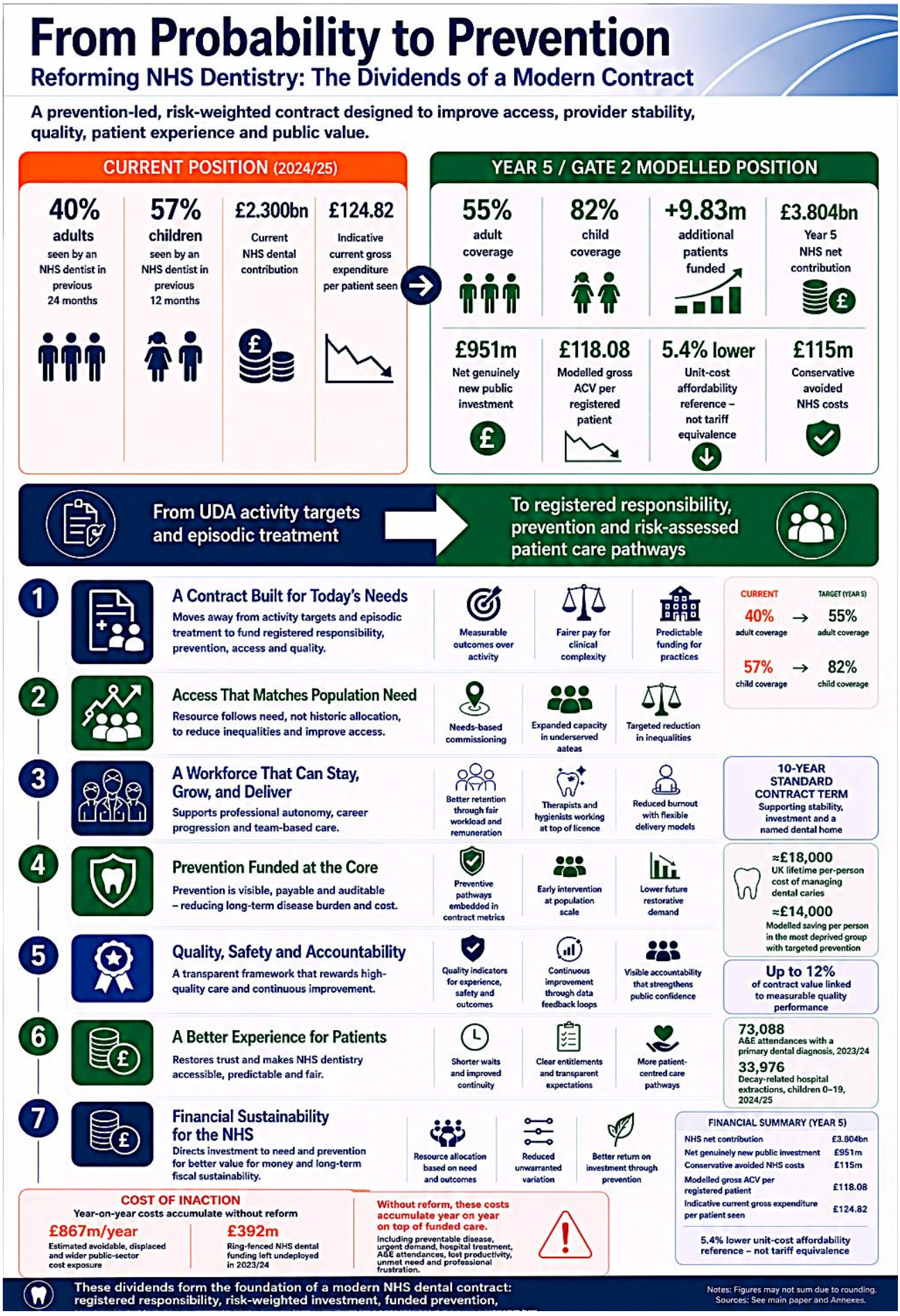
At Year 5, Gate 2, the central model produces the following investment profile:

Measure	**Figure**
NHS net contribution	**£3.804bn**
Gross increase against current NHS baseline	**£1.504bn**
Inflation catch-up	**£438m**
Conservative avoided NHS costs	**£115m**
Net genuinely new public investment	**£951m**
Additional patients funded	**9.83m**
Adult coverage	**55%**
Child coverage	**82%**

The primary affordability case is deliberately disciplined. It uses only conservative avoided NHS costs in the core calculation. Wider oral-systemic, social and environmental benefits are treated as supplementary public value unless and until demonstrator evidence confirms attribution, timing, effect size and budget ownership.

The seven reform dividends: a contract built for today's needs, access matched to population need, workforce sustainability, funded prevention, quality and accountability, patient experience, and financial sustainability are developed in full in Table 5.12 at the close of Part 5. For brevity, Infographic ES.1 summarises the reform proposition in one page: the current position, the Year 5 / Gate 2 modelled position, and the linked dividends of moving from UDA activity targets and episodic treatment to registered responsibility, prevention and risk-assessed patient care pathways.

Infographic ES.1: Reform dividends of a prevention-led NHS dental contract



Why reform cannot wait

Every year of delay leaves millions of adults outside NHS dental care, children exposed to avoidable pain and hospital extraction, care-home residents without reliable oral-health support, and A&E absorbing avoidable dental presentations. The cost of inaction is already being paid in preventable disease, displaced demand, professional frustration, undeployed NHS dental funding and loss of public confidence.

The June 2026 Commons debate demonstrated broad cross-party recognition that the 2006 contract is structurally broken. What has been lacking is a specification. This paper provides one.

What must be tested before national adoption

The Population Oral Health Contract should be tested through staged demonstrators before national rollout. The demonstrator should test whether the model is implementable, affordable, fair to providers and better for patients.

Gate 1 should focus on implementation fidelity: whether registration, pathway allocation, payment, prevention, urgent access, patient charges and reconciliation are operating as designed.

Gate 2 should focus on adoption readiness: whether the model is beginning to improve access, continuity, prevention, provider viability, patient experience and early oral-health outcomes.

Key findings

1

The contract is structurally mis-specified and cannot be fixed by modification

The UDA system pays for activity after disease has occurred. It cannot recognise population risk, fund prevention systematically, or measure whether oral health is improving. A contract designed to count treatment cannot be made to deliver population oral health by marginal adjustment..

2

Prevention is an economic intervention, not simply a clinical aspiration

International modelling estimates the UK's per-person lifetime cost of managing dental caries at approximately **£18,000**, the highest of the six countries studied. The modelled prevention saving in the most deprived UK group reaches approximately **£14,000 per person** when prevention is targeted proportionately. This should be read as modelling evidence, not an observed NHS expenditure figure. Its significance is the scale and direction of the finding: prevention is a targeted economic intervention with greatest value where disease burden is highest.

3

The formula prices different places differently — correctly

Risk-weighted ACV values range from **£91.83 gross per patient** in the low-risk typology to **£173.13** in the inner-city London typology with Ru 1.52 plus London weighting. This is an **88.5% differential** driven by measurable differences in population risk, access cost and commissioned supplements.

That is not preferential treatment. It is accurate pricing.

4

Provider confidence is a condition of reform

A model may be affordable nationally and still fail if it destabilises providers locally. The demonstrator must therefore test provider income stability, principal margin, associate earnings, therapist deployment, premises cost, working capital, cash-flow stability and high-need practice viability before full financial consequences are activated.

5

The model is affordable, testable and capable of Treasury appraisal

The central model is not cost-free, but it is financially coherent. At Year 5, the net genuinely new public investment requirement is **£951m**, after inflation catch-up and conservative avoided NHS costs, funding **9.83 million additional patients**. The model should be submitted to HM Treasury under Green Book appraisal principles, with wider public value treated as supplementary until demonstrator evidence confirms cashability.

6

The demonstrator is the assurance route

The remaining uncertainties are precisely those the demonstrator is designed to test: provider viability, administrative burden, prevention-claim gaming, patient charge operation, workforce sustainability, CDS interface, dental desert mobilisation, outreach-to-dental-home conversion, patient experience and early outcome signals.

The question is not whether to run another open-ended pilot. It is whether to test a specified replacement architecture rigorously enough to support a national adoption decision

The decision

The diagnosis is established. The current contract is structurally mis-specified. The evidence base is sufficient to proceed to a specified demonstrator. The financial case is coherent. The implementation route is defined. The remaining uncertainties are precisely those the demonstrator is designed to test.

The reform delivers seven linked dividends: a contract built for today's needs, replacing activity targets with registered responsibility, prevention and quality; access that matches population need, directing resource to need rather than historical allocation; a workforce that can stay, grow and deliver, through career progression and team-based care; prevention funded at the core, making prevention visible, payable and auditable; quality, safety and accountability, through a transparent improvement framework; a better experience for patients, restoring trust and predictability; and financial sustainability for the NHS, directing investment to need and prevention. Table 5.12, at the close of Part 5, sets out the full detail behind each; Figure ES.1 overleaf summarises them in a single view.

The question is no longer whether the 2006 contract should be replaced. It is whether the replacement decision is made now, with disciplined assurance and calibration, or whether a further generation of patients waits while the NHS continues to fund activity after disease has already occurred.

The case for acting now

Every year of delay leaves 27 million adults outside NHS dental care, including many people in communities with the highest disease burden, while a large share of NHS dental activity remains concentrated in lower-complexity Band 1 care for those already able to attend. The recovery plan has failed to deliver the access improvement required. The UDA model cannot be fixed. The inflation catch-up argument removes the primary Treasury objection. The 15 June 2026 Commons debate confirmed cross-party consensus for replacement.

The diagnosis is established, the evidence base is sufficient to proceed, and the remaining uncertainties are precisely those the demonstrator is designed to test. The implementation pathway is defined. The question is not whether to replace the contract. It is whether to announce that decision in Q1 2027, or to make a further generation of patients wait.

Recommendations — for DHSC and NHS England

IMMEDIATE	Commission a full independent actuarial and health-economic review of the ACV formula, including risk-weighted capitation, patient charge treatment, prevention tariffs, urgent-care funding, provider viability and distributional impact.
IMMEDIATE	Submit the investment case under Green Book principles, using the Year 5 requirement of £951m net genuinely new public investment to fund 9.83 million additional patients, after inflation catch-up and conservative avoided NHS costs.
IMMEDIATE	Mandate population oral health needs assessments for all ICBs. Needs assessments should be standardised and published, using OHID, NDIP, IMD, fluoridation, local caries prevalence, urgent demand and access data as the commissioning baseline for ACV setting.
NEAR-TERM	Publish a formal contract replacement framework include a policy decision date, demonstrator go-live dates, Gate 1 and Gate 2 review points, and the national rollout decision timeline.
NEAR-TERM	Commission the national dental demonstrator programme: 10 ICBs in two cohorts, full Population Oral Health Contract architecture, independent NIHR evaluation commissioned at design stage, including at least 3 ICBs from the lowest readiness quartile.
MEDIUM-TERM	Establish the NHS Dental Transformation Fund. The fund should support practice mobilisation, dental desert capacity, ICB commissioning capability, NHSBSA data infrastructure, POHR development, workforce transition and independent evaluation.

Recommendations — for Integrated Care Boards

IMMEDIATE	Commission dental services in proportion to population need. ICBs should use IMD, NDIP, fluoridation, local disease prevalence and urgent demand data to calibrate risk uplift coefficients, rather than relying on historical contract values.
IMMEDIATE	Prepare for registration and dental-home commissioning. ICBs should develop the local infrastructure required for list validation, pathway allocation, urgent-to-continuity conversion, patient charge reconciliation and public reporting.
NEAR-TERM	Commission prevention as a contracted function. Prevention should be specified, delivered, recorded and funded, rather than treated as discretionary advice absorbed into activity-based care.
NEAR-TERM	Specify CDS, special care and referred-care pathways. The Population Oral Health Contract must not turn general dental practice into an unfunded repository for complexity. ICBs should specify Community Dental Services, special care dentistry, sedation, Tier 2, hospital and specialist pathways as part of the architecture.
NEAR-TERM	Design outreach into a dental home. Mobile, school, care-home, domiciliary and community outreach should identify need, deliver appropriate prevention and stabilisation, and connect patients into registered continuing care wherever possible.
MEDIUM-TERM	Build commissioning readiness. ICBs should self-assess against readiness conditions: dental clinical leadership, analytical capacity, provider market intelligence, contract management, patient engagement, public reporting, data-sharing capability, CDS interface and estate readiness for dental deserts.

Recommendations — for the profession and professional bodies

IMMEDIATE	Engage with replacement, not modification. BDA, College of General Dentistry, dental schools and professional bodies should engage explicitly with the Population Oral Health Contract as a replacement architecture, rather than limiting reform debate to adjustment of the existing UDA model.
NEAR-TERM	Define the professional compact. Professional engagement should test the conditions under which providers can safely accept greater responsibility: explicit risk pricing, stable monthly income, paid prevention, protected legitimate costs, funded urgent access, proportionate reconciliation and transition protection.
NEAR-TERM	Confirm skill-mix deployment within existing scope. The model does not depend on unresolved regulatory change to dental therapist scope. It assumes full and consistent use of existing scope of practice within competence, indemnity, medicines rules, clinical governance and escalation arrangements.
NEAR-TERM	Develop workforce and education alignment. Dental schools, NHS England Education and professional bodies should embed population oral health, risk stratification, prevention, pathway allocation, dental-home responsibility and team-based delivery into curricula and CPD.
MEDIUM-TERM	Support independent evaluation and research. NIHR, the academic dental community and professional bodies should support evaluation of demonstrator sites, including access, prevention, workforce sustainability, administrative burden, patient experience, oral-systemic pathways, child oral health and provider viability.

How the Contract Formula Works

From activity counting to risk pricing: a plain-English guide to the Annual Contract Value algorithm

From activity counting to risk pricing

The Executive Summary introduced the ACV formula as five operational contract elements. This section explains how the same formula works as a calculation. It breaks the model into seven steps so that finance, policy, clinical and commissioner readers can see exactly how contract value is built — and how the model differs from UDA activity counting.

The current NHS dental contract pays mainly for activity already delivered. It asks: how many Units of Dental Activity has a practice completed?

The Population Oral Health Contract asks a different question: what level of investment is required to maintain and improve the oral health of a defined registered population, taking account of disease risk, prevention need, urgent care burden and patient charge income?

The formula

$$ACV = (Bc \times Rp \times Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc$$

Contract value = registered population responsibility, adjusted for risk, plus delivered prevention, legitimate lab cost, urgent care capacity and quality reward, minus patient charge income.

The operational model can be read as **five contract elements**, but the formula itself is best understood through **seven calculation steps**.

The Seven Steps

1
Rp

Start with the registered population

The model begins with a named list of patients. This is the denominator of prevention. Without a registered population, the NHS can count treatment but cannot know who the practice is responsible for, who is at risk, who is overdue for recall, or whether oral health is improving over time.

2 **Bc**	**Apply a base capitation rate** Each registered patient attracts a national base payment. This funds the ordinary responsibilities of continuing NHS care: assessment, diagnosis, risk-based recall, care planning, routine maintenance, simple restorative care, basic periodontal care, urgent care for registered patients and referral coordination. Central rates: adults £70/year, children £60/year.
3 **Ru**	**Adjust for population risk** The base payment is adjusted by a risk uplift coefficient. A practice serving a high-deprivation, non-fluoridated population with high child caries and high urgent demand should not be paid as if it were serving a low-risk, affluent, fluoridated population. The Ru coefficient uses four measurable factors: deprivation (IMD, 50%), water fluoridation status (20%), local caries prevalence (20%) and historic urgent demand (10%). Range: 0.85 (lowest risk) to 1.60 (highest risk). National average: 1.10. That is accurate pricing — not preferential treatment.
4 **Pt(d)**	**Pay separately for prevention actually delivered** Prevention is not assumed. It is paid when delivered and recorded. Prevention episode tariffs include fluoride varnish, fissure sealants, periodontal stabilisation, dietary advice, smoking cessation support, domiciliary prevention and acclimatisation for nervous or avoidant patients. All prevention episodes are free to the patient.
5 **Ls(P3)**	**Protect legitimate laboratory costs** Some restorative and stabilisation care requires external laboratory work: crowns, dentures, indirect restorations. Legitimate lab costs in Pathway 3 care are protected through a specific, auditable supplement. This prevents practices from being penalised for providing appropriate restorative care to patients whose stabilisation requires laboratory-supported treatment.
6 **Uc(r) + Uc(a)**	**Fund urgent access during transition** During transition, millions of patients remain outside regular NHS dental care. Urgent capacity must be explicitly commissioned. Two sub-elements: Uc(r) is a fixed access retainer (£2,000–£14,000/yr, ICB-set); Uc(a) is a per-attendance payment for unregistered urgent patients, paid net of patient charge. For registered patients, urgent care is part of the dental home obligation funded through base capitation. The policy aim: convert urgent attendance into registration, stabilisation and continuing care.
7 **Qp − Pc**	**Reward quality, then deduct patient charge income** A quality premium of up to 12% is linked to measurable improvement: prevention coverage, recall compliance, urgent-to-continuity pathway performance, pathway movement and population health outcomes. Then patient charge income is deducted through Pc. Patient charges are not extra income on top of the NHS contract. They are part of total system funding and must be deducted from gross contract value to produce the net NHS commissioner payment. Qp is a commissioning improvement mechanism, not a substitute for CQC oversight, GDC standards, performer-list arrangements, local clinical governance, complaints processes or clinical negligence routes.

What the algorithm changes

Current contract	Population Oral Health Contract
Treatment volume	**Population responsibility**
Flat pricing regardless of risk	**Risk-weighted pricing by disease probability**
Unfunded prevention	**Delivered prevention tariffs — separately paid**
Urgent care as a revolving door	**Urgent care as an entry point to continuing care**
Activity targets	**Measurable oral health improvement**

The central principle is simple:

public money should follow the probability of disease before disease becomes the cost of treatment.

How to Read This Paper

Paper architecture, audience guide, section summaries and annex cross-references

ABOUT THIS PAPER

From Probability to Prevention is structured around a simple strategic distinction: **ends, ways and means**.

The **end** is a prevention-led NHS dental contract that buys registered responsibility for the oral health of a defined population. The intended end state is not more activity under a modified UDA architecture, but a different commissioning product: access, prevention, continuity, risk reduction and measurable public value.

The **means** is the **Population Oral Health Contract**. This is the proposed replacement model. It is built around a named dental home, risk-weighted capitation, delivered prevention tariffs, urgent-to-continuity pathways, legitimate Pathway 3 laboratory support, a quality premium and transparent patient charge reconciliation. Its financial architecture is expressed through the Annual Contract Value formula:

$$\mathbf{ACV = (Bc \times Rp \times Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc}$$

The **ways** are the mechanisms by which the model should be tested, assured, calibrated and implemented: staged demonstrators, shadow pricing, provider distributional analysis, professional engagement, administrative parsimony testing, gaming red-team review, independent public reporting and gate-reviewed adoption.

The model proposed in this paper is designed for **NHS dentistry in England**. The four UK nations differ in funding flows, contractual architecture, service mix and commissioning arrangements. Cross-UK commentary is used only to identify shared pressures in publicly funded dentistry: access, prevention, workforce, affordability and political courage. The detailed formula, implementation route and governance recommendations apply to England unless explicitly stated otherwise.

The paper is structured in five substantive sections, followed by twelve technical annexes and two appendices: **Appendix K1**, which translates the reform model into demonstrator assurance and calibration tests, and **Appendix L1**, which provides the international comparator evidence.

The sections build a single, cumulative argument. **Part 1** sets out the policy, clinical, economic and ethical case for replacing the 2006 NHS dental contract. **Part 2** specifies the Population Oral Health Contract: the Annual Contract Value formula, pathway architecture, dental home obligation, urgent-to-continuity mechanism, quality premium, patient charge deduction, workforce model and contract term. **Part 3** presents the investment case, transition logic, patient charge treatment, avoided-cost assumptions and provider-viability requirements. **Part 4** applies the formula to six representative ICB typologies, showing how

different patterns of need generate different contract values. **Part 5** sets out the assurance and calibration route: what the evidence establishes, what the demonstrator must test, the readiness conditions for implementation, the national demonstrator programme, accountability framework and recommendations.

The demonstrator is therefore not the destination. It is the disciplined route by which the Population Oral Health Contract is tested, assured, calibrated and refined before national adoption.

The paper can be read in full or by entry point. The audience guide below directs different readers to their most relevant starting point.

AUDIENCE GUIDE — RECOMMENDED READING ORDER

Audience	Recommended reading order
HM Treasury and DHSC finance teams	Start: Part 3 (investment case and trajectory), then Part 5 (conclusions and recommendations), then Part 1 (policy case). Supporting: Annexes F (charge income), H (cost of not reforming), I (systemic NCDs).
DHSC policy and contract teams	Start: Parts 1 and 2 (policy case and service specification), then Part 5 (implementation sequencing). Supporting: Annexes B, C, D (registration, pathways, urgent care) and Annex K (objections answered).
ICB dental commissioners	Start: Parts 2 and 4 (specification and ICB profiles), then Part 5 (readiness conditions). Supporting: Annexes B, C and D (registration, pathways, urgent care).
Clinical and academic readers	Start: Parts 1 and 2, then Annexes A (probabilistic framework) and L (evidence base). Supporting: Annex I (oral health and systemic NCDs), Appendix L1 (international comparators).
Professional bodies and BDA	Start: Part 1 (policy case), then Annex K (objections answered in full). Supporting: Part 2 (workforce model), Parts 3 and 5 (financial case and transition governance).
Patient advocates and media	Start: Executive Summary, then the Foreword and Part 1. Supporting: Annex E (patient charges and exemptions), Annex G (child prevention).

PAPER ARCHITECTURE — SECTION BY SECTION

Part	Title	Contents
01	**The Policy Case**	The clinical and economic case for replacing the 2006 contract: structural diagnosis; international caries cost evidence; visible consequences (GA extractions, A&E, care homes, school absence); why modification is insufficient; the Bayesian probabilistic framing; the contract elements; and the political context.
02	**Service Specification and Contract Valuation**	The reformed Annual Contract Value (ACV) formula, base capitation rates, the uplift coefficient, pathway-weighted prevention tariffs, supplements, dental home obligation, quality premium, care pathway model, KPI framework, workforce model, and 10/15-year contract terms.
03	**The Investment Case and Transition**	The corrected financial baseline (NHS £2.300bn net; gross system £3.108bn). • Year 5: 34.73m patients, gross ACV £4.645bn, NHS net £3.804bn, £951m net genuinely new investment. • Year 10: 38.12m patients, NHS net £4.692bn, £1.674bn net new investment. The inflation catch-up argument and patient charge treatment.
04	**The Spectrum of Need**	Six ICB profiles demonstrating the ACV formula in operation: rural dental desert; coastal and ageing; mixed urban-suburban; inner-city; low-risk. Gross per patient ranges from £91.83 to £173.13 — an 88.5% differential.
05	**Conclusions, Implementation and Accountability**	The verdict and evidence-confidence assessment; the minimum viable reform core; principal objections addressed; the assurance and calibration requirements; what the evidence establishes and what must be tested before national adoption; ICB readiness conditions; the national demonstrator programme; implementation sequencing; the accountability framework; and recommendations organised by audience and urgency.

ANNEX CROSS-REFERENCES

The twelve technical annexes provide extended treatment of data sources, financial models, methodology and supporting analysis. Appendix L1 provides the full international comparator evidence.

Annex	Title	Purpose and key content
A	**Probabilistic Framework Primer**	The Bayesian prior concept, likelihood ratios, decision thresholds and the uplift (Ru) coefficient. Non-technical introduction to probabilistic reasoning in dental commissioning. (Parts 1 and 2)
B	**Registration, Dental Home and Continuing Responsibility**	Case for formal NHS dental registration. Dental home obligations, patient and practice rights, equity requirements, non-attendance protocol, list validation and data infrastructure. (All sections)
C	**Care Pathways: Replacing Treatment Bands**	The P1–P4 pathway model. Clinical profiles, prevention episode eligibility, Pt(d) tariff structure, acclimatisation, Ls(P3) full specification, patient charge logic and KPI framework. (All sections)
D	**Dental Home and Urgent Care**	Full technical specification of Uc(r) and Uc(a). NHS111 dental pathway. Two-tier hub and any-willing-practice model. Self-rebalancing gate review mechanism. Patient charge deduction. (All sections)
E	**Patient Charges and Exemptions**	Historical adult exemption series. Current statutory exemption categories. Eight proposed extension groups with three-tier framework and ROI matrix. Legal pathway and SI amendment route. (Part 3)
F	**Patient Charge Income Methodology**	Full charge income model, NHSBSA 2024/25 baseline (£774m), pathway charge derivation, controlling Year 5 figure (£841m), sensitivity analysis and April 2026 charge addendum. (Part 3)
G	**Child Prevention Investment Case**	Child oral health baseline. Honest five-year NHS cost accounting: £181m additional cost offset by £26.5m avoided GA extractions. Cross-departmental child dividend. Green Book case. (Part 3)
H	**The Cost of Not Reforming**	Dunleavy et al. £18,000 per-person baseline. Avoidable cost pool: GA episodes (£53m/yr), A&E attendances (£25m/yr), admissions (£18m/yr). Total cost of not reforming approximately £867m/yr. (Part 3)
I	**Oral health and Systemic NCDs**	Periodontal-T2D (−0.43% HbA1c; £190m/year at Year 5; £350m/year at Year 10.) Periodontal-CVD Orlandi et al. 2025 RCT. Respiratory, adverse pregnancy outcomes. Oral cancer detection (8,800 cases/yr). Green Book cross-departmental framework. (Part 3)
J	**Sustainability and Contract Design**	Dental carbon footprint (675 kilotonnes CO_2e; 3% of NHS total). Treatment-prevention carbon differential. Four sustainability dividends from reform. BDA sustainability framing. (All sections)
K	**Objections to the Reform Model**	Extended Q&A by audience: professional/BDA concerns, NHS England/policy concerns, Treasury concerns, clinical concerns, commissioner concerns and patient concerns — all addressed directly. (All sections)

K1	**Assurance and Calibration Tests for the Population Oral Health Contract Demonstrator**	Converts the objections and implementation risks in Annex K into demonstrator test domains, gaming scenarios, Gate 1/Gate 2 evidence requirements and public reporting principles.
L	**Evidence Base**	Clinical prevention efficacy with GRADE ratings: fluoride varnish (High), fissure sealants (High), periodontal-T2D (Moderate), periodontal-CVD (Moderate), dietary advice (Low). NHS prototype evaluation. International comparators. (All sections)
L1	**International Comparator Evidence**	Scotland Childsmile, British Army recruit model, Denmark, Netherlands, Malta, Portugal, New Zealand. System-design lessons for England. (Supports Annex L)

A note on data and financial modelling

All NHS spending figures are nominal unless stated. Real-terms analysis uses the NHS pay and prices deflator. The current NHS dental contribution is £2.300bn net (NHS England); the total dental system envelope including patient charges is approximately £3.108bn.

The ACV formula is Bc×Rp×Ru + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc. Base capitation rates (central: Bc_@ £70, Bc_@ £60) are modelled against NASDAL Benchmarking Survey 2025 and NHSBSA 2024/25 statistics. The Ru coefficient ranges from 0.85 to 1.60; national average 1.10. Patient charge baseline is 2024/25 rates throughout; the April 2026 uplift is noted in the Annex F addendum. ICB profiles in Part 4 are composite illustrations from published OHID and NHSBSA data, not profiles of specific named ICBs. Implementation timeline dates assume a Q1 2027 policy decision; all subsequent dates are contingent on that decision. This paper does not constitute legal, financial or actuarial advice.

From Probability to Prevention is an independent policy paper by Sara Hurley CBE, former Chief Dental Officer for England.

I declare the use of generative artificial intelligence during the preparation of this paper. In accordance with the GAIDeT taxonomy (2025), generative AI tools were used under full human direction, review and oversight for voice transcription; correction of grammar, spelling and syntax in dictated and drafted material; drafting and editorial refinement; restructuring and consolidation of text; polishing content for clarity, consistency and presentation; and support with analytical, financial and policy modelling.

ChatGPT was used primarily to support voice transcription, drafting, editing, restructuring and the presentation of content. Claude (Anthropic) was used to assist with the construction, testing and refinement of aspects of the analytical and financial model, including the organisation of assumptions, scenario analysis, consistency checking, interrogation of model outputs, proofreading and document formatting.

Generative AI was not used as an autonomous author, decision-maker or source of professional or clinical judgement. All ideas, arguments, policy positions, clinical judgements, conceptual frameworks, contractual architecture, formulae, modelling assumptions, interpretations of evidence, conclusions and recommendations are the author's own.

All AI-assisted outputs were critically reviewed, checked against source evidence and revised before inclusion. Where modelling assistance was provided, responsibility for the assumptions, calculations, interpretation and final presentation remains entirely with the author.

Generative AI tools used: *ChatGPT 5.5 and Claude (Anthropic).*

Full responsibility for the accuracy, integrity and final content of the paper rests with the author. Generative AI tools are not listed as authors and bear no responsibility for the paper's analysis, findings, conclusions or recommendations.

Declaration submitted by: *Sara Hurley CBE*

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Foreword

Sara Hurley CBE | Former Chief Dental Officer for England, 2015–2023

I spent eight years as Chief Dental Officer for England. For most of that time, I was trying to do within the 2006 contract what this paper now argues cannot be done within it: make NHS dentistry work better for the patients it was structurally leaving behind.

I commissioned evidence. I engaged the profession. I led redesign work. I watched the prototype programme generate genuinely encouraging changes in clinical behaviour among participating practices but fail to produce anything that looked like a scalable national replacement. I read NAO and PAC findings that confirmed what clinicians on the ground already knew. I sat in rooms where the same analysis was presented, the same conclusions were reached, and the same cycle of review, consultation and partial adjustment began again.

I left that role in 2023 believing two things. First, that the people working in NHS dentistry (dentists, dental therapists, practice teams, commissioners, dental public health specialists and patient advocates) understand the problem with unusual clarity. Second, that the system as designed cannot resolve it, because the contract is not a flawed instrument for a good purpose. It is the right instrument for the wrong purpose. It was designed to count treatment. It cannot be made to prevent disease. That is an architectural problem, not a management one.

> *The contract is not a flawed instrument for a good purpose.*
>
> *It is the right instrument for the wrong purpose.*
>
> *It was designed to count treatment.*
>
> *It cannot be made to prevent disease.*

This paper is the work I wished had existed while I was in post. Not another set of reform principles. Not evidence review alone. Not another call for an open-ended pilot. A fully specified replacement: formula, tariff schedule, pathway architecture, registration model, dental home obligation, urgent care mechanism, patient charge treatment, workforce implications, legal route, financial trajectory, evidence base, comparator analysis, implementation gates, and explicit answers to the strongest objections.

The argument is simple, but the specification is necessarily detailed. Public money should follow the probability of disease before disease becomes the cost of treatment. That requires a contract built around registered population responsibility, risk-weighted investment,

delivered prevention, stabilisation, urgent-to-continuity conversion and measurable population health improvement. It also requires honesty about uncertainty: which assumptions are strong enough to act on now, which require demonstrator testing, and which claims must not be made before Gate 2 evidence is available.

This is not an argument that reform is cost-free. It is an argument that the current contract is already costly in the wrong ways: through unmet need, preventable disease, urgent presentation, hospital treatment, repeated crisis care and undeployed public funding. The investment case in this paper is deliberately disciplined. It separates inflation restoration from genuinely new public investment, uses only conservative avoided NHS costs in the primary affordability bridge, and treats wider systemic, social and environmental benefits as supplementary public value until demonstrator evidence confirms attribution, timing and cashability.

The timing is not accidental. The government has committed to fundamental reform within this Parliament. The Health Minister acknowledged in the Commons on 15 June 2026 that there is no perfect dental contract, and that complexity requires care in getting reform right. He is correct on both counts. This paper is an attempt to do that work: to turn complexity into a commissioning architecture that is costed, testable, stress-tested against available data, and capable of being scrutinised before adoption.

I want to be clear about what this paper is and is not. It is a specification, not a manifesto. It argues for replacement rather than modification, but it does so on analytical grounds, not political ones. The honest acknowledgements in Annex K, what we do not know, what requires further research, what the legislative pathway demands, and what ICBs must be able to do that many currently cannot are as important as the claims in Parts 1 to 5.

> *A policy argument that pretends certainty it does not have will*
>
> *not survive the scrutiny it needs to attract.*
>
> *This one should be tested, challenged and improved.*

The question I am asked most often about NHS dental reform is: why has nothing changed? My answer, after eight years inside the system and three years outside it, is that modification of the current model has too often been mistaken for reform of it. They are not the same thing. This paper attempts the second.

I submit it for review in the belief that the evidence is now sufficient, the financial argument coherent, the implementation route specified, and the political moment present.

What remains is the decision.



Sara Hurley CBE
Former Chief Dental Officer for England, 2015–2023
July 2026

Acknowledgements

This paper has been shaped by the time, insight, challenge and generosity of many colleagues across dentistry, public health, commissioning, policy, regulation, academia and industry. I am deeply grateful to those who have read drafts, tested assumptions, questioned the modelling, challenged the language, shared evidence, corrected detail and helped sharpen the argument.

Most importantly, I want to acknowledge colleagues in practice and across the dental team (dental nurses, dental therapists, dental hygienists, dentists, practice managers, reception teams and dental technicians) whose daily experience gives this paper its urgency. The frustrations expressed by colleagues working within NHS dentistry are not abstract complaints about contract design. They are the lived reality of trying to provide good care inside a system that too often misaligns professional purpose, patient need and contractual reward.

I am also grateful to colleagues who have brought different perspectives to the same central problem. Some have approached the question through evidence and epidemiology; others through workforce, finance, governance, access, safety, technology, patient experience or provider viability. Each perspective has mattered.

What has struck me throughout is the consistency of commitment. Whether expressed as frustration, technical critique, professional concern, policy challenge or practical realism, the same underlying purpose shines through a desire for NHS dentistry to work better for patients, communities and the people trying to deliver care.

My task has been to join the dots. The analysis, model and recommendations are my responsibility, but they have been informed by many conversations with people who understand the system not only through data, but through daily contact with its consequences. I am grateful for their honesty, patience and continued belief that reform is still possible.

Sara Hurley CBE
Former Chief Dental Officer for England, 2015–2023

PART 1

01 The Policy Case

The clinical, economic and ethical case for replacing the 2006 contract entirely: why modification is insufficient, what the evidence demands, and what a prevention-led replacement looks like

1.0. Introduction: a contract designed for yesterday's problem

The NHS dental contract in England was built for a different era. Introduced in 2006, it replaced fee-per-item dentistry with a block-contracted activity model measured in Units of Dental Activity (UDA). Its intention was financial predictability and administrative simplicity. The consequences, now visible across two decades of evidence, are very different.

The UDA contract does not price risk. It does not reward prevention. It does not recognise the unequal distribution of disease across communities. It pays broadly the same basic rate for unequal populations and, in doing so, embeds structural inequity into the funding model. A contract that cannot recognise risk cannot fund prevention. A contract that cannot fund prevention cannot reduce disease. A contract that cannot reduce disease will continue to fund its consequences more reliably than it funds the interventions that could have avoided them. [1]

Recent commentary on behaviour and prevention makes an important distinction between behavioural prevention and structural prevention. Behavioural interventions remain clinically relevant: advice, motivation, fluoride use, diet, oral hygiene, attendance behaviour and shared decision-making all matter. But they cannot be expected to compensate for a system that continues to generate risk through pricing, access barriers, commercial exposure, uneven service availability and weak prevention incentives[2].

That distinction is directly relevant to NHS dental contract reform. The proposed model does not rely on patient advice alone. It seeks to change the commissioning environment in which prevention is delivered: formal registration, risk-weighted capitation, separately funded prevention episodes, urgent-to-continuity pathways and quality measures tied to population oral health improvement. In other words, the Population Oral Health Contract treats prevention not simply as something clinicians say to patients, but as something the NHS must commission, fund, measure and sustain.

The purpose of this paper is not to propose another modification to the UDA contract, nor to argue for immediate national implementation of an untested alternative. It is to specify the Population Oral Health Contract as a replacement architecture for NHS dentistry in England: a prevention-led, risk-weighted contract built around registered responsibility, delivered

prevention, urgent-to-continuity care, transparent patient charge reconciliation and measurable public value.

The destination is contract replacement. The model is the means. A demonstrator programme is the assurance route: a disciplined way to test assumptions, surface gaming risks, assess provider viability, adjust remuneration, evaluate administrative burden and refine the model before national adoption.

The relevant policy question is no longer whether the existing contract is structurally adequate. It is whether this replacement model can be implemented safely, fairly and at scale.

The NHS dental contract is only one component of the oral health system. Oral disease is shaped by income, housing, education, diet, commercial exposure, fluoridation, transport, workforce distribution, health literacy, public health policy and patient charges. No dental contract can reverse those determinants alone. However, the contract determines what the NHS service component is asked to do with public money. If that contract purchases activity after disease has occurred, then even well-intentioned prevention policy will be filtered through a reactive architecture.

The argument advanced here is not a general assertion that prevention is preferable to treatment. It rests on a structured evidence base. Annex L provides the accompanying evidence synthesis, bringing together clinical prevention efficacy, oral-systemic disease relationships, NHS prototype evaluation findings, international comparator evidence and implementation risks, with provisional GRADE quality ratings. Its purpose is to make clear where the evidence is strong, where it is moderate, where it remains uncertain, and where demonstrator evaluation is required. The policy case in this section should therefore be read alongside Annex L, which sets out the strength, limitations and gaps in the evidence base.

This paper makes the case that the current contract cannot be repaired through further marginal adjustment. Modification within the UDA architecture has been attempted repeatedly since 2006 — through banding reviews, contract pilots, prototype models, flexible commissioning, urgent-care redesign and recovery plans — without altering the structural incentive to deliver activity rather than improve health. The National Audit Office concluded in 2024 that the NHS Dental Recovery Plan was not on course to deliver its intended activity uplift. [3] The Public Accounts Committee subsequently found that the plan had failed to deliver improvements in access. [4] The case for replacement is now consistent with the direction of every major recent independent assessment of NHS dentistry.

The stronger argument for change is not administrative. It is clinical, economic and ethical. It is the argument that public money should follow the probability of disease rather than the volume of treatment already required. Investment should move upstream, before disease escalates into avoidable cost. The populations carrying the highest disease burden should attract the greatest resource, not because equity is a political preference, but because accurate pricing requires it.

The investment case in Part 3 shows that the central model produces a gross ACV of £118.08 per registered patient at go-live, compared with indicative current gross expenditure of £124.82 per patient seen. This represents a 5.4% lower unit-cost affordability reference, using the full proposed formula. It is not a like-for-like tariff equivalence: the current system

purchases a heterogeneous mix of episodic urgent, routine and complex treatment, while the Population Oral Health Contract purchases prospective registered responsibility, prevention, continuity, urgent access and population-risk management over time. The comparison is therefore not the primary argument; it confirms that the policy case and the financial case point in the same direction. The same investment case estimates the net genuinely new public investment at £951m by Year 5, Gate 2, after inflation catch-up and conservative avoided costs, funding 9.83 million additional patients in NHS dentistry.

The House of Commons debate on NHS dentistry in June 2026 demonstrated broad cross-party recognition that the 2006 contract is structurally broken and that incremental modification has not delivered the access improvement required. The motion expressed concern about NHS dentistry, cited the scale of unmet access need, and called on the Government to set out a clear timetable for fundamental reform. The Minister for Care, Stephen Kinnock, committed to consulting on and delivering fundamental reform of the dental contract within this Parliament, with the stated aim of matching resources to need, improving access, promoting prevention and rewarding dentists fairly. [5]

The political preconditions for replacement are now materially stronger. What has been lacking is a specification. This paper provides one.

1.1 The structural diagnosis: what the contract actually does

The 2006 NHS dental contract was a permanent national overhaul of primary care dental contracting in England. It replaced fee-per-item remuneration with annual contract values linked to Units of Dental Activity, simplified patient charges into three treatment bands, and shifted NHS dentistry into a capped activity model.

Under that model, providers agree in advance to deliver a fixed volume of dental activity each year, measured in UDAs. If contracted activity is not delivered, commissioners may recover the undelivered value; if contracted activity is fully delivered, providers have limited scope to deliver additional NHS care without further commissioning. The result is a capped activity contract rather than a population responsibility contract. [1]

This architecture produces three predictable distortions:

First, it rewards activity volume rather than clinical need. The most efficient way to fulfil a UDA contract is to deliver a high number of lower-complexity treatment episodes. Complex care is expensive in clinical time, workforce input and laboratory cost, but generates proportionately fewer UDAs. Prevention requires consultation time, skill, behaviour change and follow-up but is not separately rewarded. It is therefore structurally under-provided.

Second, it does not price risk. A practice serving a deprived community carries higher disease burden, greater missed attendance risk, more urgent need, more stabilisation work, and more time-intensive prevention and behaviour change. The current contract does not reliably fund that additional burden. Over time, this weakens provider viability in precisely the communities where NHS dentistry is most needed and creates a rational incentive for providers to concentrate NHS activity where disease complexity is lower.

Third, it produces episodic rather than continuous accountability. The unit of measurement is the course of treatment, not the health trajectory of a registered population. There is no

systematic mechanism for measuring whether oral health is improving over time, whether prevention is reaching those who need it, or whether the contract is generating population health benefit proportionate to its cost.

The UDA mechanism has been criticised by the Nuffield Trust for encouraging volume over need and service quality, and for creating incentives to select lower-need patients and avoid those with more complex needs. Nuffield also noted that UDAs had originally been envisaged as a transitional step towards contracting arrangements that would better promote prevention, maintenance and continuity. That transition did not happen. Two decades later, despite repeated reviews, pilots, prototypes and modifications, the core architecture remains activity-based rather than population-based. [6]

1.2 The economic diagnosis: the UK's preventable disease premium

The clinical argument for reform has been available for years. What has changed is the economic argument. A major international modelling study published in BMC Public Health in 2024 quantified the lifetime direct cost of managing dental caries across socioeconomic groups in six countries: Brazil, France, Germany, Indonesia, Italy and the United Kingdom. [6]

The findings for England are striking on two dimensions. The UK carries the highest estimated per-person lifetime caries management burden among the six countries studied — approximately £18,000 at study-period exchange rates, against a low of approximately £5,800 in Indonesia. The UK is not simply managing a high volume of disease; it is paying an exceptionally high price for managing that disease reactively, after it has already escalated into treatment demand.

£18,000	£14,000	3×
Per-person lifetime cost of managing dental caries in the UK	**Potential prevention saving per person in most deprived UK group**	**Decay-related hospital extraction rate**
Highest of six countries studied. Indonesia: ~£5,800 at study-period rates. [7}	*With targeted prevention — substantially reducing the deprivation premium. [7]*	*Most deprived communities vs most affluent. [8]*

The second finding is more consequential for policy. Per-person caries management costs were highest in the most deprived group — evidence of a deprivation premium embedded in how England currently manages oral disease. Critically, when prevention was applied proportionately, with the greatest investment directed towards the most deprived group, the cost reduction in that group reached approximately £14,000 per person. Properly targeted prevention did not merely reduce the cost of disease. It substantially reduced the deprivation premium. [7]

This reframes the policy argument. Prevention is not a marginal clinical aspiration. It is a targeted economic intervention, and the economic return is greatest precisely where the current contract is weakest: in high-deprivation communities with the highest disease burden and the least reliable access to continuous preventive care.

The economic case in one sentence

The UK is paying the highest per-person price among the six countries studied for a disease that is largely preventable and the populations paying the highest price are those the current contract systematically underserves.

International modelling supports the direction of this argument. A 2026 analysis by Peres, Jin, Nascimento et al. used a cohort-based Monte Carlo simulation to estimate global periodontal healthcare expenditure to 2050, comparing fee-for-service expansion to 80% population coverage with an equivalent capitation-informed scenario. [9] Under fee-for-service, expanded coverage was associated with a near-threefold increase in global expenditure; the capitation-informed scenario reduced projected expenditure by 30% at the same coverage level.

This does not establish the correct English tariff. It does, however, support the proposition that commissioning architecture affects both expenditure and value. The question is not whether more care is needed — it is. The question is whether that care is commissioned through incentives that reward population responsibility, need, prevention and outcomes rather than treatment volume alone.

1.3 The visible consequences: what reactive commissioning produces

The consequences of commissioning dental care reactively are visible across the system: in widening inequalities, declining access and continuity, increasing urgent demand, avoidable hospital activity, provider withdrawal and growing dependence on private care. These are not separate problems. Together, they describe a service organised to respond after disease has become symptomatic rather than to maintain oral health prospectively across a registered population.

The burden is especially visible among children. In 2024/25, there were 56,143 episodes of tooth extraction in NHS hospitals in England among patients aged 0–19, of which 33,976 recorded tooth decay as the primary diagnosis. Tooth decay remained the most common reason for hospital admission among children aged five to nine, while rates of decay-related extraction in the most deprived communities were just over three times those in the most affluent. [8] These are not simply episodes of hospital activity. They are the end point of preventable disease allowed to progress until treatment requires specialist facilities, anaesthesia and the irreversible loss of teeth.

The same systemic failure is evident in access to continuing care. In the 24 months to 31 March 2025, 18 million adults had been seen by an NHS dentist, equivalent to 40% of the adult population. Over the preceding 12 months, 6.9 million children had been seen, equivalent to 57% of the child population. [10] These figures describe a service unable to provide continuing NHS dental care for most adults and for a substantial minority of children. They expose the central contradiction in the current model: a system expected to prevent disease but organised and funded in ways that too often engage patients only once disease has become symptomatic, urgent or complex.

Declining access cannot be separated from the withdrawal of practices from NHS contract delivery and the recurrent hand back of NHS dental contracts. In many areas, NHS provision is no longer considered financially sustainable on the terms available. Yet the problem is not one of financial viability alone. The contract also creates a fundamental dichotomy between professional intent and contractual structure. Clinicians are trained and professionally motivated to assess risk, prevent disease and preserve oral health over time; the contract principally rewards completed courses of treatment, units of activity and short-term throughput.

NHS dentistry has therefore become less attractive not only because its economics are increasingly difficult, but because the contractual model can obstruct the form of care clinicians believe patients need. Contracts become harder to recruit to and retain; practices reduce or relinquish NHS commitments; continuity deteriorates; and patients return to the system only when disease has become symptomatic or urgent. A service intended to prevent disease is consequently losing both delivery capacity and the ability to retain professional participation in the NHS model.

As publicly funded access contracts, demand is increasingly displaced into private care. Healthwatch England reported that the proportion of people using private dentistry rose from 22% in 2023 to 32% in 2025, including an increase from 14% to 27% among people experiencing financial difficulty. [11] This is not simply a change in consumer preference. While some patients choose private care for convenience, continuity or elective treatment, others pay because NHS treatment is unavailable or cannot be obtained within a reasonable period. Private attendance may therefore represent unmet NHS need expressed through household expenditure: those able to pay absorb the cost, while those unable to do so are more likely to defer care until disease becomes painful, complex or urgent.

Emergency attendance is a predictable downstream consequence. In 2023/24, there were 73,088 attendances at accident and emergency departments in England where the first diagnosis was dental abscess or dental caries. [12] A&E departments can provide analgesia, antibiotics where clinically indicated and escalation for serious infection, but they are not configured to provide definitive primary dental treatment or continuing disease management. Attendance may relieve the immediate problem without resolving its underlying cause, leaving patients liable to re-present and transferring the consequences of inadequate access into another part of the NHS.

The capacity problem is more complex than simple scarcity. While millions of people remain unable to obtain continuing NHS care, some clinical capacity is used for routine review of lower-risk patients at intervals that may not be clinically necessary.[13-16]

The UDA contract can create a perverse incentive to sustain this pattern. Routine examinations of established patients are predictable, comparatively quick to deliver and capable of generating UDAs at relatively low marginal cost. For practices operating under fixed activity obligations and financial pressure, they may represent a safer route to contract delivery than accepting patients with extensive untreated disease, complex needs or uncertain treatment requirements.

This is not a criticism of clinicians or practices responding rationally to the incentives they face. It is a structural consequence of a payment system that rewards activity without

adequately reflecting clinical value, complexity, population access or continuing responsibility. The result is a distortion in the use of scarce capacity: predictable, lower-value activity may be favoured over care directed towards risk, unmet need and prevention. The supporting evidence on recall intervals and commissioning implications is summarised in Annex L.

The effects of this misallocation extend beyond access statistics and contract performance. Where preventive and continuing care are not directed towards those at greatest risk, avoidable disease can disrupt education, nutrition, wellbeing and daily life.

For children, the consequences may be particularly far-reaching. Dental pain, infection, disturbed sleep, repeated appointments and hospital extraction can impair school attendance, concentration and participation. Dental disease is not the principal cause of educational disadvantage, but it is a preventable contributor to absence and to the wider accumulation of disadvantage.

The consequences of lost school time are material. Department for Education analysis found that missing an additional ten days during Year 11 was associated with approximately half the likelihood of achieving grade 5 in both English and mathematics. [17] The 2026 *Young People and Work* interim report found that persistent school absence was associated with a 3.9-times greater risk of being not in education, employment or training between the ages of 16 and 18, and a 6.3-times greater risk of being persistently so. [18] These findings do not attribute those outcomes to dental disease. They show why avoidable dental pain, treatment episodes and hospital attendance that contribute to absence have implications extending beyond the dental service.

A contract that permits childhood disease to remain untreated therefore accepts more than future restorative and hospital costs. It accepts avoidable pain, disrupted education and an additional burden on children whose opportunities may already be constrained.

For people living in care homes, the effects are different but equally foreseeable. The Care Quality Commission's *Smiling Matters* progress report found that the proportion of care-home providers reporting that residents could "never" access NHS dental care increased from 6% in 2019 to 25% in 2022. [19 Poor oral health in this population can contribute to pain, impaired eating, malnutrition, infection, social withdrawal and loss of dignity. These are not peripheral dental concerns, but matters of patient safety, frailty management and integrated care.

Reactive commissioning therefore produces more than an isolated access problem. It creates a recurring pattern in which disease accumulates among populations with the greatest need; practices withdraw from NHS delivery because the contractual model is economically and professionally unattractive; patients who can afford to do so purchase care privately; and those who cannot may wait until their condition becomes urgent. At the same time, lower-value routine activity can continue while urgent, hospital and wider public services absorb the preventable consequences.

A contract organised around completed treatment activity cannot correct this pattern because it does not commission continuing responsibility for the oral health of a population. The result is a service that is busiest after disease has occurred, least accessible to those with the greatest need, and weakest where prevention could deliver the greatest return.

1.4 Why modification is insufficient

It is tempting to respond to this evidence by asking whether the UDA contract could be recalibrated rather than replaced: whether better UDA values, improved banding, ring-fenced prevention payments, or recovery-plan-style activity incentives could produce a different outcome. The answer is no and the reason is structural, not political.

The UDA is a unit of activity. Any contract denominated in units of activity will reward the accumulation of those units. No matter how prevention-friendly the surrounding guidance, if prevention cannot be paid for in the same currency as treatment, it will remain discretionary, fragile and vulnerable to workload pressure. The problem is not that the UDA values are wrong. The problem is that UDAs cannot count the things that matter most.

A prevention episode has no UDA. A risk assessment that averts a caries lesion has no UDA. A care home oral health review that reduces avoidable deterioration and may lower aspiration-pneumonia risk has no UDA. A stabilisation pathway that converts an urgent attendance into a registered patient with ongoing preventive care has no UDA. Under any contract denominated in activity, these interventions are either unremunerated or absorbed as overhead — which means they will be rationed, inconsistent and perpetually at risk.

Allocation data reinforce the point. Analysis by Public Health England found that the availability of NHS dental services reflects historical provision patterns established before 2006, when dentists could establish practices where they chose. The 2006 contract capped spend according to historical provision rather than current need. [20] The Nuffield Trust concluded that a needs-based resource allocation formula was never implemented. [6] Money available in the dental budget has not consistently converted into care in the communities where it is most needed, because the contract architecture does not systematically direct resource towards disease probability.

The argument for replacement is not ideological. It is empirical, grounded in what the evidence shows about the limits of activity-based contracting.

The Minister for Care acknowledged as much in the Commons debate of 15 June 2026, stating that there is no such thing as a perfect payment model and that complexity requires care in designing the replacement. [5] He is right on both counts. No contract is perfect. But the question this paper addresses is not whether the reformed model is perfect. It is whether the current model can be made to do what is required of it. The answer, confirmed by the NAO, the PAC, the Nuffield Trust, the Health and Social Care Committee, the BDA and the cross-party debate , is no. [3-6] Complexity is not a reason for delay. It is a reason to publish the best available specification so that consultation can proceed on the basis of substance rather than aspiration.

The post-2006 reform record supports that conclusion. The NHS dental contract pilots and prototype programme should not be dismissed as failures. They generated important learning and showed that clinical behaviour can change when incentives move away from pure activity counting. Annex L summarises the prototype evidence: the programme moved away from sole reliance on UDAs towards blended models incorporating capitation elements, prevention commitments and outcome monitoring, and was associated with

increases in fluoride varnish application, fissure sealant placement and periodontal charting. [20]

The limitation was architectural. The prototypes were not a full test of the model proposed in this paper. They did not include a population risk uplift coefficient, a quality premium tied to measurable oral health improvement, a ten-year contract term, a formal registered population denominator or a fully specified urgent-to-continuity architecture. [20] The prototype programme demonstrated that prevention activity increases when it is remunerated and measured, but it did not produce a scalable national contract architecture or resolve the fundamental incentive failures of the UDA system for the majority of NHS dental practices.

The lesson is therefore not that prevention-led reform is unworkable. It is that reform must be specified completely.

The architecture in this paper is offered as that specification: costed, coherent and sufficiently developed to be tested through consultation, actuarial review and demonstrator implementation. The complexity is no longer a reason for inaction. The decision is whether to proceed.

> **The replacement argument**
>
> ***The aim is not to make the current contract harder to game. It is to change the game entirely. The unit of accountability should not be the isolated treatment episode. It should be the health trajectory of a registered population over time.***

1.5 Starting with the prior: a probabilistic framing for commissioning

The replacement model proposed in this paper is grounded in probabilistic reasoning, the same clinical logic that informs good diagnostic practice.

Before any clinical encounter, a practitioner holds a prior probability: an estimate of how likely a given condition is in this patient, based on everything known before the examination. As evidence accumulates; history, clinical signs, radiographs, test results, patient context, that prior is updated. Good clinical judgement is not interpretation of findings in isolation; it is interpretation in context.

The same logic applies at population level. We know from national oral health survey data, OHID returns and epidemiological evidence that disease is not uniformly distributed. Dental caries in young children is substantially more prevalent in deprived communities. Periodontal disease clusters with smoking, diabetes, age and deprivation. Urgent dental need concentrates among populations with poor access, unstable attendance and higher disease burden. These distributions constitute the population prior.

A commissioning model that ignores the prior (that treats all patients as equally likely to develop disease and all practices as equally able to deliver care for the same activity payment) is not neutral. It is clinically naive and economically irrational. It will systematically

underfund prevention where it matters most and overweight episodic treatment where the return on investment is lowest.

The Bayesian framing matters for contract design. If population disease probability is measurable, and it is, through deprivation indices, fluoridation status, local caries prevalence data and attendance patterns — then it should be encoded in the commissioning model.

The capitation element of the proposed risk-weighted contract does exactly this, through risk uplift coefficients (Ru) calibrated to the population-prior, applied to both adult and child capitation. The result is a more accurate distribution of resource according to population risk, rather than preferential treatment. Ru adjusts for differences in need; the underlying cost of prospective registered responsibility must be reflected separately in Bc and the wider ACV architecture.

> **Cross-reference**
>
> ***Annex A*** *(Probabilistic Framework Primer) for the full Bayesian framing, likelihood ratios and the technical basis for encoding population risk into the Ru coefficient. The argument introduced in this section is developed there in full.*

1.6 The replacement model: five core elements

The model proposed in this paper brings together five interdependent contract components. They are set out in technical detail in Part 2 and supported by Annexes B–D. They are introduced here to locate them within the policy argument and to make clear that they are not separately negotiable add-ons to the existing contract. They constitute a single, integrated model.

Table 1.1 — Five core elements of the proposed replacement contract

	Element	Purpose
1	**Registered population responsibility**	Providers are accountable for the oral health trajectory of a defined, named population over time — not for isolated treatment episodes. Registration creates the denominator: the list against which risk is assessed, prevention is targeted, and outcomes are measured. Continuity replaces episode as the unit of accountability. (See Annex B.)
2	**Risk-weighted capitation (Bc × Rp × Ru)**	Core contract value is adjusted for measurable population disease probability — deprivation, fluoridation status, local caries prevalence and historic urgent demand — so that resource follows risk rather than historical provision. The risk uplift coefficient (Ru) applies to both adult and child capitation, encoding disease prior consistently across the full registered list.
3	**Delivered prevention episode tariffs Pt(d) and Pathway 3 lab supplement Ls(P3)**	Preventive interventions — fluoride varnish, fissure sealants, periodontal stabilisation, dietary advice, smoking cessation, domiciliary care, acclimatisation — are separately remunerated where delivered and recorded (Pt(d)), not absorbed as overhead. Pathway 3 lab-dependent items (crowns, indirect restorations, dentures where clinically necessary) attract a separate supplement (Ls(P3)) where external lab cost is unavoidably incurred. (See Annex C.)

	Element	Purpose
4	**Urgent-to-continuity pathways and the dental home obligation (Uc)**	Unscheduled and urgent care becomes an entry point into risk assessment, stabilisation and an appropriate continuity pathway. Registration may be with the attending provider or elsewhere in the commissioned local network, subject to funded capacity. Every registered patient has a named dental home. Unregistered urgent patients are commissioned through the Uc mechanism, which reduces as registration matures. Urgent care is designed as the beginning of an ongoing relationship, not a disconnected episode. (See Annex D.)
5	**Quality premium (Qp)**	Up to 12% of contract value is linked to measurable improvement in prevention coverage, population health outcomes, access equity, patient experience and continuity of care. The premium is earned against KPIs assessed at each gate review. It rewards the direction of travel, not the volume of activity. It is a commissioning improvement mechanism, not a substitute for CQC, GDC, performer-list, complaints or clinical negligence frameworks.

Risk-weighted capitation without separately commissioned prevention creates resource without direction. Prevention commissioning without quality premium creates activity without accountability. Population registration without the dental home obligation and urgent-to-continuity pathway leaves the highest-need patients outside the system. Each element depends on the others.

Cross-reference

Annex B *(Registration, Dental Home and Continuing Responsibility) for the full specification of registered population responsibility and the dental home model.*

Annex C *(Care Pathways: Replacing Treatment Bands) for pathway definitions, Pt(d) eligibility criteria, Ls(P3) safeguards and patient charge logic.*

Annex D *(Dental Home and Unscheduled/Urgent Care) for the full Uc mechanism and urgent-to-continuity specification.*

These five elements define the dental contract architecture. They also create a mechanism through which wider NHS and public value can be considered, provided those benefits are not overclaimed.

1.7 Wider oral-systemic public value

The Population Oral Health Contract also creates a route for oral health improvement to contribute to wider NHS and public value, particularly where oral disease interacts with long-term conditions.

Diabetes is used for the principal supplementary modelling in this paper because the periodontal-diabetes evidence is strongest, clinically plausible and most readily translated into an evaluable commissioning proposition. Annex I sets out that pathway in detail, including the Cochrane evidence, the estimated co-morbid population, the proposed ICB co-

commissioning route and the Green Book treatment of the £190m Year 5 supplementary estimate.

Annex I also addresses cardiovascular disease, respiratory disease, frailty, maternity, severe mental illness and oral cancer. Its treatment of cardiovascular disease is deliberately bounded: periodontal disease is recognised as independently associated with CVD, and dental integration into CVD prevention pathways is a legitimate commissioning opportunity, but the paper does not claim that periodontal treatment reduces major cardiovascular events or generates cashable CVD savings.

The wider oral-systemic dividend should strengthen the public value case for reform, but it should not be used to reduce the primary Year 5 NHS dental affordability requirement unless attribution, timing, effect size and budget ownership are independently validated through demonstrator evaluation.

The immediate claim is narrower and stronger: by creating a registered dental home, funding periodontal stabilisation, supporting prevention, improving continuity and enabling ICB-level co-commissioning, the model gives NHS dentistry a practical mechanism for contributing to long-term condition management. The demonstrator should test that mechanism through linked data, intermediate outcomes, referral linkage, patient engagement, cross-pathway coordination and equity of access.

1.8 What NHS dentistry should and should not fund

A prevention-led contract must be clear about what the NHS is commissioning. Clarity protects patients as much as budgets. The NHS dental commitment is to relieve pain, manage infection, stabilise active disease, restore oral health, maintain function and prevent deterioration. It is not to fund discretionary aesthetic enhancement.

That boundary does not narrow the entitlement. It disciplines it. Material choice should be proportionate to clinical need, tooth position, occlusal load, caries risk and expected longevity — not driven by lowest immediate cost if that cost generates early failure, or by

premium preference where simpler durable options are clinically appropriate. The test is proportionate durability: neither luxury nor false economy.

What concerns this paper is not the aesthetic boundary (which is well understood, if inconsistently applied) but the upstream boundary: the consistent failure to commission prevention, risk assessment and stabilisation as core NHS activities, with the consequence that avoidable disease escalates unchecked until it demands treatment. That is where the contract currently fails most badly. That is what replacement must address.

Some will argue that defining NHS commitments risks narrowing entitlement. The greater risk is the opposite: a contract too vague about purpose, too weak on prevention, and unable to distinguish high-value clinical need from low-value demand — while children undergo avoidable extractions, communities lack access, care home residents deteriorate without support, and patients with diabetes miss opportunities for integrated periodontal management.

A prevention-led contract is not a smaller vision for NHS dentistry. It is a more disciplined and more honest one. The clarification below is therefore important: the Population Oral Health Contract changes how NHS dental care is commissioned and paid for; it does not remove the clinical boundary around NHS entitlement.

1.8.1 Clarification: what this contract does not do

A prevention-led contract requires clear boundaries. The proposal is not an expansion of NHS dentistry into discretionary care, nor is it a mechanism for shifting unfunded obligations onto providers.

The same clarity is required at the boundary between general dental practice, Community Dental Services, special care dentistry, sedation, hospital pathways and specialist or Tier 2 services. The dental home coordinates continuing responsibility for registered patients; it does not replace the wider dental care system, as Table 1.2 sets out in full.

Table 1.2 — Clarification of what the proposed prevention-led contract does and does not do

What the proposed contract does not do	What it does instead
It does not expand NHS entitlement to cosmetic dentistry.	NHS resource remains directed to clinical need: pain relief, infection control, stabilisation, function, prevention of deterioration and appropriate restoration of oral health.
It does not impose unfunded prevention obligations.	Prevention is commissioned explicitly through Pt(d), paid when delivered and recorded, and targeted to patients whose risk profile justifies intervention.
It does not introduce flat capitation.	The capitation element is risk-weighted through Ru and supplemented by prevention tariffs, legitimate laboratory cost protection, urgent-care funding, contract-level quality and improvement measures and patient-charge reconciliation.
It does not remove patient choice.	Registration creates a dental home and continuing responsibility, but patients retain the ability to change NHS provider within available commissioned capacity.
It does not assume unproven savings in the affordability case.	The primary investment case uses conservative avoided NHS costs only. Wider oral-systemic and cross-departmental benefits are treated as supplementary Green Book value and require demonstrator evidence before being treated as cashable offsets.
It does not expect general dental practice to absorb all complexity.	It creates a dental home for registered responsibility, prevention, routine care, stabilisation, appropriate urgent care and care coordination, with clear referral and return pathways for patients whose needs require CDS, special care, sedation, Tier 2, hospital or specialist services.
It does not treat Community Dental Services as a residual safety net.	It requires CDS, special care and referred-care pathways to be specified within the pathway architecture, with capacity, referral criteria, return-to-dental-home arrangements and demonstrator evaluation.

The boundary is therefore deliberate: the model broadens access to necessary NHS dental care, not entitlement to discretionary aesthetic care; it funds prevention explicitly, rather than expecting it to be absorbed invisibly; and it prices risk, rather than pretending all populations cost the same to keep healthy.

1.9 From policy case to contract design

The argument in Part 1 is diagnostic. The current NHS dental contract is structurally misaligned with the outcomes now required of NHS dentistry. It rewards activity more reliably than prevention, misprices risk, under-resources high-deprivation populations, weakens provider viability where need is greatest, and fails to capture the wider public value of oral health improvement.

That diagnosis points to a specific prescription: reform must be architectural rather than incremental. The question is not whether more activity can be purchased within the existing UDA framework. The question is whether public money can be redirected towards registered responsibility, prevention, continuity, risk reduction and measurable population value.

Part 2 turns that prescription into a service specification and contract-valuation framework. It sets out the full Annual Contract Value formula:

$$\mathbf{ACV = (Bc \times Rp \times Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc}$$

It then specifies the risk-uplift methodology, prevention tariffs, Pathway 3 laboratory supplement, dental-home architecture, urgent-care mechanism, patient charge deduction and quality-premium framework.

The purpose is not to create a more elaborate version of the UDA. It is to replace activity counting with risk-adjusted accountability for population oral health through an architecture that is clinically coherent, fiscally testable and capable of implementation within realistic transitional timescales.

The contract architecture must be tested not only for national affordability, but also for provider adoption, workforce sustainability, clinical time, patient experience and viable delivery. That is why this paper proposes demonstrator testing before national adoption. The demonstrator is not the destination. It is the assurance route.

The government's commitment to consult on fundamental dental contract reform creates the policy opportunity. This paper provides a specification that can be tested through consultation, actuarial review, professional engagement and demonstrator implementation. The consultation need not begin from a blank page. It can begin from a model.

> **The test of any replacement contract is not how many courses of treatment it generates. It is whether the oral health trajectory of the registered population is improving — and whether the benefit is reaching the people who need it most.**

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PART 2

02 Service Specification and Population Oral Health Contract Valuation

The technical commissioning architecture: Annual Contract Value formula, care pathways, KPI framework, workforce model, new provider commissioning, and 10 and 15-year contract structures with four review gates

2.0 Introduction

Part 1 established why the current contract must be replaced rather than repaired. Part 2 sets out how. It translates the policy case into a technical commissioning framework comprising:

- A risk-weighted Annual Contract Value formula;
- Care pathways replacing UDA treatment bands;
- A KPI framework linking payment to population health outcomes;
- A multidisciplinary workforce model;
- A new-provider mechanism for dental deserts; and
- Contract terms designed to provide the stability and accountability required for prevention.

The logic is probabilistic. The current contract behaves as though population risk were broadly uniform and treatment activity were an adequate proxy for need. The Population Oral Health Contract starts from a different premise: disease probability varies by patient, population and place, and public investment should be weighted accordingly.

The Bayesian prior described in Annex A is operationalised through the risk uplift coefficient, Ru, which adjusts base capitation for measurable differences in deprivation, fluoridation status, local caries prevalence and historic urgent demand.

Capitation therefore does not mean a flat payment for holding a patient list. It means funded responsibility for a registered population, adjusted for disease probability and supplemented by:

- Delivered-prevention tariffs;
- Legitimate laboratory support;
- Transitional urgent-care provision;

- Quality and improvement incentives; and
- Patient-charge reconciliation.

Annex A provides a non-technical explanation of the probabilistic framework. This Part converts that framework into a contract-valuation method, care-pathway architecture and service specification.

The framework is intended for ICB dental commissioners, NHS England contract leads and DHSC policy and analytical teams. It is designed to operate within the existing PDS contracting landscape and to scale from a single practice to services responsible for several hundred thousand registered patients.

> **The commissioning shift in one sentence**
>
> ***Stop asking how many courses of treatment a practice can deliver for a given sum.***
>
> ***Start asking what investment is required to improve and maintain the oral health of a defined registered population—and hold the contract accountable for delivering it.***

2.1 Annual Contract Value: the formula

The Population Oral Health Contract gives operational form to the shift from activity payment to prospective population responsibility. Its Annual Contract Value is built from linked, auditable components and set prospectively for the contract year.

The formula calculates gross contract value and, after patient-charge income is deducted through Pc, the commissioner's net NHS commitment:

$$\mathbf{ACV = (Bc \times Rp \times Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc}$$

The formula prices two related but distinct matters. Bc and the wider ACV fund the underlying responsibility accepted by the provider; Ru adjusts that payment for differences in population need. Ru therefore redistributes resource according to risk, but does not by itself determine whether the underlying responsibility has been adequately priced.

Providers should receive one-twelfth of the agreed annual value each month:

$$\text{Monthly provider payment} = \text{agreed annual ACV} \div 12$$

This payment structure provides predictable cash flow while preserving commissioner accountability. Most NHS dental providers are small businesses with recurring monthly costs; a prevention-led responsibility contract cannot operate safely if income is volatile or depends primarily on retrospective claims.

A large majority of expected provider income should therefore remain secure and prospectively payable. Variable or performance-related elements should reward verified delivery and improvement without placing the core resources required to maintain registered responsibility at risk.

Predictability alone is insufficient. The ACV must also support the reasonable cost of delivery, including:

- Clinical and non-clinical staffing and employer costs;
- Premises;
- Laboratory expenditure and consumables;
- Equipment depreciation;
- Compliance and administration;
- Financing costs; and
- A sustainable provider operating margin.

The model should not depend on providers cross-subsidising NHS responsibility from private income.

Patient charges remain part of gross contract value rather than additional income above it. As under the current FP17 reconciliation process, providers collect patient charges and these are offset against the commissioner payment due. The reformed model makes this treatment explicit through Pc, prospectively modelling and reconciling patient-charge income against the care-pathway structure.

This prevents double payment, preserves the established Treasury treatment of patient charges and allows the equity effects of charge reform to be assessed transparently.

Annual reconciliation should be proportionate and based on validated:

- Registered population and list movement;
- Delivered-prevention activity;
- Urgent-to-continuity pathway performance;
- Legitimate ls(p3) claims;
- Patient-charge income;
- Coding accuracy; and
- Quality-premium achievement.

Reconciliation should correct material variance, coding error, inappropriate claiming and non-delivery without creating avoidable cash-flow instability or punitive retrospective clawback for providers acting in good faith. Where possible, staged correction, provider support and prospective recalibration should precede destabilising financial recovery.

The formula contains nine named components, grouped into five operational contract elements:

- Registered population responsibility;
- Risk-weighted capitation;
- Delivered prevention and laboratory support;
- Urgent-to-continuity access; and
- Quality and charge reconciliation.

Each component is independently specified, auditable and adjustable at contract review. The formula should therefore be read as the summary expression of a wider commissioning architecture rather than as a standalone payment equation. Table 2.1 summarises the components before each is considered in detail.

Table 2.1 ACV formula components: purpose and specification reference

ACV = (Bc × Rp × Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc

Formula component	What it does	Where the detail sits
Bc	Sets the national base payment for prospective registered responsibility. Central working assumption: £70 per adult and £60 per child per year; £80/£65 is retained as an upper sensitivity. Final rates require independent actuarial and provider-viability calibration.	Section 2.2
Rp	Defines the registered population denominator: the number of patients formally registered on the practice list.	Section 2.3 and Annex B
Ru	Adjusts the registered-population payment for measurable differences in population disease probability and inequality. Ru redistributes payment according to need; it does not by itself price the underlying responsibility accepted by the provider.	Section 2.4 and Annex A
Pt(d)	Funds delivered prevention episodes. This is the sum of all commissioned and delivered prevention contacts by tariff type and pathway.	Section 2.5, Annex C and Annex L
Ls(P3)	Protects legitimate laboratory cost in Pathway 3 care. This is a case-linked, auditable supplement payable where eligible laboratory costs are necessarily incurred; the central model assumes 3% of the adult registered population at £120 per eligible patient.	Section 2.6 and Annex C
Uc(r)	Provides an urgent care access retainer. This is a fixed annual payment of £2,000–£14,000, set by the ICB according to practice role and local urgent demand.	Section 2.7 and Annex D
Uc(a)	Funds per-attendance care for unregistered urgent patients. The gross payment range is £95–£145; the NHS pays net after patient charge deduction.	Section 2.7 and Annex D
Qp	The quality premium is modelled at up to 12% of the defined Qp base: **(Bc × Rp × Ru) + Pt(d)**. Ls(P3), Uc(r), Uc(a), rurality supplements, London weighting and other profile-specific supplements are excluded. The demonstrator should test both the maximum value and the proportion that is fully contestable.	Sections 2.8 and 2.13 and Annex C
Pc	Deducts patient charge income from the gross ACV to produce the net NHS commissioner payment. Charges are collected by the provider at point of care, consistent with the current FP17/patient charge reconciliation principle but are prospectively modelled by pathway.	Section 2.9, Annex E and Annex F

DESIGN NOTE

Core Reform And Full Implementation Architecture

The model's minimum structural correction is formal registration, risk-weighted capitation and commissioned prevention. Registration defines the population for whom the provider is responsible; risk-weighted capitation prices the probability of disease in that population; and pt(d) funds prevention explicitly rather than leaving it hidden within treatment activity.

The wider ACV formula then adds the safeguards required for implementation:

- Ls(P3) protects legitimate restorative laboratory cost;
- Uc maintains access for unregistered urgent patients during transition;
- Qp links part of income to measurable improvement; and
- Pc ensures patient charge income is deducted transparently from gross contract value.

2.2 Component 1: Base capitation rate — Bc

The base capitation rate is the core per-patient investment the NHS makes in continuing oral health responsibility. It is set nationally and reviewed annually against a published dental workforce and provider-cost index.

Bc represents the provisional national payment for accepting continuing responsibility for an average-risk registered patient. It is intended to fund assessment, diagnosis, risk-based recall, care planning, routine maintenance, simple restorative care, basic periodontal care, urgent-care access for registered patients and referral coordination over the contract year.

The values used in this paper are modelling assumptions, not recommended final tariffs. Their purpose is to test the relationship between price, provider adoption, scope of responsibility and total programme affordability. Final values should be selected only after independent actuarial, health-economic and provider-viability review, including shadow pricing and tariff-corridor testing.

The review should distinguish between:

- The expected annual cost of care;
- The margin required for variation in utilisation;
- The cost of maintaining access and continuity capacity; and
- A sustainable provider operating margin.

It should also determine whether Bc requires a distinct prospective-responsibility margin, rather than assuming that population risk adjustment alone is sufficient.

The modelled base-capitation range is £70–£80 per adult per year and £60–£65 per child per year. The central assumptions used throughout this paper are £70 per adult and £60 per child. The £80 and £65 values are retained as upper sensitivities and do not form the modelled baseline.

Children attract a lower modelled base rate because their expected restorative complexity is generally lower. Their greater prevention intensity—including fluoride varnish, dietary advice and caries monitoring—is funded separately through the delivered-prevention tariff, Pt(d).

The central adult value of £70 tests whether the proposed architecture can be modelled within a fiscally credible national range. The £80 sensitivity tests the additional headroom that may be required where utilisation, responsibility or provider-cost assumptions are higher. Neither value establishes tariff sufficiency before actuarial calibration and provider-level viability testing. [2]

Bc should price the underlying responsibility accepted by the provider, before Ru adjusts that payment for differences in population need.

Geographic and operating-cost variation should not ordinarily be absorbed into Bc. London weighting, rurality and other justified local supplements should remain separately visible within the ACV architecture. This preserves a transparent national base while allowing legitimate differences in provider cost to be commissioned explicitly.

Fluoridation status is normally reflected through Ru rather than through a separate adjustment to Bc. Because Ru already includes water fluoridation as a population-risk variable, any additional adjustment should be applied only where national calibration has not adequately captured local coverage and where the ICB provides explicit justification at contract award or gate review. This avoids double counting while preserving flexibility where data remain incomplete.

The base rate is not intended to cover complex or specialist care. Multi-unit restorations, implant-retained prostheses, advanced periodontal surgery, oral surgery, trauma rehabilitation and specialist referral should sit within separately commissioned tiers or supplements.

Final Bc values should be selected only after the tariff corridor has been tested against expected utilisation, provider cost, workforce remuneration, access and continuity capacity, provider adoption and sustainable operating margin.

2.3 Component 2: Registered population — Rp

Registered population is the denominator on which the entire contract is built. Unlike the UDA model, where a practice's commitment is to deliver a volume of activity, the Population Oral Health Contract makes the registered population the explicit unit of commissioning. Each practice holds a named list. Commissioners know who is registered. Practices are accountable for the oral health trajectory of the people on that list.

Registration should be defined as a formal, consented commitment from both patient and practice — a mutual obligation to ongoing care, not simply the fact of having attended once within a 24-month window. The NHSBSA access statistics for 2024/25 (reporting 40% of

adults seen in the previous 24 months and 57% of children seen in the previous 12 months [3]) describe access, not registration. The Population Oral Health Contract requires the distinction to be made explicit in contract and IT infrastructure.

Annex B sets out the full registration model. Its central point is that registration is not an administrative preference; it is the denominator of prevention. Without a named list, commissioners can count courses of treatment, but they cannot reliably measure population responsibility, pathway movement, recall compliance, prevention coverage or whether the registered population's disease burden is falling.

Population size should be negotiated at contract award, based on practice capacity, workforce, premises and chair time. A practice serving a high-deprivation community will require more clinical time per registered patient and should be commissioned for a smaller population per chair than an equivalent practice in a low-need area. The prospective ACV model for new practices in dental deserts (Section 2.15) addresses the specific commissioning challenge of building a registered list from zero.

2.4 Component 3: Risk uplift coefficient — Ru

The risk uplift coefficient is the mechanism through which the Bayesian prior probability of disease is encoded in the commissioning model. It adjusts the base capitation payment to reflect the disease probability of the registered population. A practice serving a low-deprivation, fluoridated area with low local caries prevalence and low urgent demand receives a coefficient below 1.0 — as low as 0.85 for the lowest-risk populations. A practice serving a high-deprivation, non-fluoridated area with high local caries prevalence receives a coefficient up to 1.60. The difference is not subsidy — it is accurate pricing. [4]

The combined coefficient is a weighted product of the four factors, with a floor of 0.85 (lowest-risk populations — affluent, fluoridated, low caries prevalence, low urgent demand) and a ceiling of 1.60 (highest-risk). The national average is approximately 1.10. Coefficients are reviewed at each contract gate using updated IMD and OHID data; they are not fixed for the life of the contract. [4]

The deprivation weighting carries the highest share because it is the most robust predictor of oral disease burden, access failure, unscheduled/urgent need and the economic premium documented by Dunleavy, Kebschull, Chapple et al. in their 2024 international cost modelling study. [5] Fluoridation status is binary but consequential. Communities without water fluoridation carry a consistently higher base caries risk. Local caries prevalence data from the OHID NDIP programme provide area-specific calibration beyond the deprivation proxy. Historic unscheduled/urgent demand captures the practice-level signal of unmet preventive need.

Table 2.2 Risk uplift coefficient (Ru): factors, data sources, weightings and ranges

Uplift factor	Data source	Weighting	Range
Deprivation (IMD decile)	**English Indices of Multiple Deprivation, MHCLG**	**50%**	**0.85 (decile 10, lowest deprivation) — 1.25 (decile 1, highest deprivation)**
Water fluoridation status	OHID fluoridation coverage data (practice postcode level)	20%	0.92 (fully fluoridated) — 1.12 (non-fluoridated)
Local caries prevalence (NDIP 5yr dmft)	OHID NDIP oral health surveys	20%	0.95 (≤20% 5yr dmft) — 1.15 (>40% 5yr dmft)
Practice historic unscheduled/urgent demand	NHSBSA urgent attendance data by practice (FP17)	10%	0.97 (low demand) — 1.08 (high demand)

Why these weightings

The 50/20/20/10 split is not an arbitrary division of 100%. Each factor's share reflects the strength and directness of its evidence base. Deprivation carries the majority weighting because it is the most extensively validated, multi-pathway predictor of oral disease. Fluoridation and local caries prevalence are each weighted at 20% as strong but narrower-pathway factors — fluoridation a stable structural exposure with bounded effect, local prevalence the most direct outcome measure but a lagging one. Historic urgent/unscheduled demand is weighted lowest, as a practice-level behavioural signal rather than a direct population risk measure.

This ratio is a starting position, not a fixed conclusion. It will be tested against demonstrator outcome data at each Gate review, alongside the factor values themselves. The full evidence base underpinning each weighting is set out in Annex L.5.

2.4.1 Worked example: Ru and the capitation component of ACV

The Ru coefficient materially changes the capitation value of otherwise identical registered populations. The example below uses a registered population of 10,000 patients and the central 2.5:1 adult-to-child planning ratio used throughout the worked examples: approximately 7,143 adults and 2,857 children. Table 2.3 describes the annual base capitation before risk adjustment.

Table 2.3 Base capitation calculation before risk adjustment: national average 10,000-patient population

Population group	Calculation	Unadjusted value
Adults	7,143 × £70	£500,010
Children	2,857 × £60	£171,420
Total unadjusted base capitation		**£671,430**

Applying Ru produces materially different capitation values:

Table 2.4 Risk-adjusted capitation component (Bc × Rp × Ru) by population profile

Profile	Population characteristics	Ru	Capitation component — Bc × Rp × Ru
High-need profile	High deprivation, no fluoridation, high local caries burden, high urgent demand	1.52	Approximately £1.021m
Low-need profile	Low deprivation, fluoridated or partially fluoridated, low local caries burden, low urgent demand	0.91	Approximately £611k

The difference is not discretionary uplift. It is the formula pricing different disease probabilities. For the same registered population size, the high-need profile attracts approximately £410k more in annual capitation resource than the low-need profile because the expected burden of prevention, stabilisation, recall management and urgent risk is materially higher.

This example illustrates only the capitation component of ACV. The full contract value would also include delivered prevention tariffs Pt(d), legitimate Pathway 3 laboratory supplements Ls(P3), urgent-care components Uc(r) and Uc(a), the quality premium Qp and patient charge deduction Pc.

Table 2.5 Risk uplift coefficient range: floor, national average and ceiling

Ru floor 0.85	National average 1.10	Ru ceiling 1.60	Maximum differential
Lowest-risk practice: low deprivation, fluoridated, below-average caries, low urgent demand. ACV Bc component reduced by 15% below base rate.	Average English practice: mixed deprivation, predominantly non-fluoridated, national average caries prevalence.	Highest-risk practice: most deprived, non-fluoridated, high caries prevalence, high historic urgent demand.	88% additional resource at ceiling vs floor — directed by measurable population disease risk, not provider preference

2.4.2 Ru governance: stability, transparency and anti-gaming

Because Ru directly affects contract value, it must be governed transparently and protected from volatility or gaming. The proposed governance model protects both commissioners and providers. Commissioners must be able to see that higher Ru values are driven by measurable population need, not provider preference or coding behaviour. Providers must be able to invest in prevention without facing an immediate loss of contract value simply because early improvement begins to emerge.

Table 2.6 Ru governance principles and specifications

Governance principle	Specification
Independent actuarial oversight	Ru should be subject to independent actuarial and public health review before demonstrator go-live, with an annual Ru Determination Report published by NHS England. The review panel should include NHS England analysts, external actuaries, epidemiologists, dental public health specialists and NHSBSA data expertise. The report should set out the methodology, data sources, sensitivity analysis and any recommended adjustment.
Defined data sources	Ru should be derived from corroborated population-level sources: national epidemiological surveys, OHID oral health data, IMD deprivation indices, fluoridation coverage, NHSBSA urgent-care utilisation, POHR-derived risk distributions, and stabilisation and prevention delivery trends. No single data source should materially shift Ru without corroboration from other indicators.
Stability safeguards	To prevent unacceptable volatility, annual Ru movement should be capped, multi-year smoothing should be applied, no mid-year contract adjustment should be permitted, and practices should receive at least six months' notice of any change affecting future contract value. Formal recalibration should occur at contract gate reviews, informed by annual monitoring.
Anti-gaming protections	Ru should be based primarily on population-level distributions and corroborated area-level evidence, not individual patient coding alone. Practices should not be able to increase their Ru by up-coding individual patients. Individual-level coding should inform pathway management, Pt(d) eligibility, clinical audit and evaluation, but it should not directly determine the population Ru uplift without corroborating population-level evidence. Outlier patterns in pathway allocation, urgent-care use, Pt(d) claims, Ls(P3) claims or POHR risk distribution should trigger NHSBSA audit and ICB clinical governance review. This safeguard preserves the legitimacy of risk-weighted commissioning while preventing the risk-adjustment mechanism from becoming a coding incentive.
Improvement dividend	Where a practice demonstrably reduces the risk profile of its registered population through prevention, stabilisation and continuity of care, Ru should reduce only gradually through smoothing. The practice should retain a time-limited improvement dividend, normally for two years, so that successful prevention is financially rewarded rather than immediately penalised.

The objective is a stable risk-adjusted contract in which resource follows disease probability, improvement is rewarded through Qp, and recalibration is evidence-led rather than negotiated practice by practice. The following governance principles should apply.

Annex A provides the probabilistic rationale for Ru: how the coefficient encodes prior probability of disease, why population-level risk adjustment is preferable to historical activity-based allocation, and how new evidence from POHR reporting, epidemiological surveillance and demonstrator outcomes should inform future recalibration.

2.5 Component 4: Delivered prevention episode tariffs — Pt(d)

Prevention episode tariffs are the mechanism by which prevention becomes a commissioned activity rather than an assumed output of treatment. Under the current contract, prevention is absorbed within treatment bands and crowded out by treatment pressure or delivered at the clinician's discretion without commissioning or measurement.

The Population Oral Health Contract changes this: defined preventive interventions are listed, remunerated and reported separately — and are charge-free at the point of care.

The tariff schedule is risk-stratified. Not all patients attract all tariffs; eligible interventions depend on the patient's risk category. This is the Bayesian prior translated into clinical action: a high-risk patient attracts tariffs for fluoride varnish, fissure sealants, oral hygiene instruction, silver diamine fluoride application, periodontal stabilisation, dietary advice, smoking cessation support, domiciliary prevention and acclimatisation, A low-risk adult maintenance patient does not. Prevention episodes on all pathways are free to the patient — removing the financial barrier that currently prevents uptake in the populations who need prevention most.

Table 2.7 Example- Prevention episode tariff schedule: eligibility, indicative rates and evidence base

Prevention episode	Eligible population	Indicative tariff	Evidence base
Fluoride varnish (×2/yr)	Children at elevated caries risk; high-risk adults	£15–£20 per application	Marinho et al. Cochrane 2013: 43% caries reduction deciduous, 46% permanent. [6]
Fissure sealant (per tooth)	High-risk children, permanent first molars; annual integrity check thereafter	£25–£35	Ahovuo-Saloranta Cochrane 2017: effective to 48 months. [7]
Periodontal risk assessment / BPE	All registered adults, annually	£22–£28 per assessment	BSP/EFP Classification 2018; Sanz et al. J Clin Periodontol 2020. [8]
Periodontal stabilisation episode	BPE 3–4; T2D; cardiovascular risk	£75–£100 per episode	Simpson et al. Cochrane 2022: −0.43% HbA1c at 3–4 months. [9]
Dietary advice and behaviour change	High caries-risk; primarily children 0–5, extended to older high-risk children and adults where clinically indicated	£6–£10 per episode	OHID DBOH 4th ed.; NICE PH55. [10]
Smoking cessation brief intervention	Tobacco users; periodontal disease	£7–£14 per episode	NICE NG209; periodontal-systemic NCD evidence base. [10]
Domiciliary oral health review	Care home residents; housebound	£85–£120 per visit	CQC Smiling Matters 2023; NICE NG48. [11,12]
Oral health promotion (group)	*Schools; care settings; community groups	£35–£55 per session	OHID DBOH community prevention evidence. [10]

Note:

All eligible for delivery by dentist, hygienist or dental therapist within scope; tariff does not vary by delivering practitioner.

*Oral health promotion (group) sessions are structured, curriculum-based prevention sessions of approximately 30–45 minutes, delivered to groups of up to 15, typically in schools, care settings or community venues, led by a dental care professional or trained health promoter.

Prevention tariff income is calculated as contracted volume per tariff type multiplied by the applicable rate. Contracted volumes are negotiated at award and adjusted at each annual review based on the risk profile of the registered population and the previous year's delivery data. ICBs should specify minimum prevention coverage standards as process KPIs: ≥85% of high-risk children receiving twice-yearly fluoride varnish, and ≥90% of registered adults receiving annual periodontal risk assessment.

Acclimatisation is payable as a single Pt(d) episode covering a structured course of appointments (typically 2–4) rather than per individual visit, to avoid incentivising unnecessary appointment multiplication.

Care home visiting is a discrete commissioned requirement for practices holding a domiciliary prevention tariff, not a universal obligation on all practices; visits may be led by oral health therapists or hygienists, with a dentist involved as clinically required.

> ***Cross-reference***
> ***Annex C*** *sets out how delivered prevention operates within the P1–P4 pathway model, including which patients are eligible for Pt(d), how prevention interacts with stabilisation, and how pathway movement is monitored.*
> ***Annex L*** *provides the graded evidence base for the prevention interventions themselves, distinguishing high-confidence interventions such as fluoride varnish and fissure sealants from areas where evidence is moderate, low or requires demonstrator evaluation.*

2.6 Component 5: Pathway 3 laboratory supplement — Ls(P3)

The Pathway 3 laboratory supplement **Ls(P3)** is an exceptional claimed-for cost — it does not form part of the standard capitation or prevention tariff structure but is added to the ACV where the practice necessarily incurs laboratory fees in providing care to its registered population. Laboratory costs arise principally in connection with prosthetic treatment: dentures, crowns, bridges, and other laboratory-fabricated restorations that cannot be delivered without an external dental laboratory. Because these costs vary materially by list profile, local laboratory pricing, and the clinical complexity of the registered population, they cannot be reliably incorporated into the base capitation rate without either over-compensating low-prosthetic practices or under-compensating those serving older or higher-complexity populations.

The Ls(P3) component is estimated at 3% of the adult registered population requiring laboratory-supported treatment in any contract year, at an average laboratory cost of £120 per patient. For a national average practice with 2,000 registered adults, this produces an Ls(P3) value of £7,200 per year (60 patients × £120). This is a claimed-for rather than a fixed component: practices submit annual laboratory expenditure returns to the NHSBSA, and the Ls(P3) figure is reconciled against actual spend at the annual review gate. Over-claims are recovered; under-claims release value that may, at ICB discretion, be reinvested in the prevention tariff budget. The 3% prevalence rate and £120 average are calibrated to NASDAL benchmarking data on laboratory expenditure as a proportion of gross contract income; both figures are subject to revision at each national contract review. [2]

Ls(P3) covers crowns and indirect restorations where clinically necessary, including, but not limited to, post-endodontic stabilisation, for example following trauma, extensive caries or restoration failure.

2.7 Component 6: Unscheduled/Urgent care: the dental home and the Uc mechanism

Unscheduled and urgent dental need will not disappear under a prevention-led model. It should reduce over time as prevention, stabilisation and continuity take effect, but it will remain substantial during the early years of reform, particularly in high-deprivation areas and dental deserts.

The Population Oral Health Contract addresses this need through three linked elements:

- The dental-home obligation for registered patients;
- The uc mechanism for unregistered and transient patients; and
- A two-tier nhs111 and local urgent-care referral pathway.

For registered patients, urgent care is part of the dental-home obligation and is funded within risk-adjusted capitation rather than through a separate attendance tariff. Each registered patient has a named provider responsible for ensuring access to appropriate assessment, triage, stabilisation and onward referral. The financial incentive to prevent avoidable urgent need is therefore embedded within the population-responsibility model.

For unregistered and transient patients, urgent capacity is commissioned through two components:

- **Uc(r):** a fixed urgent-access retainer of £2,000–£14,000 per year, set by the ICB according to provider role, local need and expected demand; and
- **Uc(a):** a per-attendance payment for each unregistered urgent patient seen, subject to a commissioned annual ceiling.

Uc(a) is expressed as a gross rate. The NHS pays the net amount after deducting any patient charge collected, preventing double payment and preserving the established treatment of patient charge income.

Urgent attendance should create a route towards stabilisation and continuing care, but an attending provider should not be required to accept unlimited registrations beyond funded capacity. Its obligation is to assess, stabilise where appropriate, and offer or arrange a continuity pathway. Practice-level registration expectations must therefore be aligned with commissioned list capacity.

Success should be assessed through urgent-to-continuity pathway performance, including:

- Whether continuity was offered;
- Whether the patient accepted the offer or was appropriately referred;
- Whether registration was achieved within the local provider network; and
- Whether repeat urgent attendance was avoided.

Registration with the attending practice is not the sole measure of success.

As registration expands and unregistered urgent demand falls, Uc funding may be rebalanced progressively towards capitation, subject to gate-review evidence that access has not deteriorated and sufficient continuity capacity exists. The policy intention is to

redirect resource over time from repeated urgent episodes towards prevention and continuing responsibility.

To prevent gaming through selective emergency acceptance Uc(a) claims should be monitored against each practice's registered-list urgent refusal/redirection rate, with outlier patterns triggering ICB review.

> ***Cross-reference***
>
> ***Annex B*** *sets out registration, the dental-home obligation, list management and continuing-care responsibilities.*
>
> ***Annex D*** *provides the full technical specification for Uc(r), Uc(a), NHS111 routing, urgent-to-continuity pathways, patient-charge deduction, provider and commissioner accountability, reporting requirements and gate-review rebalancing.*

2.8 Component 7: Quality premium (Qp)

The quality mechanism should reward improvement without making the core income required to maintain registered responsibility uncertain. Most expected provider income must remain predictable. Qp should therefore operate as an earned premium above a securely funded core, rather than as a large retrospective deduction from the resources required to provide care.

It is not a token add-on. It is the financial mechanism that aligns provider income with the contract's central purpose: measurable improvement in access, prevention, continuity, equity and population oral health.

The modelled maximum premium is 12% of risk-adjusted base capitation and delivered-prevention payments:

$$\textbf{Qp base} = (Bc \times Rp \times Ru) + Pt(d)$$

Uc(r), Uc(a), Ls(P3), geographic weighting and named local supplements are excluded. The premium therefore rewards quality and population-health improvement rather than urgent-care volume or reimbursement of pass-through costs.

The demonstrator should test whether 12% is the appropriate maximum and how much of the premium should be genuinely contestable. Initial implementation could divide the premium into three components:

- 4% for core data and quality infrastructure;
- 4% for achieving defined standards; and
- 4% for measurable improvement against baseline.

This structure would allow practices to earn part of the premium through verified participation, data quality and maintenance of essential standards, while reserving the remaining element for demonstrated improvement.

The premium should operate on a sliding scale rather than as a binary pass/fail mechanism. A practice achieving all applicable standards would receive the full premium. Minor shortfalls

would result in proportionate adjustment. Material or sustained failure would reduce the premium and trigger a structured performance review.

The premium should not be wholly withheld during the first year of a new contract. Baseline data, validated denominators and sufficient time to observe improvement are required before performance trajectories can be judged fairly. During the establishment period, greater weight should therefore be given to data quality, implementation fidelity and maintenance of core standards.

Qp also provides a mechanism for rewarding exceptional performance and reducing inequalities. From Gate 2, providers demonstrating independently verified improvement beyond the agreed trajectory could become eligible for an enhanced premium of up to **15%**, subject to ICB approval and NHSBSA validation. Relevant achievements might include:

- reductions in caries among high-risk children
- narrowing of deprivation-related outcome gaps
- improved prevention coverage in underserved groups
- sustained reduction in repeat urgent attendance
- measurable improvement in continuity or pathway progression

Any enhanced premium should reward outcomes that exceed the commissioned baseline and should not compensate for activity already funded elsewhere within the ACV.

Each Qp outcome measure draws on a named data source: hospital extraction and A&E attendance data from NHSBSA and hospital episode statistics; recall interval and pathway movement data from POHR; and population-level caries prevalence from the OHID National Dental Epidemiology Programme surveys. No Qp measure relies solely on practice-submitted claims without independent corroboration.

Quality premium and regulatory boundary

The quality premium is a commissioning and improvement mechanism, not a substitute for professional regulation. It operates at contract and population level, rewarding agreed improvements in prevention coverage, access equity, continuity, patient experience, risk-appropriate recall, stabilisation and selected outcome measures.

It does not replace CQC oversight, GDC standards, NHS performer-list arrangements, local clinical governance, complaints processes, clinical negligence routes or individual regulatory enforcement. **Qp** metrics must be risk-adjusted, patient-informed, transparent and developed with professional bodies before demonstrator launch.

The workforce implications of delivering the specification are addressed in Section 2.18. That placement is deliberate: workforce is not a separate ACV formula component, but the delivery architecture required to make registered responsibility, prevention, urgent-to-continuity conversion and quality improvement operational.

Cross-reference

Annex C *sets out how the pathway model supports quality measurement, including pathway movement, prevention entitlement, stabilisation and patient charge logic. Section 2.14 sets out the KPI framework against which the quality premium is assessed.*

2.9 Component 8: Patient charge deduction— Pc

Pc is the deduction that converts gross ACV into the net NHS commissioner payment. Patient charges remain part of total NHS dental system funding, but they are not additional income on top of the NHS contract value. They are collected at the point of care and deducted transparently through the contract calculation, consistent with the existing FP17 and patient charge reconciliation principle.

The Pc component applies to registered patient charge income. Charges associated with unregistered unscheduled/urgent attendances are deducted within Uc(a), not counted again within Pc. This avoids double-payment and preserves the distinction between the dental home obligation for registered patients and the transitional unscheduled/urgent care mechanism for unregistered patients.

For modelling consistency, the main paper uses 2024/25 statutory charge rates throughout: £27.40 for P1/P2 entry, £75.30 for P3 and a £326.70 annual cap. Annex E sets out the patient charge and exemption policy; Annex F sets out the charge-income methodology and sensitivity analysis.

2.10 Monthly ACV payment and annual reconciliation

The Population Oral Health Contract should provide stable income flow for providers. Most NHS dental practices are small businesses with fixed monthly obligations: staff salaries, associate payments, rent, equipment finance, laboratory accounts, indemnity, utilities and compliance costs. A prevention-led contract cannot succeed if provider income becomes unpredictable or dependent on retrospective reconciliation alone.

The default payment mechanism should therefore be a monthly payment of one-twelfth of the agreed Annual Contract Value. This would give providers predictable cash flow while preserving accountability for delivery.

Under this arrangement, the commissioner pays:

$$\text{Monthly payment} = \text{agreed annual ACV} \div 12$$

The annual ACV is set prospectively using registered population, base capitation, risk uplift, expected prevention activity, urgent-care capacity, agreed Pathway 3 laboratory assumptions, quality framework and projected patient charge deduction.

At year end, contract performance is reconciled against agreed KPIs, list validation, delivered prevention activity, urgent-to-continuity conversion, patient charge income, legitimate Ls(P3) claims and quality premium measures. Reconciliation should adjust for material under-delivery, over-delivery, patient charge variance, list movement, coding error and agreed quality premium achievement.

Reconciliation should be proportionate and should not create destabilising clawback where providers have acted in good faith, delivered access, and maintained validated registered responsibility. Where material variance is identified, the preferred response should be staged correction, support, shadow adjustment or prospective recalibration, rather than abrupt withdrawal of income.

This payment design is essential to provider confidence. It treats the Population Oral Health Contract as a responsibility contract, not a piecework claims system. It supports small-business stability while retaining commissioner control through annual reconciliation, audit, gate review and quality-adjusted payment.

> **Cross-reference**
> ***Part 3*** *provider transition*
> ***Part 5*** *implementation assurance*
> ***Annex K*** *objections*
> ***Appendix K1*** *provider financial confidence and administrative parsimony*

2.11 The formula in operation: national average worked example

Before turning to the pathway and workforce implications, Table 2.8 shows how the ACV formula operates for a notional national-average practice at go-live in 2028/29.

The practice has 2,000 registered adults and 800 registered children, reflecting the 2.5:1 adult-to-child planning ratio used throughout the model. Its population-risk profile is set at the national average, with Ru 1.10, derived from the combined national position across deprivation, fluoridation status, local caries prevalence and historic unscheduled or urgent demand. The same Ru coefficient is applied to adult and child capitation so that population risk is reflected consistently across the registered list.

Table 2.8 ***National-average worked example: full ACV calculation at go-live***

Component	Calculation	Amount
Adult capitation	Bc £70 × Ru 1.10 × 2,000 adults	£154,000
Child capitation	Bc £60 × Ru 1.10 × 800 children	£52,800
Core Pt(d)—adults	2,000 × £13.40 pathway-weighted delivered prevention	£26,800
Core Pt(d)—children	800 × £16.60 pathway-weighted delivered prevention	£13,280
Qp base	Adult and child capitation plus core Pt(d)	£246,880
Ls(P3)	2,000 adults × 3% incidence × £120; delivered-care basis and excluded from Qp	£7,200
Quality premium	£246,880 × 12%; Ls(P3), Uc and supplements excluded	£29,626
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£4,000
Uc(a) gross	150 attendances × £95	£14,250
Less Uc(a) patient-charge income	Charges collected and deducted before NHS payment	−£3,000
Uc(a) net NHS urgent-care cost	Excluded from Qp base	£11,250
Gross ACV	Sum of ACV components	**£298,956**
Less patient charges, Pc	2,000 adults × 65% fee-paying × £44.89	−£58,357
Net NHS commitment	Gross ACV less Pc	**£240,599**
Gross ACV per registered patient	£298,956 ÷ 2,800	£106.77
Net NHS per registered patient	£240,599 ÷ 2,800	£85.93
Indicative current gross expenditure per patient seen	£3.108bn ÷ 24.9m patients	£124.82
Illustrative provider costs	74% of gross, using the NASDAL modelling assumption	£221,227
Illustrative residual before full provider-cost validation	Gross ACV less modelled provider costs	**£77,729**

2.11.1 What this example is—and is not

The worked example demonstrates how the formula operates under central assumptions. It is not a recommended national tariff and does not establish that £106.77 is sufficient for every provider.

The £118.08 figure used in Part 3 serves a different purpose. It is the programme-weighted central affordability reference, incorporating the expected distribution of higher-need populations, higher Ru values in priority geographies, London and rurality supplements where applicable, transitional urgent-care requirements and the provider mix required to expand access in underserved areas.

The £106.77 worked example, the £118.08 programme-weighted ACV and the indicative £124.82 current expenditure comparator should therefore not be treated as equivalent tariffs. Current expenditure reflects a heterogeneous mix of episodic care, whereas the proposed ACV purchases prospective registered responsibility, prevention, continuity, risk management and urgent-care access across the contract year.

2.11.2 Provider-viability caveat

The worked example does not include a separately validated margin for prospective annual responsibility and does not establish that the assumed base rates support competitive workforce remuneration, full practice overheads, financing requirements or a sustainable provider operating margin.

The £77,729 residual is therefore an accounting illustration, not a proven commercial surplus. It remains sensitive to workforce, premises and financing costs; utilisation; laboratory expenditure; equipment depreciation; compliance and administration; and the cost of maintaining access and continuity capacity.

At the upper sensitivity of £80 per adult and £65 per child, gross ACV rises to £328,524. This demonstrates additional financial headroom but does not establish the correct tariff.

The independent actuarial, health-economic and provider-viability review should test a tariff corridor rather than validate a single point estimate, distinguishing the expected cost of care, utilisation variation, access and continuity capacity, and sustainable provider operating margin.

2.11.3 Tariff corridor

The corridor should comprise:

- an affordability-reference scenario based on the £118.08 programme-weighted model;
- a provider-adoption scenario testing the Bc value or prospective-responsibility margin required to secure participation and workforce sustainability; and
- an enhanced-responsibility scenario for contracts carrying materially greater access, continuity or high-need obligations.

Detailed tariff values and scenario methodology should sit in the technical provider-viability annex rather than in the main paper.

After patient-charge income is deducted, the worked example produces net NHS expenditure of £85.93 per registered patient, compared with indicative current net expenditure of £92.37 per patient seen. This is an affordability comparison, not evidence of equivalence between the two commissioning models.

Expected gains from expanded registration, disease stabilisation and reduced repeat urgent demand are not treated as guaranteed savings. They should be tested through gate reviews, provider-income analysis, workforce and access measures, clinical evaluation and avoided-cost assessment.

> ***Cross-reference***
> ***Part 4*** *applies the formula across six materially different ICB profiles.*
> ***Annexes B–D*** *set out registration, care pathways and urgent-care arrangements;*
> ***Annex F*** *provides the patient-charge methodology;*
> ***Annex L*** *provides the clinical evidence underpinning the prevention tariff schedule.*

2.12 Care pathways: replacing treatment bands

The UDA treatment band system was designed to price discrete treatment episodes. It has no mechanism for recognising whether a patient's disease risk is increasing or decreasing over time, no pathway logic connecting one episode to the next, and no way of rewarding clinical decision-making that avoids unnecessary treatment.

Under the Population Oral Health Contract, treatment bands are replaced by four care pathways, each with a defined clinical profile, recall interval, prevention entitlement, treatment entitlement and accountability logic. The purpose is not simply to rename treatment bands. It is to replace an episode-based payment structure with a pathway-based responsibility model.

2.12.1 Clinical time and throughput

A prevention-led contract should reduce reliance on high-volume churn. It should not replace UDA pressure with a different form of throughput pressure.

The Population Oral Health Contract is therefore designed to buy clinical responsibility, not simply clinical contact. Assessment, prevention, stabilisation, shared decision-making, risk-appropriate recall and continuity all require time. The contract architecture must allow that time to be used productively, particularly for higher-need patients requiring acclimatisation, periodontal stabilisation, caries risk management, urgent-to-continuity pathway completion or more complex treatment planning.

This does not mean reducing productivity or weakening accountability. It means defining productivity differently: not as the maximum number of treatment claims per session, but as the effective use of clinical time to reduce risk, stabilise disease, prevent escalation and maintain access for a registered population.

2.12.2 Pathways

Pathway allocation is determined by the clinician at each assessment, using a structured risk assessment tool based on the CAMBRA framework and the BPE scoring system. [20,21] It is recorded in the patient record and reported through the Population Oral Health Return (POHR).

Pathway allocation is not fixed. A patient may move from Pathway 3 to Pathway 2 after stabilisation, from Pathway 2 to Pathway 1 after sustained risk reduction, or from any pathway to Pathway 4 where enhanced or specialist care is required. The key metric is not simply how many patients sit in each pathway, but whether patients are moving towards lower risk, greater stability and longer clinically appropriate recall intervals over time. Pathway movement is monitored through POHR submissions and validated against NHSBSA claims data; ICBs review outlier patterns as part of routine clinical governance, not only at Gate review.

General dental practice is expected to manage special needs patients within its competence and capacity, using Pathway 4 for enhanced complexity; patients whose needs exceed what can safely be managed in general practice are referred to Community Dental Services, special care dentistry or Tier 2/3 services, with return-to-dental-home arrangements once stabilised.

Pathway distribution across the practice population , the proportion of registered patients in each pathway, is a core process KPI. A practice with a very high proportion of patients in complex or stabilisation care may be serving an exceptionally high-need population, in which case the Ru coefficient should reflect that. Alternatively, it may indicate that upstream prevention and stabilisation are not yet working effectively, in which case the KPI framework should identify the issue and trigger commissioner review.

Pathway 4 is designed with an explicit equity feature: the patient charge is set at the nominal Pathway 3 rate (£75.30 per COT, annual cap £326.70) regardless of the complexity of care delivered. The NHS absorbs the cost differential above Tier 1 complexity. A patient requiring multi-quadrant periodontal treatment, advanced oral surgery or specialist referral pays the same as a patient requiring a straightforward restoration. Complexity is not charged to the patient; it is a commissioning obligation on the NHS and the ICB.

Prevention episodes on all pathways are free to the patient. The full charge structure, extended exemption framework and charge income projections are set out in Part 3, Annex E and Annex F.

> **The pathway logic**
>
> ***Under the UDA model, every patient who walks through the door is a treatment opportunity. Under the pathway model, every patient on the list is a prevention responsibility. The incentive shifts from delivering activity to maintaining health. The contract is designed so that moving a patient from Pathway 3 to Pathway 2 — stabilising disease, reducing risk, extending recall — is the most financially rewarding clinical decision a practice can make.***

Patient charge rates — 2024/25 baseline throughout

All patient charge figures in the main model use 2024/25 statutory rates: Band 1/Pathway 1–2 entry £27.40; Band 2/Pathway 3 £75.30; annual cap £326.70. These are consistent with the NHSBSA verified charge income baseline (£774m, 2023/24) and the weighted average charge derivation in Annex F. NHS dental charges were uplifted on 1 April 2026 to £27.90 (P1/P2), £76.60 (P3) and £332.10 (annual cap). That uplift adds approximately £12m to the year-5 charge income projection — within the Annex F sensitivity range — and does not affect any investment case conclusion. The 2026 rates are set out in the Annex F charge addendum (Section F.10) and should be used for all operational and patient-facing communications from 1 April 2026.

Cross-reference

Annex B *sets out registration, dental home responsibility and pathway allocation through the Population Oral Health Return.*

Annex C *sets out the full pathway architecture, including pathway movement, prevention entitlement, Ls(P3), patient charge logic and accountability.*

Annex E *sets out patient charge exemptions and new categories.*

Annex F *sets out charge income projections.*

Annex L *provides the evidence base for the prevention interventions commissioned through Pt(d).*

Figure 2.1 Patient pathways replacing UDA treatment bands

Pathway	Clinical purpose	NHS funding logic	Patient charge logic
P1 Health Maintenance	Stable, low-risk patients requiring routine maintenance, risk-appropriate recall and lower-intensity prevention.	Capitation through **Bc × Rp × Ru**. Dental home obligations include prevention proportionate to lower risk.	**£27.40 per attendance.** A 24-month recall equates to approximately **£13.70 per year** effective patient charge exposure.
P2 Active Prevention	Patients requiring active prevention, behaviour change, periodontal maintenance, caries risk management or risk reduction before disease escalates.	Capitation plus prevention tariff suite through **Pt(d)**. Dental home obligations and delivered prevention episodes are funded.	**£27.40 entry only.** All follow-on prevention sessions are free to the patient. P3 escalation credit applies.
P3 Routine Restorative and Tier 1 Care	Patients requiring routine restorative care, disease stabilisation or Tier 1 treatment within general dental practice.	Capitation covers dental home responsibility and routine Tier 1 care. Eligible **Pt(d)** episodes and qualifying **Ls(P3)** laboratory costs are paid in addition.	**£75.30 per course of treatment.** Annual cap **£326.70**. P2 credit applies.
P4 Tier 2/3 Complex and Enhanced Care	Patients requiring enhanced, specialist, multidisciplinary or referred care beyond routine Tier 1 complexity.	Enhanced service or specialist referral tariff above base ACV. Complexity differential is absorbed by NHS commissioning, not the patient.	**£75.30 nominal P3 rate.** Annual cap **£326.70**. No additional patient charge for complexity.

2.13 Capacity-release logic: recall, skill-mix, unscheduled/urgent conversion/stabilisation

The service specification does not expand access by asking the existing workforce simply to do more of the same. It releases capacity by changing the clinical logic of the contract.

Four mechanisms are central: risk-based recall optimisation, full-scope use of the wider dental team, unscheduled/urgent-to-continuity pathway completion, and disease stabilisation that reduces future restorative load.

These mechanisms should be treated as demonstrator planning assumptions, not as guaranteed national productivity gains before Gate 2 evidence is available.

2.13.1 Recall interval optimisation

Under the current contract, routine recall for stable low-risk patients can absorb capacity that could otherwise be used for access, prevention and stabilisation. Moving clinically stable adults to appropriate 12–24 month recall intervals, consistent with individual risk assessment and NICE recall guidance, releases clinical time without reducing care quality. [22]

In the central scenario, recall optimisation could free up to 20% of appointment capacity currently absorbed by unnecessary routine review. This is not rationing. It is matching recall interval to risk. Stable patients are not abandoned; they are reviewed at intervals proportionate to their disease probability. The released capacity is then directed to patients whose risk profile, symptoms or lack of previous access justify greater clinical time.

2.13.2 Therapist-led prevention and stabilisation

The model requires dental therapists, hygienists and dental nurses to work to full scope within appropriate clinical governance. Hygienists working to full scope can deliver oral hygiene instruction, dietary advice, fissure sealants and periodontal stabilisation within an agreed care plan, alongside therapists' broader prevention and restorative scope. Dentists remain essential for diagnosis, treatment planning, restorative decision-making, complexity, unscheduled and urgent care, clinical governance, and leadership of the wider dental team. Prevention, stabilisation and maintenance do not need to be dentist-led where another registrant can deliver the care safely and effectively within scope, competence and an agreed care plan.

The model does not depend on unresolved regulatory change to dental therapist scope. It assumes full and consistent deployment of existing scope of practice, within competence, indemnity, prescribing and medicines rules, local clinical governance and clear escalation arrangements. The barriers to wider therapist deployment are therefore primarily operational, cultural, contractual and governance-related, rather than a lack of professional scope.

Dental therapists can deliver substantial elements of prevention, stabilisation, periodontal care and simple restorative treatment within scope and competence. Hygienists contribute materially to periodontal stabilisation, prevention, behaviour change and maintenance. Dental nurses support prevention delivery, acclimatisation, data capture, care navigation and continuity.

In the central scenario, 30–40% of activity currently concentrated around dentists could shift to the wider dental team where clinically appropriate. This is essential to the financial and access model: prevention and stabilisation must be delivered by the right clinician, at the right level of complexity, using the right tariff. If all activity remains dentist-led, the model will not achieve its intended access, prevention or productivity gains.

This assumption should be tested explicitly in the demonstrator. Evaluation should assess therapist and hygienist utilisation, scope-of-practice deployment, escalation pathways, dentist oversight, patient acceptability, clinical outcomes, associate workload, provider viability and whether skill-mix actually releases capacity rather than creating new supervisory or administrative burden.

2.13.3 Reduction in repeat unscheduled/urgent care

The **Uc** mechanism is designed to convert unregistered urgent presentations into registered dental-home care. As registration grows, repeat urgent attendance should fall. This reduces unplanned demand on practices, NHS 111, A&E and emergency dental pathways.

The efficiency gain does not come from denying unscheduled or urgent care. It comes from preventing urgent care becoming a recurring substitute for continuity. A patient who is stabilised, registered and placed on an appropriate pathway is less likely to re-present repeatedly with unresolved pain, infection or preventable deterioration.

2.13.4 Stabilisation reduces future restorative load

The model funds stabilisation as an investment in future capacity. Once active disease is stabilised and patients move from Pathway 3 to Pathway 2, the expected future burden of fillings, extractions, urgent visits and repeat courses of treatment should reduce.

This creates a self-reinforcing efficiency loop: prevention reduces disease; stabilisation reduces recurrence; continuity reduces repeat urgent demand; and released clinical time supports further access expansion.

This effect should not be treated as an immediate cashable saving in Year 1. It is a capacity dividend that matures over time and should be measured through Gate 1 and Gate 2 evaluation.

> ***Cross-reference***
> ***Annex B*** *sets out registration, pathway allocation, recall interval monitoring and unscheduled/urgent-to-continuity pathway completion.*
> ***Annex C*** *sets out the P1–P4 pathway architecture and the principle that financial incentives should favour prevention and stabilisation.*
> ***Annex D*** *sets out the dental home and unscheduled/urgent care architecture.*
> ***Part 5*** *Part 5 specifies the demonstrator KPIs for recall optimisation, repeat urgent attendance, therapist and hygienist utilisation, clinical time, patient experience and reduction in avoidable Band 1-equivalent activity.*

2.14 KPI framework: what ICBs should specify and measure

The KPI framework (Table 2.9) is organised across three tiers: activity KPIs that establish the foundations of the model; process KPIs that track how care is being delivered; and outcome KPIs that measure whether the health trajectory of the registered population is

improving. All three are required. Activity alone measures whether the contract is being used, not whether it is working. Outcome alone is insufficient in the early years — population health improvement takes years to manifest and cannot fairly be the sole accountability test in a new contract.

Table 2.9 KPI framework: contracted standards and 10-year aspirations by domain

KPI domain	Contracted standard	10-year aspiration
Registration and access	≥90% registered patients seen within 18 months; new patient registration target met; deprived postcode registration share at or above local population share	Registration continuity ≥95%; deprivation gradient eliminated within ICB area
Prevention coverage	≥85% high-risk children receive twice-yearly fluoride varnish; ≥75% eligible children receive fissure sealants by age 7; ≥90% adults receive annual periodontal BPE	Prevention coverage ≥95% across all risk groups; f fissure sealant coverage before first permanent molar eruption in all high-risk children, with a second-molar review and top-up by age 12.
Unscheduled/urgent-to-continuity pathway completion	Continuity offered; accepted or appropriately referred; successfully registered within the local network; and no repeat urgent attendance within 3, 6 and 12 months. Performance adjusted for commissioned provider and network list capacity.	≥85% urgent patients converted to registered continuous care; repeat unscheduled/urgent attendances reduced by 50%
Pathway distribution	≥30% registered patients in health maintenance pathway; ≤20% in complex care pathway by end of year 3	≥45% health maintenance; proportionate shift from complex to active prevention over contract term
Workforce and skill-mix	% of prevention episode tariffs delivered by non-dentist DCPs reported quarterly; dental therapist deployment hours recorded	≥40% of Pt(d) episodes delivered by DCPs in high-deprivation practices by Year 5
Care home and domiciliary	Domiciliary capacity commissioned; minimum one structured care home review per quarter per contracted home	All care home residents have documented oral health assessment; oral health embedded in care planning
Periodontal management	≥80% of BPE 3–4 patients receive stabilisation within 3 months; HbA1c data-sharing pathway established with diabetes services	Periodontal disease progression reduced; co-management pathway integrated into ICB population health plan
Patient experience	Friends and Family equivalent ≥85% positive; dental anxiety screening offered to all new patients	PROMs embedded in annual review; anxiety management pathway commissioned
Caries reduction (children)	Measurable reduction in dmft/DMFT scores vs ICB baseline by Year 5	20% reduction in 5-year-old dmft scores across ICB area by year 10; deprivation gap halved
Avoidable secondary care	Year-on-year reduction in GA extraction episodes for registered under-18s	Hospital extraction rate for registered children reduced by 40% vs baseline by year 10

Note: Prevention KPIs are corroborated against Ls(P3)/Pt(d) claims data and outlier audit (Annex C.7, K1.11); they are not accepted on unverified practice report alone.

KPI data flows quarterly to the NHSBSA through an enhanced FP17/FP17PR reporting infrastructure, with a new Population Oral Health Return (POHR) covering risk stratification, prevention episode delivery, pathway distribution, workforce deployment and patient experience. The NHSBSA produces an annual practice-level dashboard accessible to commissioners, providers and registered patients. ICBs receive a system-level dashboard aggregated from all commissioned practices.

2.15 New provider commissioning: prospective ACV model for dental deserts

The contract architecture described in Sections 2.1–2.14 assumes a practice with an established registered list. New practices commissioned into dental deserts (areas where NHS dental provision has been absent or inadequate) face a fundamentally different starting position: full fixed costs from day one, but no established registered population. The standard ACV mechanism, which pays by registered patient, cannot support viability in this circumstance without modification.

The proposed solution is a prospective ACV model. At contract award, the ICB and provider agree a registration trajectory: a year-by-year projection of the expected registered list, based on commissioned session capacity, NHS 111 referral volume, community outreach, local unmet need and Uc(a) urgent-to-continuity conversion rates. The ACV is then calculated on the projected year-end list for each year, rather than the actual list on any given day. The provider receives the agreed ACV in twelve monthly instalments, giving predictable and cash-flow-stable income, and is held to the agreed trajectory through annual reconciliation.

In dental deserts, outreach should form part of the registration trajectory. Mobile, school, care-home, community and urgent-access outreach can identify unmet need and generate first contact, but the purpose should be conversion into registered care wherever possible. Outreach activity should therefore be included in the prospective ACV trajectory, with evaluation of how many patients move from outreach contact into assessment, pathway allocation, stabilisation and continuing dental-home responsibility.

Prospective ACV should be time-limited, milestone-based and reconciled at Gate 1 against actual registration, delivered activity, urgent-to-continuity pathway performance, verified workforce mobilisation and session availability. Where agreed milestones are not met without reasonable cause, future payments should be adjusted to the verified delivery trajectory.

The practice is being commissioned to make NHS dental capacity available and to convert that capacity into registered care. The monthly payment is therefore for public health infrastructure delivered to a population that has been without NHS dental care, not solely for patients already registered at the point of payment. This is analogous to the commissioning of other new primary care services in underserved areas: the payment mechanism must recognise mobilisation risk, fixed-cost exposure and the time required to build a stable registered population.

The prospective ACV is supported by three additional elements.

First, the Uc(r) retainer is set at the maximum tier — £14,000 per year — from go-live, reflecting the dental desert hub obligation. The practice absorbs high unscheduled and urgent demand in its early years while converting attendees into registered patients.

Second, the Ru coefficient is applied at the upper end of the local risk range for years 1–3. This is analytically justified: the first patients to register in a long-unserved area are likely to include a high proportion of patients with accumulated unmet need, active disease, dental anxiety, complex stabilisation requirements and previous urgent-care reliance. Both Uc(r) and Ru are built into the standard ACV formula and do not require a separate administrative mechanism.

Third, a recoverable revenue bridge may be required to cover the year-1 shortfall created by fixed costs before the registered list matures. In the worked six-chair example below, this bridge is modelled at approximately £134,000. It is repayable from practice surplus from Year 3 onwards, subject to the agreed reconciliation rules. The revenue bridge should therefore be treated as a cash-flow mechanism, not a recurrent subsidy.

The demonstrator should therefore test whether targeted capital support, mobilisation funding, estate facilitation, digital infrastructure and workforce transition support are required to convert commissioning intention into actual access. An NHS Dental Transformation Fund should be available for this purpose, subject to transparent criteria, local needs assessment, value-for-money appraisal and public value tests. Capital support should be treated separately from recoverable revenue bridging: revenue bridging manages early cash-flow risk; capital support creates the physical and digital infrastructure required for provision where the market has failed to supply it.

Table 2.10 Prospective ACV model: dental desert commissioning trajectory for a six-chair practice)

Year	Projected adults	Projected children	Monthly ACV payment	Annual cash flow after fixed costs	Notes
Year 1	857	342	£16,449	**(£133,279)** — covered by revenue bridge	List building from zero; **Uc(a)** demand high and building. Revenue bridge covers the year-1 shortfall; repayable from Year 3 surplus.
Year 2	2,228	890	£36,311	**£64,013**	List growing rapidly; **Uc(a)** volume falling as registration builds. Revenue bridge fully committed but not drawn in Year 2.
Year 3	3,256	1,301	£51,165	**£211,477**	List maturing; revenue bridge repaid from surplus by year-end. Practice approaching full Ru-adjusted ACV.
Year 4	3,770	1,506	£58,430	**£283,270**	Mature practice; **Uc** rebalancing proposal due at Gate 1.
Year 5	3,941	1,574	£60,687	**£305,236**	Established dental desert hub; surplus supports skill-mix and prevention infrastructure.

Note Whether NHS-backed low-interest capital loans should support new dental-desert practices is a funding-design question for the demonstrator phase, not resolved within this paper's central model.

Greenfield delivery removes some incumbent transition complexity, but it does not remove the need to validate workforce cost, utilisation risk, premises cost, financing requirements and sustainable operating margin. In dental deserts, ACV alone may not be sufficient to create capacity where premises, equipment, workforce pipelines or provider confidence are absent.

Not every dental desert will support a full six-chair practice; commissioners should consider part-time, satellite or hub-and-spoke models in the lowest-density rural areas, with the trajectory in Table 2.10 illustrative rather than universal.

For practices operated as NHS salaried services, community dental providers, CICs, social enterprises or other anchor-provider models — options that may be appropriate in the most severe dental deserts where no commercial provider will enter — the prospective ACV model can still apply. The financial logic is the same: the commissioner is funding prospective capacity, registered responsibility and urgent-to-continuity conversion in a previously under-served population. The provider identity differs.

In these cases, the NHS or ICB may need to make a direct capital commitment for fit-out, equipment and digital infrastructure. A non-recoverable capital grant (indicatively £200,000–£350,000 for a new six-chair practice, subject to local estate costs and value-for-money appraisal) may replace or supplement the recoverable revenue bridge as the primary mobilisation support. The ACV would then cover running costs from go-live.

The annual reconciliation mechanism compares projected and actual list size at year-end. If actual registrations exceed the projection, the ICB pays an uplift for the difference. If actual registrations fall more than 10% below projection, the ICB and provider agree a revised trajectory. Clawback should not be applied in Year 1 where the provider has made capacity available and taken on genuine mobilisation risk. From Year 2 onwards, persistent underperformance against the commissioned trajectory may trigger prospective adjustment, provider support, revised milestones or, where failure is not reasonably explained, proportionate recovery.

The test for the demonstrator is whether prospective ACV, revenue bridging and targeted capital support can create sustainable NHS dental capacity in places where historical contracting has failed to do so. Dental deserts will not be solved by formula alone. They require contract design, estate, workforce, mobilisation funding, local referral pathways and provider confidence to be aligned from the start.

2.16 Contract term: the case for 10 and 15-year agreements

A prevention-led contract cannot systematically operate on annual or short-term commissioning cycles. Population health improvement, i.e. measurable reductions in caries rates, periodontal prevalence, avoidable extractions and urgent attendance, takes years to manifest. A contract that creates uncertainty about continuation before risk-adjusted, patient-informed improvement measures are visible is structurally incompatible with the prevention model. [13]

The Population Oral Health Contract offers two options: a standard 10-year contract for practices entering the reformed model for the first time, and a 15-year contract available to

practices achieving exemplary performance at the year-10 gate. Both include structured review gates at predetermined intervals, ensuring accountability without undermining the stability that long-term prevention investment requires. See Table 2.11

Table 2.11 Four-gate review structure: timing, assessment criteria and possible outcomes

Gate	Illustrative Timing	What is assessed	Possible outcomes
Gate 1	Year 3 Q3 2031	Full activity and process KPI suite. Population risk stratification in place. Prevention episode delivery at or approaching target. Urgent-to-continuity pathway completion tracking. Workforce skill-mix deployment data. Baseline population health data established.	Contract confirmed for years 4–7. Performance improvement plan if process KPIs significantly below threshold. Value adjustment if registered population has materially changed. Uc rebalancing proposals from high-performing sites reviewed. Retendering only if fundamental contractual breach.
Gate 2	Year 5 Q3 2033	Outcome KPIs assessed for the first time: caries rate trajectory; periodontal stabilisation rates; avoidable extraction trend; pathway distribution shift; patient experience; skill-mix delivery share. National rollout decision for non-demonstrator ICBs.	Contract confirmed for years 6–10 on satisfactory outcome trajectory. Enhanced quality premium (up to 15%) if outcome KPIs ahead of trajectory. Outcome improvement plan if below trajectory. National rollout decision — GO/NO-GO — based on demonstrator evidence.
Gate 3	Year 7 Q3 2035	Two years of outcome trajectory data. Deprivation gradient in access and risk-adjusted, patient-informed improvement measures. GA trend for registered under-18s. Care home pathway compliance. Workforce sustainability. ACV appropriateness review against updated NASDAL benchmarks.	Contract confirmed to year 10. ACV adjusted if cost index or population change warrants. Quality premium recalibrated. Remedial pathway if outcome KPIs off trajectory. Forward planning for year-10 renewal commenced.
Gate 4	Year 10 Q3 2038	Full outcome KPI performance over contract term. Population oral health trajectory 10 years. Provider financial health. Workforce model and skill-mix maturity. Patient experience over contract life. Equity: has the deprivation gap narrowed?	15-year extension without retendering for strong performance. Standard 10-year re-award for satisfactory performance. Competitive retendering if outcome KPIs have persistently underperformed. Programme permanence decision for NHS England.

Longer contract terms change the investment calculus for providers. A 10-year contract makes workforce planning, premises investment, training and skill-mix development rational in a way that a 3-year contract does not. The NHS's persistent difficulty in sustaining dental provision in high-need areas is partly a consequence of the short-termism embedded in the current contracting model: providers cannot plan for populations they are not certain they will be serving.

Practices achieving strong outcome KPI performance at Gate 4 are eligible for a 15-year enhanced contract without competitive retendering. This recognises that the most valuable NHS dental relationships — those generating genuine population health improvement —

should be rewarded with the stability that enables continued investment. It is not a reward for simply having survived 10 years; it requires demonstrated outcome improvement, sustained access, reduced inequalities and financial sustainability. The 15-year contract includes a single additional gate at year 13 and an enhanced quality premium ceiling of 15%.

2.17 ICB accountability: the population value scorecard

The contract model holds providers to account for the oral health of their registered populations. But commissioners are equally accountable for the commissioning decisions, resource allocation, oversight and integration work that determines whether the model delivers at system level. The ICB population value scorecard provides the framework for that accountability, Table 2.12.

The intent is for the population value scorecard to be published annually by NHS England at ICB level, enabling comparison across health economies and creating a public accountability signal for ICB boards. It is the commissioning equivalent of the practice-level KPI dashboard: neither alone is sufficient; both are required.

Table 2.12 ICB population value scorecard: domains, assessment questions and key metrics

Domain	What is assessed	Key metrics
1. Needs-based commissioning	Has the ICB commissioned services in proportion to population need, using IMD and OHID data? Have dental deserts been identified and commissioned?	% of population within 10km of NHS dental provider; deprivation-weighted access gap vs national comparator
2. Contract compliance	Are all practices providing KPI data on time? Are gate reviews being applied? Are performance issues being escalated?	% of practices with current POHR submission; gate completion rate; performance review completion
3. Prevention integration	Has the ICB created co-commissioning links between dental and diabetes, maternity, respiratory, frailty and care home pathways?	Number of active cross-pathway co-commissioning arrangements; care home residents with oral health assessment
4. Population health outcomes	Is the ICB-level oral health trajectory improving? Is the deprivation gradient narrowing?	Trend in 5-year-old dmft; hospital extraction rate; A&E dental attendance; deprivation gap in access
5. Financial stewardship	Is ring-fenced dental allocation being deployed, including through the NHS Dental Transformation Fund? Is recovered contract value being reinvested in underserved areas?	% of dental allocation committed; recovered value redeployment rate; investment per head in IMD deciles 1–3 vs 8–10

2.18 Workforce model and skill-mix delivery requirements

This section is placed after the formula, pathways, KPI framework and new-provider commissioning model because workforce is an implementation requirement, not a payment component. The ACV pays a practice for registered population responsibility and measurable oral health improvement; it does not prescribe a dentist-only delivery model.

The service specification assumes a multidisciplinary dental team working to full GDC-registered scope. Dentists remain essential for diagnosis, treatment planning, complexity, urgent care, clinical governance and leadership. Dental therapists, hygienists, dental nurses and wider practice teams are then deployed around prevention, stabilisation, periodontal care, acclimatisation, recall management, care navigation and continuity.

The workforce evidence shows why headcount alone is the wrong test. The GDC register records the total regulated workforce, not the NHS workforce or the NHS clinical hours available to deliver care. NHSBSA records dentists with NHS activity, but this is not a whole-time-equivalent measure of NHS capacity. Performer List status indicates eligibility to provide NHS care, not the amount of clinical capacity available. [14–16]

Workforce modelling must therefore convert role-specific NHS clinical time into WTE, distinguish NHS from private activity and avoid double counting individuals who hold both dentist and dental therapist registration. The relevant commissioning question is not simply how many professionals are registered, but how much NHS clinical capacity is available, where it is deployed and whether the contract makes full-scope team working commercially rational.

GDC working-pattern data reinforce this distinction: substantial proportions of dentists and dental care professionals work part-time, divide their time between NHS and private care, or deliver limited NHS activity. [17,18]

The commissioning implication is direct. The access problem cannot be solved by counting registrants or relying on dentist-only activity growth. A prevention-led contract must make it financially rational for practices to use the whole dental team for the tasks each registrant is trained and regulated to deliver. That is why Pt(d), pathway allocation, recall optimisation, urgent-to-continuity pathway completion and the quality premium are central to the workforce model: they turn skill-mix from professional aspiration into commercial logic.

The workforce argument in one paragraph

The UDA contract structurally favours dentist-led delivery because it pays per course of treatment and does not reward the practice for deploying the wider dental team to prevent disease. The reformed ACV funds a population health outcome at a deflator-linked rate. The practice decides how to deliver that outcome. A dental therapist delivering 200 Pathway 2 prevention contacts per month generates the same ACV income as a dentist delivering the same contacts, but at lower salary cost. The surplus accrues to the practice, not the NHS. This is not an immediate NHS saving. It is a structural incentive for skill-mix deployment that the UDA contract systematically suppresses.

The ACV is a practice-level block payment. The NHS pays the practice for the oral health trajectory of its registered population. How the practice delivers that commitment — whether through a principal dentist working alone, a team of dentists, a mixed skill-mix of dentists and therapists, or a therapist-led prevention model with dental oversight — is a practice management decision. The NHS does not prescribe the workforce model. It commissions the outcome.

This design principle has three important implications:

First, the ACV is up-rated annually by the NHS pay and prices deflator, not by the Doctors' and Dentists' Remuneration Body award. The DDRB recommends pay uplifts for employed NHS dentists; it does not govern independent contractor income. A practice receiving an ACV block payment can deploy its workforce as it chooses and retain the efficiency gains from allocating lower-complexity contacts to appropriately trained lower-cost team members. Under the current UDA model, the NHS implicitly supports dentist-led delivery because the UDA value is the same regardless of who delivers the contact. Under the reformed model, the NHS pays for the population health output; the practice earns the surplus from deploying the right person to the right task.

Second, the prevention episode tariffs Pt(d) are designed to be delivered by the appropriate member of the dental team working to full registered scope, not by dentists alone. Fluoride varnish application, dietary advice, fissure sealants, oral health promotion and periodontal risk assessment can all be delivered within existing scope where training, indemnity, prescribing arrangements and clinical governance are in place. The quality premium rewards the health outcome, not the GDC register entry of the clinician who delivered the episode. A practice deploying a dental therapist to deliver Pathway 2 prevention contacts earns the same quality premium as a practice delivering the same contacts through dentists, but at lower cost within the fixed ACV envelope.

Third — and this is the structural change the current UDA contract cannot deliver — a practice investing in therapist deployment, recall management systems and prevention workflow will see that investment paid back through higher surplus on the same ACV. The central £70/£60 base rates are calibrated to make this commercially rational from go-live: at a 2,800-patient list, the principal surplus is approximately £78,000, providing the margin to employ a dental therapist three days per week without borrowing against future income. As the list grows through the registration trajectory, the surplus grows proportionately and the skill-mix investment becomes more, not less, financially attractive.

2.18.1 National workforce envelope and deployment model

The reformed contract does not depend on a dramatic expansion of the dental workforce. Its central workforce proposition is different: better deployment of existing capacity, supported by the capacity-release mechanisms set out in Section 2.13.

The workforce model should therefore be read alongside recall optimisation, therapist- and hygienist-led prevention, urgent-to-continuity pathway completion and disease stabilisation. The proposition is not dentist substitution for its own sake. It is the disciplined alignment of clinical task, professional scope, tariff and patient need. Recall optimisation releases low-value review capacity; therapist- and hygienist-led prevention increases prevention throughput; urgent-to-continuity conversion reduces repeat unscheduled demand; and

stabilisation reduces future restorative load. The workforce requirement is to deploy the whole dental team around the pathway model, not to preserve a dentist-only delivery structure inherited from the UDA contract.

The model is not workforce-neutral. It requires more dental therapy capacity, better use of dental hygiene capacity, and stronger dental nursing support for prevention-led pathways. But it does not require a doubling of dentists. The central assumption is that dentist headcount remains broadly stable, while the skill mix changes.

The table below sets out a central planning envelope for Year 5. These figures should be treated as modelling assumptions for actuarial and workforce review, not as a definitive national workforce census.

Table 2.13 Central workforce planning envelope: baseline and Year 5 requirement by role

Workforce component	Baseline WTE — central planning assumption	Year 5 requirement	Change
Dentists	23,000	23,500	+2%
Dental therapists	4,500	6,500	+44%
Dental hygienists	7,000	7,800	+11%
Dental nurses	30,000	31,500	+5%

The figures above should be treated as provisional planning envelopes. They require validation against actual NHS clinical hours, mixed NHS/private working, part-time patterns, dual registration and geographic deployment before being used as definitive workforce requirements.

The implication is clear. Contract reform is not primarily a dentist expansion strategy. It is a workforce productivity and skill-mix strategy. Dentists remain essential for diagnosis, complexity, treatment planning, restorative decision-making, urgent care, clinical governance and leadership of the wider dental team. The marginal expansion requirement falls mainly on dental therapists, hygienists and nurses because the model explicitly commissions prevention, stabilisation, periodontal care, acclimatisation, care navigation and recall management.

2.18.2 Training and pipeline requirements

Delivering the workforce envelope requires a deliberate training, deployment and supervision programme. Table 2.14 sets out the core measures required to make the model operational; these should be treated as implementation requirements, not optional enhancements.

The workforce test for the reformed contract is therefore not whether England can double the number of dentists. It is whether the system can deploy the whole dental team more intelligently.

The central scenario assumes modest dentist growth, material therapist expansion, better utilisation of hygienists and nurses, and a reduction in low-value repetitive activity. This is a workforce proposition that should be tested against recruitment, remuneration, retention and actual NHS clinical hours.

Table 2.14 Training and pipeline requirements for the reformed contract

Requirement	Purpose
Expand dental therapist training places	Increase therapist supply to support Pt(d), stabilisation, simple restorative care and pathway-based prevention. A planning assumption of up to 600 additional therapist training places per year should be tested with dental schools, NHS England Education and workforce planners.
Introduce a national stabilisation curriculum	Ensure dentists, therapists, hygienists and nurses are trained in risk stratification, disease stabilisation, urgent-to-continuity conversion, prevention planning and pathway movement.
Create a Prevention and Stabilisation Fellowship for early-career clinicians	Support early-career dentists and therapists to work confidently in high-need NHS settings, with supervised experience in prevention-led care, stabilisation, urgent conversion and multidisciplinary pathway management.
Support international recruitment as a short-term measure only	International recruitment may help bridge local shortages during demonstrator mobilisation, but should not substitute for domestic training expansion, retention, full-scope deployment and improved NHS working conditions.

2.18.3 Workforce planning within the contract cycle

The contract term architecture is inseparable from workforce strategy. A 10-year NHS dental contract makes it rational for a provider to invest in dental therapists and hygienists, train clinical staff, develop care home outreach, and build the data infrastructure the prevention model requires.

ICBs should use the contract period as the planning horizon for local dental workforce development: foundation training capacity, therapist deployment, skill-mix planning, domiciliary capacity, and integration of dental care with wider primary care, community and population health pathways. Workforce planning should therefore be aligned to the 10-year contract cycle, not treated as a separate annual exercise.

2.18.4 Workforce competitiveness and remuneration

Workforce availability is partly a question of remuneration. Dentists, dental therapists, hygienists and dental nurses make employment and portfolio decisions across NHS, private, mixed and salaried settings. The relevant test is therefore not only whether the workforce exists, but whether the ACV permits providers to offer remuneration, workload, supervision, career progression and working conditions capable of attracting and retaining that workforce in NHS delivery.

This is particularly important in high-need areas, coastal communities, rural dental deserts and places where private or mixed practice offers more predictable income, lower perceived risk or greater professional autonomy. A prevention-led NHS contract will not succeed if it relies on professional goodwill while failing to support competitive employment conditions.

Workforce expansion should therefore include targeted recruitment and retention measures for high-need areas, including early-career support, supervised transition into NHS practice, portfolio roles, therapist and hygienist career pathways, dental nurse development, and bonding or incentive schemes where local labour markets cannot otherwise sustain access.

These measures should be evaluated as part of demonstrator workforce sustainability, not treated as optional workforce policy outside the contract model. Evaluation should test recruitment, retention, vacancy rates, sickness absence, associate participation, therapist and hygienist utilisation, dental nurse stability, workload acceptability, professional satisfaction and whether remuneration remains viable across the Ru range.

2.19 From contract design to investment case

Part 2 has set out the technical architecture of the proposed contract: the ACV formula, risk uplift coefficients, prevention episode tariff schedule, care pathway model, new provider commissioning mechanism, KPI framework, and 10 and 15-year contract term structure with four gate reviews. It also references workforce design, a key enabler. The architecture is designed to be operationally coherent within the PDS contracting framework and analytically robust enough to withstand scrutiny from NHS England, HM Treasury, and independent health economics review.

Part 3 tests whether the central architecture sits within a fiscally credible range while expanding coverage. It does not treat current expenditure per patient seen and prospective ACV per registered patient as equivalent tariffs. Final values require independent actuarial calibration, provider-income analysis and shadow pricing.

> **The test of this architecture**
> *Every number in this framework should be challengeable and should be challenged. The model is not presented as finalised; it is the analytical starting point for the commissioning conversation that NHS dentistry has not yet had. The base capitation rates (£70/£60 central; £80/£65 upper sensitivity), the risk uplift coefficient range (0.85–1.60), the prevention tariff schedule and the Uc mechanism are all calibrated to the best available evidence and open to revision as the demonstrator generates live data.*

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PART 3

03 The Investment Case and Transition

What the NHS currently spends; what it buys; the inflation catch-up argument; workforce efficiency; patient charges; the avoided cost pool; real-terms analysis; the 10-year trajectory

3.0 Introduction

Parts 1 and 2 establish what needs to change and how the replacement contract should work. Part 3 addresses the question every commissioner, DHSC official and Treasury analyst will ask first: what does this cost, and is it worth it?

The answer requires three analytical steps:

First, the baseline must be correctly specified — separating NHS public money from patient charge income and expressing the comparison on a consistent gross-per-patient basis.

Second, patient charges must be properly integrated into the funding picture: they are a constituent part of the total system, and they change in character, volume and distributional impact under the reformed model.

Third, the avoided cost of not reforming must be quantified — the avoidable public expenditure currently displaced into hospital wards, A&E departments, antibiotic budgets, schools and care homes.

With those three steps completed, the investment case can be stated precisely:

> **The investment argument:**
> *The reformed contract costs £118.08 per patient against £124.82 per patient in the current system.*
> *The total NHS bill grows across the 10-year trajectory only because 38 million patients are served rather than 25 million.*
> *Every additional pound above the current baseline buys additional access, registration and prevention capacity rather than paying more for the same level of coverage.*

This section proceeds in five stages.

- Section 3.1 corrects the baseline by distinguishing NHS public expenditure from patient charge income.
- Section 3.2 tests value through cost per patient served.

- Section 3.3 quantifies the avoided cost pool created by reactive commissioning.
- Section 3.4 explains how patient charges are treated within the reformed model.
- Section 3.5 brings these elements together into the net investment calculation and sensitivity analysis.
- Sections 3.6 and 3.7 then address transition risk and the move from national affordability to local commissioning reality.

3.1 What the NHS actually spends — and what it has lost to inflation

NHS dental expenditure is frequently misquoted because published system totals combine public funding with patient charge income. The investment case must therefore distinguish clearly between the two.

In 2024/25, NHS England contributed £2.300bn to dental services. Patient charges contributed approximately £0.808bn, equivalent to around 26% of total system funding. The resulting gross dental-system envelope was approximately £3.108bn. [1,2] These are analytically distinct figures. Treating the total system envelope as though it were entirely public expenditure overstates current NHS investment and distorts the reform comparison.

Against the verified £2.300bn NHS contribution, the real-terms position is stark. The House of Commons Library estimates that NHS dental funding fell by approximately 16% in real terms between 2014/15 and 2024/25. [2] Restoring that lost purchasing power would require approximately £438m in additional NHS funding. This is not new policy investment; it is the cost of returning NHS dentistry to its 2014/15 real-terms position.

The Population Oral Health contract reform programme combines that inflation restoration with expanded access and the purchase of a different commissioning product: defined responsibility for a registered population over time, rather than payment for disconnected treatment episodes. The central model indicates that this can be achieved within a fiscally credible range, although final tariff sufficiency must be tested through actuarial review and provider-level viability analysis.

The trajectory described in Table 3.1 shows that total NHS expenditure rises because substantially more people are registered and served. At Year 5, the NHS net contribution reaches £3.804bn, an increase of £1.504bn against the current £2.300bn baseline. That increase should not, however, be treated as wholly new policy spending.

The single most important insight is that expanding population coverage requires the NHS to purchase a different commissioning product: defined responsibility for people over time, rather than a volume of disconnected treatment episodes. The central model indicates that this may be achievable within a fiscally credible range, but tariff sufficiency must be tested at provider level.

The central financial trajectory uses the £118.08 programme-weighted ACV as its controlling affordability reference. This preserves a single, transparent investment case for Treasury appraisal. It should not be interpreted as predetermining the final demonstrator tariff.

Table 3.1 Ten-year reform trajectory: patients, gross ACV, patient charges and NHS net contribution

Year	Children (coverage)	Adults (coverage)	Total patients	Gross ACV	Patient charges	NHS net	NHS + vs now	Net new vs now
Baseline 2024/25	**6.90m (57%)**	**18.00m (40%)**	**24.90m**	**£3.108bn**	**£0.808bn**	**£2.300bn**	**—**	**—**
Year 1 2028/29	7.50m (62%)	18.75m (42%)	26.25m	£3.164bn	£0.689bn	£2.475bn	+£175m	+£0m*
Year 2 2029/30	8.23m (68%)	20.57m (46%)	28.80m	£3.565bn	£0.713bn	£2.852bn	+£552m	+£79m
Year 3 2030/31	8.83m (73%)	22.08m (49%)	30.92m	£3.935bn	£0.738bn	£3.197bn	+£897m	+£399m
Year 4 2031/32	9.44m (78%)	23.59m (52%)	33.03m	£4.310bn	£0.780bn	£3.530bn	+£1,230m	+£704m
Year 5 2032/33 ◀	**9.92m (82%)**	**24.80m (55%)**	**34.73m**	**£4.645bn**	**£0.841bn**	**£3.804bn**	**+£1,504m**	**+£951m**
Year 6 2033/34	10.29m (85%)	25.71m (57%)	36.00m	£4.918bn	£0.897bn	£4.021bn	+£1,721m	+£1,135m
Year 7 2034/35	10.53m (87%)	26.32m (59%)	36.84m	£5.144bn	£0.947bn	£4.197bn	+£1,897m	+£1,277m
Year 8 2035/36	10.71m (88%)	26.77m (60%)	37.48m	£5.368bn	£0.994bn	£4.374bn	+£2,074m	+£1,420m
Year 9 2036/37	10.83m (90%)	27.07m (60%)	37.90m	£5.580bn	£1.039bn	£4.541bn	+£2,241m	+£1,553m
Year 10 2037/38 ★	**10.89m (90%)**	**27.23m (61%)**	**38.12m**	**£5.772bn**	**£1.080bn**	**£4.692bn**	**+£2,392m**	**+£1,674m**

The central trajectory is therefore the affordability reference case. Demonstrator tariff selection should be informed by the wider tariff corridor and should balance NHS affordability against provider adoption and the scope of responsibility commissioned.

The Year 5 investment case is best understood through a single bridge separating the full increase in NHS contribution from inflation restoration, avoided costs and genuinely new investment.

Table 3.2 Year 5 investment bridge: from current baseline to net genuinely new public investment

The Year 5 investment bridge

The investment case should be read through a single Year 5 bridge. This avoids conflating the full gross NHS increase, the inflation catch-up, the conservative avoided-cost offset and the residual genuinely new public investment.

Step	Figure	What it means	Treatment in the investment case
Current NHS dental contribution, 2024/25	**£2.300bn**	**Current public NHS contribution to dental services, excluding patient charge income.**	**Baseline public spending figure.**
Year 5 NHS net contribution	**£3.804bn**	**NHS commissioner payment required at Gate 2, after patient charge income has been deducted.**	**Year 5 public spending requirement.**
Gross NHS increase versus current baseline	**£1.504bn**	**Difference between £3.804bn and £2.300bn. This is the full Year 5 increase in NHS public contribution.**	**Primary gross investment figure.**
Less: inflation catch-up	**–£438m**	**Restores the real-terms purchasing power lost since 2014/15. This is not new policy ambition; it is catch-up with the existing baseline.**	**Deducted before calculating genuinely new investment.**
Less: conservative avoided NHS costs	**–£115m**	**Avoided NHS costs from preventable dental failure, using only conservative, directly attributable NHS costs.**	**Deducted as the primary avoided-cost offset.**
Net genuinely new public investment at Year 5	**£951m**	**Residual Year 5 investment after inflation catch-up and conservative avoided costs. This funds 9.83 million additional NHS dental patients, the prevention infrastructure, dental home obligation, quality premium and urgent-to-continuity transition.**	**Primary net investment figure.**

The bridge table is the single point of reference for affordability discussions. The Year 5 net genuinely new public investment of £951m funds 9.83 million additional patients and the full prevention, dental home and quality infrastructure. The same logic applies at Year 10: £438m inflation catch-up and £280m conservative avoided costs reduce the £2.392bn gross increase to £1.674bn net genuinely new investment, funding 13.22 million additional patients.

Of the £1.504bn Year 5 increase:

- £438m restores the real-terms purchasing power lost since 2014/15;
- £115m is offset through conservative, directly attributable avoided NHS costs; and
- £951m represents genuinely new public investment.

The £951m funds 9.83 million additional patients, together with the prevention infrastructure, dental-home obligation, quality framework and urgent-to-continuity transition. The same method applies at Year 10: £438m of inflation restoration and £280m of conservative

avoided costs reduce the £2.392bn gross increase to £1.674bn of genuinely new investment, supporting 13.22 million additional patients.

The ACV should be uprated annually through a transparent dental workforce and provider-cost index aligned with the NHS pay and prices framework. Within the agreed envelope, providers should retain flexibility to deploy dentists, dental therapists, hygienists and nurses according to population need and professional scope. Where multidisciplinary delivery improves productivity, providers should retain an appropriate share of the efficiency benefit, creating a commercial incentive for skill-mix without requiring commissioners to prescribe the workforce model.

Such efficiencies should not be assumed as guaranteed savings within the primary investment case. Their scale will depend on workforce availability, remuneration, utilisation, local delivery costs and whether the tariff supports safe delegation, access capacity and sustainable provider participation.

The primary affordability bridge therefore includes only conservative dental and near-dental avoided costs. Wider cross-departmental benefits—including potential gains associated with periodontal management in type 2 diabetes, cardiovascular and respiratory disease, maternity outcomes, frailty, care-home oral health, antimicrobial resistance and productivity—are treated separately.

These wider benefits strengthen the Green Book case and should be evaluated through the demonstrator programme. They should not be presented as cashable offsets against the dental contract budget unless attribution, timing, budget ownership and realisation mechanisms have been independently validated.

The primary claim is deliberately conservative: the model is affordable on the basis of dental-system investment, inflation restoration and directly attributable avoided NHS costs. Any wider cross-departmental dividend is additional public value, not the foundation of the affordability case.

3.2 Comparing current expenditure with the cost of registered responsibility

Cost per person reached is an important affordability measure, but it is not sufficient on its own because the current and proposed contracts purchase different things. The present system predominantly remunerates completed activity for patients who obtain care. The Population Oral Health Contract would purchase prospective responsibility for a registered population, including prevention, continuity, risk management and urgent access. The comparison must therefore consider not only unit expenditure, but also the scope and duration of responsibility purchased.

In 2024/25, gross dental-system expenditure was approximately £124.82 per patient seen: £3.108bn divided by 24.9 million patients. [1,2] This is an expenditure comparator, not an observed annual tariff for continuing responsibility.

The central programme-weighted go-live ACV is £118.08 per registered patient. The worked example in Section 2.11 produces a lower figure of £106.77 because it models a single national-average practice using central assumptions: Ru 1.10, moderate urgent-care

provision and no additional geographic supplements. The £118.08 programme figure incorporates the broader mix expected at go-live, including higher-need populations, higher Ru values, rurality and London weighting where applicable, profile-specific supplements and greater transitional urgent-care provision.

On the central assumptions, the £118.08 programme-weighted ACV sits below the £124.82 current expenditure comparator. This supports fiscal plausibility, but does not establish that prospective annual responsibility should be commissioned at a lower tariff. The two figures represent different commissioning products, and final tariffs must be calibrated against provider cost, workforce competitiveness, utilisation risk and adoption requirements.

The current net NHS contribution is approximately £92.37 per patient seen, derived from £2.300bn divided by 24.9 million patients. The NHS contribution per adult covered is approximately £127.78, a useful additional comparator because children are exempt from patient charges and the adult access gap is the principal coverage challenge.

In real terms, the modelled NHS cost per adult covered falls from approximately £128 today to £116 at Year 5 and £110 at Year 10. By Year 10, the programme serves 51% more adults than the present system at an estimated 14% lower real NHS cost per adult covered.

That is the core investment argument. It does not depend on aggregate expenditure falling. Gross system spending rises from £3.108bn to £5.772bn because substantially more people are registered and served. The case rests instead on three propositions:

- the central go-live model lies within a credible current expenditure range;
- coverage expands materially; and
- real expenditure per adult covered improves over time as access, prevention and continuity replace repeated episodic care.

The nominal gross cost per registered patient rises across the trajectory because the ACV is uprated for inflation and increasingly reflects the full costs of registration, dental-home responsibility, quality, supplements, urgent-care transition and higher-need populations. That should not be interpreted as a loss of efficiency.

The relevant test over time is the real cost of delivering the new commissioning obligation. As registration stabilises, urgent demand reduces and prevention begins to alter future treatment need, the model is expected to improve value for money. Those effects are not treated as guaranteed savings; they must be tested through the demonstrator programme and gate-review framework.

Table 3.3 provides the unit-cost and coverage test for Treasury and commissioners. Section 3.3 then examines the costs already falling on the wider NHS through avoidable urgent, hospital and prescribing activity.

Table 3.3 Coverage, system envelope and cost per patient: current system vs reformed model, Year 5 and Year 10

Metric	Current 2024/25	Year 5 2032/33	Year 10 2037/38	Change yr1→yr10
Children covered/registered	6.90m (57%)	9.92m (82%)	10.89m (90%)	+57% vs today
Adults covered/registered	18.00m (40%)	24.80m (55%)	27.23m (61%)	+51% vs today
Total people covered/registered	24.90m	34.73m	38.12m	+53% vs today
Gross system envelope / ACV	£3.108bn	£4.645bn	£5.772bn	+86% nominal
Patient charge income	£0.808bn (26%)	£0.841bn (18%)	£1.080bn (19%)	+34% nominal
NHS net contribution	**£2.300bn**	**£3.804bn**	**£4.692bn**	**+104% nominal**
Gross expenditure or ACV per person, nominal	£124.82	£133.75	£151.42*	Rises nominally with inflation and programme mix
Real gross expenditure or ACV per person	**£124.82**	**c. £101-102**	**c.£96-£97**	**−22% by Year 10 as prevention and registration mature**
Real NHS contribution per adult covered	£128	£116	£110	−14% real while serving 51% more adults
Patient charge income per adult covered	£45 (implied) current average	£34	£40	Lower than current throughout

Note: Current-system figures describe patients seen within the reporting period; Year 5 and Year 10 figures describe people formally registered under the Population Oral Health Contract. They are therefore affordability and coverage comparators rather than directly equivalent tariffs.

Nominal Year 5 and Year 10 values include assumed inflation and changes in programme mix as registration expands into higher-need populations. Real-terms figures are expressed in 2024/25 prices using the deflator assumptions applied throughout the model.

Patient charge income is deducted through Pc and is not additional provider income above the gross ACV. “Real NHS contribution per adult covered” is the NHS net contribution expressed per adult covered and deflated to 2024/25 prices.

3.3 The avoided cost pool: what reactive commissioning costs the rest of the NHS

Any credible investment case must account for the costs the current system displaces elsewhere in the NHS. These are real costs already being paid. They are not hypothetical savings; they are avoidable expenditures generated by late presentation, unmanaged disease, repeated urgent demand and the absence of continuing care. A prevention-led

model would not eliminate these costs immediately, but it would reduce them progressively over the contract term. [3,4,5,6,7]. Table 3,4 summarises a conservative estimate for the Year 5 and Year 10 projected savings.

Table 3.4 Avoided cost pool: current annual estimates and conservative projected savings Year 5 and Year 10

Cost category	Current annual estimate	Basis	Year 5 avoided (conservative)	Year 10 avoided
GA tooth extractions, under-18s, decay-related	£53m/year dental episode cost; full NHS resource cost approximately £173m	33,976 decay-related episodes. Dental episode cost uses £1,562 per episode, derived from OHID total GA spend of £87.7m across 56,143 all-cause episodes. Full NHS reference cost, including anaesthesia, theatre and recovery, is approximately £5,100 per episode, but is not used in the primary bridge. [3,4]	~£27m (50% reduction in registered children's GA rate)	~£42m (80% reduction)
A&E dental attendances	~£25m/year	73,088 attendances at approximately £340 average A&E cost. Dental home obligation and urgent-to-continuity conversion reduce avoidable A&E demand progressively. [5]	~£7m (50% reduction)	~£13m (88% reduction)
Emergency dental admissions	~£18m/year	23,109 admissions at approximately £780 average short-stay cost. [5]	~£5m	~£9m
Antibiotic prescribing (dental attributed)	~£12m/year	Estimated dental-attributed antibiotic prescribing at NHS Drug Tariff cost. Antimicrobial resistance stewardship benefit is not monetised in the primary bridge. [6]	~£3m	~£5m
Direct and near-dental avoided-cost subtotal	**~£108m/year**	**Direct and near-dental NHS costs: GA extractions, A&E dental attendances, emergency dental admissions and dental-attributed antibiotic prescribing.**	**~£42m**	**~£69m**
Wider implementation and maturity adjustment	Not currently cashable as a separate baseline	Reflects progressive reduction in repeat urgent demand, reduced restorative churn, improved recall targeting, stabilisation of high-need patients and further reduction in avoidable crisis presentation as the dental home model matures. This is included conservatively in the investment bridge without relying on cross-departmental savings.	Brings the primary avoided-cost adjustment to ~£115m	Brings the primary avoided-cost adjustment to ~£280m
Periodontal-diabetes interaction costs	~£720m/year attributable (cross-departmental)	Simpson et al. Cochrane 2022 reported periodontal treatment associated with a 0.43 percentage point HbA1c reduction. Applying a conservative attribution assumption to adults with type 2 diabetes and periodontal disease suggests a material NHS diabetes-management dividend. This falls primarily in diabetes budgets, not the dental budget. [7]	~£190m supplementary Green Book dividend; conservative NHS diabetes cost offset as the periodontal pathway scales gradually	~£408m supplementary Green Book dividend; NHS diabetes cost offset
Workforce and skill-mix efficiency	Not treated as a cashable avoided cost before Gate 2	The ACV creates a fixed envelope within which practices can deploy all GDC registrants DCPs to full scope. These gains support provider viability and delivery capacity. They are not counted as cashable Treasury savings in the primary bridge.	Delivery feasibility benefit	Delivery feasibility benefit

Reading Table 4

The **£115m Year 5** and **£280m Year 10** figures are the avoided-cost adjustments used in the primary investment bridge. They include direct and near-dental NHS costs, plus a conservative maturity adjustment for reduced repeat urgent demand, restorative churn and crisis presentation.

The maturity adjustment is deliberately presented as a planning adjustment rather than as a separately cashable line item; it should be validated through demonstrator data on repeat urgent demand, restorative churn, recall optimisation and crisis presentation.

The lower dental episode cost is used for GA extractions throughout the primary bridge because it is the most conservative figure and the one most directly attributable to the dental commissioning model. The full NHS resource cost is shown for completeness and for wider HM Treasury Green Book appraisal.

The periodontal-diabetes dividend is **not** included in the primary bridge. It is treated as a supplementary Green Book benefit because the financial gain falls principally in diabetes management rather than the dental contract budget. The full evidence base for the oral health–systemic NCD relationships is set out in **Annex I**.

Workforce and skill-mix efficiencies are also **not** treated as cashable Treasury savings before Gate 2. They support delivery feasibility within the ACV envelope and should be validated through the demonstrator programme before being monetised as a separate fiscal saving.

The avoided-cost analysis is deliberately conservative. It separates three categories of benefit:

- **Primary dental and near-dental NHS costs**, which are used in the main investment bridge.
- **Wider cross-departmental benefits**, which strengthen the Green Book appraisal but are not used to reduce the core dental budget requirement.
- **Workforce and skill-mix efficiencies**, which support delivery feasibility within the ACV envelope but are not treated as guaranteed cashable savings before Gate 2.

This distinction is important. The primary investment case does not depend on monetising every possible benefit of better oral health. It rests on a narrow, defensible avoided-cost pool directly linked to preventable dental failure and urgent care demand.

The cost of not reforming

The current contract does not avoid cost; it moves cost elsewhere. Preventable dental disease already appears in general anaesthetic extraction lists, A&E departments, emergency admissions, antibiotic prescribing, schools, care homes and long-term condition pathways.

On the narrowest view, the NHS is already paying more than £100m per year in direct and near-dental avoidable costs associated with reactive commissioning. On a wider Green Book view, including periodontal-systemic disease interactions and other cross-departmental effects, the potential avoided-cost pool is substantially larger.

Continuing not to reform is therefore not a zero-cost option. It is a decision to keep paying for the consequences of a contract that prices activity after disease has occurred, rather than prevention, continuity and risk reduction before it becomes expensive.

3.4 Patient charges: role, structure and the equity argument

Patient charges are integral to the investment case. They are not peripheral income. They are part of the total dental funding system and must be treated transparently in the contract arithmetic.

In 2024/25, patient charges contributed approximately **£0.808bn**, around **26%** of total NHS dental system funding. [2] Under the reformed model, patient charge income is projected to rise to approximately **£0.841bn by Year 5** and **£1.080bn by Year 10**. This increase is driven by volume — more fee-paying adults being brought into NHS care — not by higher average charges.

The patient contribution therefore does more in aggregate while becoming fairer in distribution. The reformed model reduces the financial penalty currently faced by patients with higher disease burden, removes charges from follow-on prevention, and caps exposure for complex treatment.

Charge income modelling note

The reformed pathway charge structure produces a weighted average annual charge per fee-paying adult of approximately **£44.89**, broadly comparable to the current implied average of approximately **£45**. This is not a coincidence of design. It reflects a deliberate redistribution of the charge burden.

Low-risk patients pay less over time where clinically appropriate recall intervals lengthen. Patients on active prevention pathways do not face repeat charges for follow-on prevention. Patients requiring restorative, complex or specialist care are protected by the annual cap.

Total patient charge income rises from approximately **£0.808bn today** to **£1.080bn by Year 10**, but the increase is generated by more adults being in NHS care, not by charging individual patients more on average. The distributional effect is therefore progressive: the reformed model lowers exposure for patients with the greatest clinical need while preserving a stable and transparent contribution to the overall funding envelope.

There are two technical mechanisms.

First, for registered patients, patient charge income is deducted through Pc within the ACV formula. It is embedded in the contract value and deducted from the NHS commissioner payment; it is not additive.

Second, for unregistered urgent-care patients seen under Uc(a), the relevant patient charge is deducted from the gross per-attendance rate before the NHS pays. This prevents double-payment and ensures that patient charge income is treated consistently across registered and unregistered care.

Table 3.5 Pathway-based charges replacing treatment bands

Pathway	Patient charge mechanism	Charge detail	Current band equivalent
P1 — Health Maintenance	£27.40 per attendance	Longer recall means lower annual cost. A 24-month recall equates to approximately £13.70 per year; six-monthly recall equates to £54.80 per year. Recall optimisation is therefore a patient financial benefit as well as a capacity release.	Current Band 1 charge of £27.40 per course. The current model has no recall interval incentive.
P2 — Active Prevention	£27.40 at pathway entry only; all follow-on prevention contacts FREE	The patient pays at initial assessment only. Follow-on prevention, including fluoride varnish, BPE, dietary advice and hygiene intervention, is free. If the patient escalates to P3, the £27.40 P2 charge is credited, and the patient pays only the £47.90 top-up.	Currently prevention may generate repeat Band 1 charges. The reformed model removes the financial barrier to prevention.
P3 — Routine Restorative and Tier 1	£75.30 per complete course of treatment; annual cap £326.70 [8]	The patient pays £75.30 for a defined clinical episode, regardless of the number of appointments required within that course. The P2 credit applies where relevant. The annual cap ensures no patient pays more than the current Band 3 maximum.	Current Band 2 or Band 3. Most P3 patients pay less than under the current Band 3 structure.
P4 — Tier 2/3 Complex, Specialist and Enhanced	**£75.30 per course of treatment; annual cap £326.70**	**NHS absorbs the complexity differential above Tier 1. No additional patient charge for complexity or specialist referral. Annual cap £326.70 applies. This is the equity design feature: the NHS, not the patient, carries the cost of clinical complexity.**	**Band 3 (£326.70) or specialist tariff — reformed model significantly reduces patient exposure for complex cases**

Pathway	Patient charge mechanism	Charge detail	Current band equivalent
Prevention episodes (all pathways)	FREE at point of care	Fluoride varnish, sealants, periodontal prevention, dietary advice, smoking cessation support and domiciliary prevention are charge-free where delivered as prevention episodes.	Currently inconsistently absorbed within Band 1 or delivered without a clear charge logic. The reformed model standardises prevention as charge-free.
Unscheduled/urgent entry — unregistered Uc(a)	Pathway charge applies and is deducted from the Uc(a) gross rate	A P1-equivalent charge applies for triage-only unscheduled/urgent contact. A P3-equivalent charge applies where treatment is initiated. The charge is deducted from the NHS gross per-attendance payment to prevent double-payment.	Current unscheduled/urgent care may be charged as Band 1 or Band 2 inconsistently.

The equity argument is central. The current Band 3 charge of £326.70 is the most significant distributional problem in the present charge structure. It falls most heavily on patients with the greatest accumulated disease burden — precisely the patients the reformed model is designed to reach — and acts as a material barrier for low-income patients who are not exempt.

The reformed model replaces treatment bands with pathway-based charges. Pathway 3 carries a capped charge of £75.30 per course of treatment, with an annual patient cap of £326.70. Patients requiring complex or specialist care are not charged more because their clinical need is greater. The NHS, not the patient, carries the cost of complexity.

The figures in this section and in table 3.5 use the 2024/25 analytical charge baseline for consistency with the NHSBSA data and the investment model. The April 2026 uplift should be incorporated into the demonstrator contract schedule and patient-facing materials at implementation. Annex F includes the April 2026 charge addendum and shows that the uplift does not materially affect the investment case.

3.4.1 Exemption framework

Approximately 25% of adult dental patients are currently exempt from charges, and all children under 18 are fully exempt. [2,9] The proposed extension framework adds approximately 8 percentage points to the effective adult exemption rate, bringing the planning baseline to approximately 33%.

The proposed extensions are targeted to the populations the reformed model is designed to prioritise: adults in the most deprived communities, patients in Core20PLUS5 groups, patients with type 2 diabetes requiring periodontal stabilisation, care home residents and frail older adults, and patients on surgical, oncological, palliative or end-of-life pathways. [7,10,11] The full derivation is set out in Annex E: Patient Charges and Exemptions.

Exemption evidencing follows existing NHSBSA processes wherever possible (automatic benefit-linked checking) to minimise burden on patients and practices; new exemption

categories introduced under this paper should follow the same principle rather than requiring manual proof at the point of care.

3.4.2 Patient charge income projection

The central patient charge income projection is:

- Year 5: approximately £0.841bn
- Year 10: approximately £1.080bn

The Year 5 estimate is based on approximately 18.84m fee-paying adults, a weighted average annual charge of £44.89, and inflation uprating from Year 2. The conservative floor is approximately £0.737bn. The full derivation, sensitivity analysis and reconciliation with the national trajectory are set out in Annex F: Patient Charge Income Methodology.

The investment case therefore does not rely on increasing the average charge paid by individual patients. It relies on a larger registered population, a fairer distribution of charges, and a transparent deduction of patient charge income through Pc.

> **Cross-reference**
>
> ***Annex E: Patient Charges and Exemptions*** *sets out the statutory exemption framework, the proposed extension groups, the three-tier implementation model and the regulatory pathway for reform.*
>
> ***Annex F: Patient Charge Income Methodology*** *provides the charge income methodology, including the £808m current baseline estimate, the £841m Year 5 planning figure, the £1.080bn Year 10 trajectory, the £44.89 weighted average annual charge assumption, sensitivity analysis and the April 2026 charge addendum.*
>
> ***Annex D: Dental Home and Unscheduled/urgent Care*** *explains the unscheduled/urgent-care charge deduction mechanism*

3.5 The net investment calculation

With baseline, avoided costs and charge income established, the net investment can be stated precisely. All figures in Table 3.6 (Net investment calculation: NHS public contribution, patient charges and net genuinely new investment) separate NHS public money from total system costs to prevent the conflation that has historically obscured the investment picture. The analysis follows HM Treasury Green Book appraisal principles. [12]

The net genuinely new public investment of £951m at Year 5 (after inflation catch-up and conservative avoided costs) represents approximately 0.59% of total NHS England spend in 2024/25, assuming total NHS England spend of approximately £162bn. This is a modest investment relative to the overall NHS England budget, particularly given that it funds 9.83 million additional patients in NHS dentistry, the full prevention infrastructure, the dental home obligation, the quality premium architecture and the demonstrator evidence base for national rollout.

By Year 10, the nominal net genuinely new public investment rises to £1.674bn, funding 13.22 million additional patients compared with today. However, by this point the avoided-

cost pool is also growing — estimated conservatively at £280m by Year 10 and continuing to compound as prevention, registration and urgent-to-continuity conversion mature.

The programme becomes more efficient per patient as it scales. It is not a short-term activity expansion; it is a long-horizon prevention investment in which the real-terms cost of reform narrows as the prevention dividend accrues.

Table 3.6 Net investment calculation: NHS public contribution, patient charges and net genuinely new investment

Component	Current 2024/25	Year 5 2032/33 (Gate 2)	Year 10 2037/38 (Steady state)	Basis
NHS net contribution after Pc	£2.300bn	£3.804bn	£4.692bn	NHSBSA / DHSC Annual Report [1,2]
Patient charge income	£0.808bn	£0.841bn	£1.080bn	Volume growth; charges uprated at 3.5%/yr. Full model Annex F.
Total dental system (gross ACV)	£3.108bn	£4.645bn	£5.772bn	NHS + charges — what practices receive in aggregate
Gross NHS increase vs current	—	+£1,504m	+£2,392m	Reform trajectory above
Less: inflation catch-up (2014/15 real value)	—	−£438m	−£438m	16% real-terms decline since 2014/15 — same in every year
Less: avoided NHS costs (conservative)	—	−£115m	−£280m	Direct and near-dental NHS costs, plus conservative maturity adjustment. Cross-departmental T2D savings and workforce efficiencies are supplementary and are not included in the primary bridge.
Net genuinely new public investment	Baseline	+£951m/yr	+£1,674m/yr	Above inflation restoration and avoided cost recovery
As % of total NHS England spend	—	~0.59%	~1.03%	Total NHS England ~£162bn. Year 5: approximately 0.59% of total NHS England spend.
Additional patients vs today	—	+9.83m	+13.22m	Coverage expansion: 24.9m → 34.7m (yr5) → 38.1m (yr10)
Real-terms NHS per patient served (2024/25 prices, 3.5% deflator)	£92.37	£83.18	£78.70	Falls gradually from year 1 — £92 today, broadly stable through Year 5 (£83), then falling to £79 by year 10: 15% real reduction while serving 53% more patients. The prevention dividend in the cost model.

3.5.1 Real-terms analysis

The nominal figures above are the primary investment case because NHS spending is planned, allocated and reported in cash terms. The real-terms analysis is therefore presented as a supplementary appraisal view for HM Treasury Green Book purposes. [12]

On the nominal investment case, the Year 10 NHS net contribution is £4.692bn, compared with £2.300bn today. This represents a gross NHS increase of £2.392bn. After deducting the £438m inflation catch-up and £280m conservative avoided-cost adjustment, the Year 10 net genuinely new public investment is £1.674bn.

On a real-terms appraisal view, that Year 10 nominal net genuinely new investment of £1.674bn deflates to approximately £1.070bn in 2024/25 prices, using a 3.5% annual deflator over the period from the 2024/25 baseline to 2037/38. This should be read as a real-terms appraisal figure, not as the nominal NHS budget requirement.

The real-terms point is therefore simple. The NHS commitment rises in cash terms because coverage expands substantially: the reformed model serves 38.12 million patients by Year 10, compared with 24.90 million today. However, the real cost per patient served falls as registration stabilises, unscheduled/urgent demand reduces, prevention compounds, unnecessary routine recall is released, and avoidable hospital costs begin to decline.

This is the prevention dividend in financial form. The programme does not become literally self-financing in a Treasury accounting sense: the NHS commitment remains materially above the current cash baseline. But the net genuinely new public investment narrows in real terms as the contract matures and avoided costs compound.

By Year 10, the model is therefore doing three things simultaneously: serving 13.22 million additional patients, reducing the real-terms cost per patient served, and beginning to recover costs currently displaced into general anaesthetic extractions, A&E attendances, emergency admissions, antibiotic prescribing and wider NHS demand.

The conclusion is not that reform is cost-free. It is that the real-terms cost of reform becomes progressively more affordable over time because the model buys prevention, continuity and risk reduction rather than repeated crisis response. That is what a mature prevention-led commissioning model should look like in the cost data.

Real-terms affordability trajectory

At programme maturity, Year 10, the net genuinely new public investment is **£1.674bn nominal**, equivalent to approximately **£1.070bn in 2024/25 prices** when deflated at 3.5% per year from the 2024/25 baseline to 2037/38. This is an appraisal figure, not the cash budget requirement.

The programme does not become literally self-financing in Treasury accounting terms: the NHS commitment remains above the current cash baseline. However, the real-terms cost of reform narrows materially over the contract term as registration stabilises, urgent demand reduces, prevention compounds and avoided costs accumulate.

By Year 12–13, the first child prevention cohorts will have passed through peak caries-risk years, and the periodontal-diabetes dividend should begin to appear more clearly

in NHS activity and prescribing data. At that point, the avoided-cost pool should further reduce the real net public investment requirement.

This is the fiscal signature of a mature prevention-led model: rising coverage in cash terms, falling real cost per patient served, and a growing prevention dividend over time.

3.5.2 Year 5 affordability sensitivity analysis

The central Year 5 investment case should not be read as a single-point estimate dependent on one precise set of assumptions. The model was therefore sensitivity-tested against the principal variables most likely to affect affordability at Gate 2: the risk uplift coefficient, delivered prevention uptake, patient charge income, unregistered urgent-care demand and pathway distribution.

The purpose of this sensitivity analysis is not to remove uncertainty. It is to test whether the Year 5 affordability case remains coherent when the most material assumptions move within plausible ranges.

Table 3.7 Year 5 affordability sensitivity analysis: key variables and tested ranges

Variable Tested	Sensitivity Applied	Year 5 effect
Risk uplift coefficient — Ru	±0.05 around central calibration	NHS net range: £3.72bn–£3.89bn
Prevention uptake — Pt(d)	±15% delivered prevention uptake	Pt(d) cost variation: approximately £42m
Patient charge income — Pc	Central national trajectory: £841m; Conservative floor: approximately £737m	Pc-only effect on NHS net: central £3.804bn; conservative-floor position approximately £3.908bn, before interaction with other variables
Exemption and charge-yield stress test	Annex F conservative formula range: £595m–£816m	Downside methodological stress-test only. If applied mechanically to the Year 5 gross ACV of £4.645bn, implied NHS net would range from approximately £3.829bn to £4.050bn. This does not replace the controlling Section 3 trajectory
Unregistered urgent-care decline — Uc(a)	**±20% urgent-care decline trajectory**	**Uc(a) variation: approximately £31m**
Pathway distribution	±10% movement across P1/P2/P3 mix	ACV variation: approximately £64m

The central Year 5 NHS net figure remains £3.804bn. That figure sits within the mid-range of the Ru sensitivity and remains robust against plausible variation in prevention uptake,

urgent-care demand and pathway mix. Patient charge income requires more careful treatment because it is influenced not only by charge rates, but by adult coverage, fee-paying share, exemption behaviour, pathway distribution, repeat chargeable episodes and chargeable unscheduled/urgent attendances.

For the investment case, the controlling Year 5 patient charge income figure is £841m, derived from the central national trajectory and deducted through Pc. The main investment-case sensitivity range is £808m–£900m, confirming that the £841m figure sits within the central range. Annex F also presents a more conservative formula-based stress range of £595m–£816m. That range is useful because it tests downside charge-yield behaviour under more adverse assumptions, but it should not be read as replacing the Section 3 central trajectory.

This reinforces the need for demonstrator evaluation rather than weakening the case for implementation. The sensitivity analysis shows that the model is not held together by a single favourable assumption. It also identifies the variables that must be monitored most closely during the demonstrator period: Ru calibration, pathway distribution, delivered Pt(d), exemption behaviour, charge yield, repeat chargeable contacts, Uc(a) deductions and the rate at which unregistered urgent care converts into registered continuing care.

For HM Treasury purposes, the central conclusion is unchanged. At Year 5, the reformed model requires an NHS net contribution of approximately £3.804bn. After deducting £438m for inflation catch-up and £115m in conservative avoided NHS costs, the net genuinely new public investment remains approximately £951m. The sensitivity analysis confirms that this is a defensible Gate 2 planning figure, not a fragile point estimate.

3.5.3 Workforce efficiency and the investment case

The Year 5 investment trajectory is consistent with the workforce efficiency model set out in Section 2.18.1. These central planning assumptions should not be treated as guaranteed national productivity gains before Gate 2 evidence is available. The investment case does not depend on immediate cashable workforce savings. Instead, the workforce model supports practice viability and delivery feasibility within the ACV envelope by making prevention, stabilisation and recall management commercially rational for providers.

The key proposition is that contract reform should not attempt to recover NHS access through dentist-only activity growth. It should make better use of the whole dental team, release capacity from unnecessary routine recall, convert urgent demand into continuity, and create a financial incentive for practices to deploy the right clinician to the right task.

3.6 Provider income stability and small business viability

Aggregate affordability is not the same as provider viability. A model may be financially coherent for DHSC, NHS England and HM Treasury yet still fail if it creates unacceptable income volatility for the practices expected to deliver it.

Most NHS dental providers operate as small businesses with recurring monthly obligations, including staff salaries, associate payments, rent, equipment finance, laboratory accounts,

indemnity, utilities, materials, compliance costs and loan repayments. They have limited capacity to absorb unpredictable income variation, unfunded responsibility or large retrospective clawback.

The central professional concern is therefore not opposition to prevention. It is whether a replacement contract would transfer greater financial and clinical risk from the NHS to providers while reducing or destabilising income, increasing administrative burden or exposing practices to retrospective penalty. That concern must be addressed directly.

The Population Oral Health Contract should operate as a funded responsibility contract, not an unfunded risk-transfer mechanism. Registered population responsibility is funded prospectively through ACV; population differences are reflected through Ru; delivered prevention is funded through Pt(d); urgent access through Uc(r) and Uc(a); legitimate Pathway 3 laboratory costs through Ls(P3); and agreed contract-level improvement through Qp.

The monthly payment mechanism and the annual reconciliation process, including the validated basis for reconciliation and the principle that correction should be staged and proportionate rather than destabilising, are set out in full in Section 2.10 and apply equally here.

3.6.1 Provider viability, distributional analysis and shadow pricing

Before demonstrator tariff activation, NHS England should commission an independent actuarial, health-economic and provider-viability review using NHSBSA contract data, NASDAL cost benchmarks and confidential practice-level validation.

The review should:

- Distinguish current episodic expenditure from the cost of prospective annual registered responsibility;
- Validate bc and any utilisation or prospective-responsibility margin;
- Test a tariff corridor rather than a single point estimate;
- Model provider income, cost and operating margin across representative practice archetypes;
- Assess workforce-remuneration competitiveness;
- Quantify provider gains, losses and transition requirements;
- Test the appropriate balance between secure and variable income; and
- Recommend the tariff range suitable for shadow operation and demonstrator testing.

The review should not seek to preserve every historical allocation, some of which reflect past distribution rather than contemporary population need. It should, however, apply a clear principle: no provider should be expected to assume greater responsibility, complexity, unmet need or reporting burden without adequate resource, transition protection and cash-flow stability.

- Provider-viability modelling should test:
- Principal operating margin;
- Associate remuneration;
- Dental therapist and wider team deployment;
- Premises and financing costs;
- Working-capital requirements;
- Cash-flow stability; and
- Viability in high-need and high-cost settings.

A period of shadow pricing should precede full financial transition. Providers should continue to receive existing contractual payments while also receiving indicative monthly and annual ACV calculations. This would identify material gains, losses, coding anomalies, patient-charge effects and transition requirements before provider income changes.

Shadow pricing should include practices with different list sizes, adult-to-child ratios, population-risk profiles, urgent-care burdens, laboratory exposure, premises models and workforce configurations, including rural, coastal, London and dental-desert settings.

Findings should be published in sufficient detail to support professional and public confidence while protecting commercially sensitive provider information.

The professional compact is explicit:

Greater responsibility must come with explicit risk pricing, stable monthly income, protected legitimate costs, paid prevention, funded urgent access, proportionate reconciliation and transition protection.

The financial case for the Population Oral Health Contract is therefore not solely a national affordability calculation. It is also a managed transition from activity payment to funded population responsibility. That transition must protect patient access, sustain provider participation, support competitive workforce remuneration and expose the distributional effects of the formula before financial consequences are activated.

3.7 Managing expectations during the transition

The principal implementation risk is not the affordability arithmetic, but the timing of expected benefits. A prevention-led model will show early progress through registration, pathway allocation, urgent-to-continuity pathway completion and delivered prevention activity before population-level outcomes (risk-adjusted, patient-informed improvement measures) become visible.

This distinction matters. Registration, prevention delivery and urgent-care conversion can be measured from Year 1. Changes in caries rates, extraction rates, periodontal progression and disease severity require sustained delivery over three to five years before the population-level signal can be detected reliably against baseline variation.

The commissioning framework must therefore distinguish between early implementation indicators and mature outcome indicators from the outset. Year 1 and Year 2 should be judged on whether the infrastructure of reform is being built: registered lists, dental home compliance, pathway assignment, prevention delivery, urgent-care routing, workforce deployment, recall optimisation and data quality. Year 4 and Year 5 should then test whether those inputs are producing measurable changes in disease, urgent demand, hospital activity and patient outcomes.

The transition risk

The greatest implementation risk is judging Year 2 delivery against Year 5 risk-adjusted, patient-informed improvement measures. The accountability framework must protect long-term prevention investment from short-term pressure for immediate population-level results. The 10-year contract term and four-gate structure are therefore not optional design features; they are the mechanisms by which prevention-led commissioning is protected from premature failure judgments.

Four expectations management principles (Table 3.8) should therefore be built into the contract, evaluation framework and public reporting model from the start.

Table 3.8 Transition expectations management: principles and practical implications

Principle	What this means in practice
1. Distinguish KPIs by contract year	Year 1–2 accountability is against activity and process KPIs only: registration ramp, prevention episode delivery, dental home compliance, Uc pathway establishment, data infrastructure. Outcome KPIs — caries rates, extraction trends — are not assessable until year 4–5. This distinction must be explicit in the contract and in public reporting.
2. Set realistic registration ramp targets	A 5–7 percentage point increase in adult coverage per year is ambitious but achievable. The trajectory from 40% to 61% over ten years reflects realistic workforce capacity and IT constraints. Overclaiming year-one access improvement invites year-two disappointment.
3. Protect the quality premium in years 1–2	The quality premium must not be fully withheld in year 1 on the grounds that outcome KPIs are not yet evidenced. A minimum 6% baseline premium against process KPI achievement maintains provider financial commitment during mobilisation and workforce investment.
4. Lock the counterfactual baseline before year 1	The comparison against which success is judged must be current performance — 33,976 child GA episodes, 73,088 A&E dental attendances per year. Any reduction against those figures by Year 5 is a measurable prevention dividend. The baseline must be formally agreed, published and locked before the contract starts.

3.8 From national investment case to local commissioning reality

Part 3 has established the financial case for the reformed model at national level. The full technical detail supporting Sections 3.3, 3.4 and 3.5 sits in Annexes C, D, E, F and L. The question for Part 4 is whether that case holds across the diversity of local commissioning contexts in which NHS dentistry actually operates.

The national investment case is necessary but not sufficient. NHS dentistry is commissioned across ICBs with different population risk, fluoridation exposure, historic unscheduled/urgent demand, workforce supply and local cost pressures. Part 4 therefore tests the formula in six representative commissioning contexts.

The test of the investment case

The test is not whether a £2.392bn nominal NHS increase by Year 10 is large. It is whether that investment buys something materially better than the system it replaces.

It buys 61% adult NHS dental coverage, up from 40%; 90% child coverage, up from 57%; a 5.4% lower gross cost per patient at go-live; and a real-terms NHS cost per adult that falls over the contract term while serving substantially more people.

It buys registered responsibility rather than episodic attendance. It buys prevention before disease becomes treatment. It buys a dental home for patients who currently enter the system only through pain, crisis or NHS111.

It also begins to reduce the avoidable costs currently displaced into hospitals, A&E departments, antibiotic prescribing, schools and care homes — including a substantial reduction in decay-related child GA extractions over the contract term.

Most importantly, it begins to replace a system that consumes too much of its capacity on low-complexity Band 1 activity while 27 million adults, disproportionately the most deprived and highest-need, remain outside NHS dental care.

The evidence in this paper argues that the investment is therefore not simply affordable. It is necessary.

Cross-reference: *The full technical detail sits in the annex suite.*

Annex D: Dental Home and Unscheduled/urgent Care *explains the Uc(a) net charge mechanism and its HM Treasury treatment within the unscheduled/urgent-care architecture.*

Annex E: Patient Charges and Exemptions *sets out the statutory exemption framework, Universal Credit migration analysis, extended exemption categories and regulatory implications.*

Annex F: Patient Charge Income Methodology *provides the full charge income model, pathway charge derivation, sensitivity analysis and charge-income trajectory.*

Annex C: Care Pathways *sets out the P1–P4 pathway logic, including the patient-charge logic attached to pathway movement.*

Annex I *sets out the evidence base for the oral health–systemic NCD relationships*

Annex L *summarises the wider clinical and economic evidence base*

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PART 4

04 The Spectrum of Need

Six profiles across the full range of English dental commissioning challenge — demonstrating how the ACV formula produces different commissioning decisions in materially different contexts

4.0 Purpose

This section is not merely illustrative. It is the worked demonstration that the reformed ACV can price need, deprivation, rurality, London costs, unscheduled/urgent demand, prevention intensity and patient charge income without abandoning a single national architecture. The purpose is to show that the model can remain nationally consistent while producing materially different commissioning decisions in materially different places.

The purpose of these profiles is not only to show different annual contract values, but to demonstrate how the Population Oral Health Contract would translate population need into predictable provider income. Once agreed, the ACV would be paid in monthly twelfths, with annual reconciliation against validated delivery, patient charge income, list movement, urgent-to-continuity conversion, prevention delivery and quality premium achievement. This matters because providers serving high-need communities require both higher risk-adjusted resource and stable cash flow if NHS provision is to remain viable.

4.1 Six Profiles

The six profiles are not case studies of specific ICBs. They are representative composite profiles, constructed from published OHID, NHSBSA and epidemiological data, designed to demonstrate the range of commissioning challenges the reformed model must address. [1–3] Each profile sets out the population context, the current contract's failure mode in that context, what the reformed contract changes, a fully reconciled ACV calculation, and the Year 5 KPIs. They should therefore be read as typology tests of the formula, not as proposed contract valuations for named ICBs, individual practices or specific provider groups.

All six profile calculations use the confirmed central base rates of £70 per adult per year and £60 per child per year. The £80/£65 rates are retained only as an upper sensitivity in the investment case and do not represent the modelled baseline.

The Ru coefficient encodes population disease risk and applies consistently to both adult and child capitation across all six profiles. Child-specific prevention intensity is reflected separately through Pt(d) and child prevention supplements where commissioned. Patient charge income is treated consistently through Pc, using the £44.89 weighted average annual charge per fee-paying adult.

Table 4.1 — Summary of six representative commissioning profiles and risk uplift assumptions

Profile	ICB typology	Disease context	Ru
1	**High deprivation urban**	High-deprivation urban; highest caries burden; high unscheduled/urgent demand; lowest NHS access rates	1.54
2	**Rural dental desert**	Provider market failure; geographic access gaps; mobilisation from near-zero NHS base	1.21 + 15% rural
3	**Coastal and ageing**	Ageing population; care home challenge; coastal deprivation pockets; domiciliary need	1.34
4	**Mixed urban-suburban**	Nationally average Ru; within-ICB inequality visible at ward level	1.10
5	**Inner-city London**	Highest complexity registered population; SMI; homelessness; asylum seekers; London costs	1.52 + 15% London
6	**Low-risk, middle income, lower-complexity profile**	Below-average disease burden; partially fluoridated; high charge recovery	0.92

Rurality, London weighting and named profile supplements are applied only where they reflect legitimate local commissioning cost or access requirements. They are excluded from the quality premium base, so Qp rewards improvement in prevention, access, continuity and population health rather than unavoidable local cost pressure

Box 4.1 — ACV formula template applied across all six profiles

Formula template
ACV = (Bc × Rp × Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp – Pc same for all six profiles

GROSS ACV = Core risk-weighted capitation
(adults × £70 × Ru) (children × £60 × Ru)

+ Named profile supplements, where applicable care home, domiciliary, SMI, outreach or high-risk child prevention supplements

+ Delivered prevention tariff — Pt(d)
(adults × £13.40)
(children × £16.60)

+ Pathway 3 lab supplement — Ls(P3)
(adults × 3% × £120)

+ Urgent care component
Uc(r) Uc(a) net

+ Quality premium — Qp base = risk-weighted capitation + core Pt(d) only as Ls(P3), Uc(r), Uc(a), rurality/London weighting and profile-specific supplements are excluded.

Pc = registered adults × fee-paying proportion × £44.89 weighted average annual charge per fee-paying adult.

GROSS ACV − patient charges (Pc) = NET NHS COMMITMENT

Profile 1 — High-deprivation urban typology

Hull/Grimsby typology Ru 1.54

~35%	32%	~15%
5-year-old caries prevalence vs 22.4% national mean [1]	**Child hospital tooth extractions above national rate per capita [2]**	*NHS dental access in most deprived wards* [4]

P.1.1 The current contract's failure mode

The Hull/Grimsby typology represents one of the starkest cases for reform. High disease burden, high deprivation, historically low NHS access rates, concentrated urgent demand and a provider market that has retreated from the most deprived postcodes. The current contract remunerates this population at the same broad rate as everywhere else. The reformed contract does not.

P.1.2 What the reformed contract changes

Risk-weighted capitation (Ru 1.54) directs approximately 38% more capitation income per patient than the national average of 1.10. The highest-tier Uc(r) retainer acknowledges the urgent demand burden. A high-risk child prevention supplement funds intensive fluoride varnish delivery for the children with the highest disease prior. The practice serving this population receives a gross ACV reflecting the clinical reality it manages.

P.1.3 Illustrative ACV calculation

Table 4.3 outlines the application of the reformed model ACV formula (Bc×Rp×Ru + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc) to this profile using the central parameters: Bc_adult @ £70, Bc_child @£60, Ru 1.54. The Qp base is capitation + core Pt(d) only — Ls(P3), Uc, rurality/London supplement and profile-specific supplements are all excluded from the Qp calculation.

P.1.4 Year-5 success measures

Table 4.2 outlines the population health KPIs that define success for this profile at Gate 2 (Year 5). They are additional to the core national KPI framework; each is measurable through the Population Oral Health Return and NHSBSA data.

Table 4.3 — Profile 1: High-deprivation urban typology — illustrative ACV calculation

Component	Basis and calculation	Value
Adult capitation	**1785 adults × £70 × Ru 1.54**	**£192,423**
Child capitation	**715 children × £60 × Ru 1.54 — Ru applied consistently to full registered list**	**£66,066**
Core Pt(d) — adults	1785 × £13.40 pathway-weighted delivered prevention (adults)	£23,919
Core Pt(d) — children	715 × £16.60 pathway-weighted delivered prevention (children)	£11,869
Quality premium (Qp) base — sum of cap + core Pt(d)	£192,423 adult cap + £66,066 child cap + £23,919 Pt(d) adults + £11,869 Pt(d) children. Rurality/London cost supplements EXCLUDED from Qp base.	£294,277
Ls(P3) — Pathway 3 lab supplement	**1785 adults × 3% incidence × £120 — delivered-care basis; NHSBSA-auditable; excluded from Qp**	**£6,426**
Quality premium (12% × Qp base)	**£294,277 × 12% — on capitation + core Pt(d) only; Ls, Uc, supplements excluded**	**£35,313**
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£14,000
Uc(a) gross	Unregistered urgent attendances × per-attendance rate	£18,720
Less: Uc(a) patient charge income (exempt patients pay nothing)	Charged attendances × £27.40 — deducted before NHS pays	−£2,137
Uc(a) net NHS urgent care cost	Excluded from Qp base	£16,583
+18%	**20% of children at elevated fluoride varnish intensity (£18/application × 2/yr) — named supplement; excluded from Qp base**	**£2,574**
GROSS ACV	**Sum of all components above**	**£369,173**
Less patient charges (Pc)	1785 adults × 55% fee-paying × £44.89 average annual charge	−£44,071
NET NHS COMMITMENT		**£325,102**
Gross ACV per registered patient	**£369,173 ÷ 2500**	**£147.67**
Net NHS per registered patient	£325,102 ÷ 2500	£130.04
Indicative current gross expenditure per patient seen — national affordability comparator	£3.108bn ÷ 24.9m patients [3] — the correct reform comparator throughout	£124.82
Modelled ACV relative to national expenditure comparator	**+£22.85 per patient (+18%) reflects Ru 1.54 risk weighting compared with the current national gross per-patient comparator**	

Table 4.2 — **Profile 1: High-deprivation urban typology — Year 5 success measures**

PROFILE 1 KPI	Measure
KPI 1	5-year-old caries prevalence below 30% by Gate 2 (Year 5)
KPI 2	Hospital tooth extractions (0–19) in local ICB below national average rate by year 7
KPI 3	Registered adult coverage above 55% by Year 5
KPI 4	Urgent-to-continuity pathway performance rate ≥75% by year 3

Profile 2

Rural dental desert typology

Lincolnshire / Devon typology Ru 1.21

10km+	60%	1.21
Distance to nearest NHS dentist for ~40% of practice's registered population [4]	**Chair utilisation (South West) vs 70% national average — economics, not supply [4]**	**Risk uplift (Ru)** ***Moderate disease burden; rurality supplement adds 15%***

P.2.1 The current contract's failure mode

In rural dental deserts, the commissioning failure is not primarily clinical — it is economic. The current contract provides no mechanism for the higher fixed costs of rural practice: lower population density, longer travel times, single-handed practice overhead. Chair utilisation in the South West runs at approximately 60%; in Lincolnshire, NHS dental access rates are among the lowest in England [4].

P.2.2 What the reformed contract changes

Two mechanisms the current contract lacks entirely: a rurality supplement (15% above the standard ACV on the capitation base) recognising the legitimate additional cost of rural practice; and the prospective ACV model enabling access hubs commissioned before full registration is achieved. The rurality supplement (£36,558) is the margin that makes rural NHS dentistry commercially viable. Without it, the economics of small rural practices do not stack. Note: the rurality supplement is a cost recognition, not a disease adjustment, and is therefore excluded from the quality premium base.

P.2.3 Illustrative ACV calculation

Table 4.5 applies the reformed model ACV formula (Bc×Rp×Ru + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc) to this profile using the confirmed central parameters: Bc_adult @£70, Bc_child@ £60, Ru 1.21. The Qp base is capitation + core Pt(d) only — Ls(P3), Uc, rurality/London supplement and profile-specific supplements are all excluded from the Qp calculation.

Table 4.5 — Profile 2: Rural dental desert typology — illustrative ACV calculation

Component	Basis and calculation	Value
Adult capitation	**2142 adults × £70 × Ru 1.21**	**£181,427**
Child capitation	**858 children × £60 × Ru 1.21 — Ru applied consistently to full registered list**	**£62,291**
Rurality supplement (15%)	(adult cap + child cap) × 15% — cost recognition, NOT in Qp base	£36,558
Core Pt(d) — adults	2142 × £13.40 pathway-weighted delivered prevention (adults)	£28,703
Core Pt(d) — children	858 × £16.60 pathway-weighted delivered prevention (children)	£14,243
Quality premium (Qp) base — sum of cap + core Pt(d)	£181,427 adult cap + £62,291 child cap + £28,703 Pt(d) adults + £14,243 Pt(d) children. Rurality/London cost supplements EXCLUDED from Qp base.	£286,664
Ls(P3) — Pathway 3 lab supplement	**2142 adults × 3% incidence × £120 — delivered-care basis; NHSBSA-auditable; excluded from Qp**	**£7,711**
Quality premium (12% × Qp base)	**£286,664 × 12% — on capitation + core Pt(d) only; Ls, Uc, supplements excluded**	**£34,400**
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£14,000
Uc(a) gross	Unregistered urgent attendances × per-attendance rate	£9,880
Less: Uc(a) patient charge income (exempt patients pay nothing)	Charged attendances × £27.40 — deducted before NHS pays	−£1,567
Uc(a) net NHS urgent care cost	Excluded from Qp base	£8,313
Outreach / access supplement	**8 community outreach sessions per year × £150 — mobile provision to dispersed communities — named supplement; excluded from Qp base**	**£1,200**
GROSS ACV	**Sum of all components above**	**£388,845**
Less patient charges (Pc)	2142 adults × 65% fee-paying × £44.89 average annual charge	−£62,500
NET NHS COMMITMENT		**£326,345**
Gross ACV per registered patient	**£388,845 ÷ 3000**	**£129.62**
Net NHS per registered patient	£326,345 ÷ 3000	£108.78
Indicative current gross expenditure per patient seen — national affordability comparator	£3.108bn ÷ 24.9m patients [3] — the correct reform comparator throughout	£124.82
Modelled ACV relative to national expenditure comparator	**+£4.80 per patient (+4%) reflects Ru 1.21 risk weighting**	**+4%**

P.2.4 Year-5 success measures

Table 4.4 outlines the population health KPIs that define success for this profile at Gate 2 (Year 5). They are additional to the core national KPI framework; each is measurable through the Population Oral Health Return and NHSBSA data.

Table 4.4 — Profile 2: Rural dental desert typology — Year 5 success measures

PROFILE 2 KPI	Measure
KPI 1	≥90% of the registered population living within 10km of commissioned NHS dental access by Year 5
KPI 2	Registered coverage at 55% of local adult population by Gate 2
KPI 3	ICB submits Uc(r) to Uc(a) rebalancing proposal at Gate 1, reflecting growth in registration and reduced unregistered urgent demand.
KPI 4	New provider commissioned within 2 years in communities identified as dental deserts

Profile 3

Coastal and ageing typology

Cornwall / East Sussex typology Ru 1.34

25%+	25%	1.34
Population aged 65+ vs 18% England average [5]	**Care home providers unable to access NHS dentistry (CQC 2023) [6]**	**Risk uplift (Ru)** ***Reflects coastal deprivation pockets and elevated disease in ageing cohort***

P.3.1 The current contract's failure mode

Cornwall and East Sussex share a defining characteristic: populations significantly older than the national average, with high proportions in their 70s, 80s and 90s. Both have significant care home provision, coastal deprivation pockets, and provider markets that have partly withdrawn from NHS dentistry. The oral health challenge here is qualitatively different from urban deprivation: it is about the oral health of an ageing population whose needs are complex, whose access is increasingly limited, and whose deterioration without support generates avoidable cost across the NHS.

P.3.2 What the reformed contract changes

The reformed contract's primary innovation here is the care home oral health pathway and domiciliary prevention tariff — mechanisms with no equivalent in the current model. A commissioned quarterly oral health review for each contracted care home resident is clinically justified, aligned with NICE NG48 and consistent with the regulatory expectation that care

homes assess and support residents' oral health needs [7]. It is also cost-effective when compared with the avoidable acute admissions that poor oral hygiene may contribute to, including aspiration pneumonia [8]. Those avoided costs, which run to several thousand pounds per admission and are higher in complex or critical care cases, accrue to the acute sector rather than the dental budget [9] — exposing a familiar commissioning problem: prevention is underfunded where its financial benefits are realised elsewhere.

P.3.3 Illustrative ACV calculation

Table 4.6 illustrates the application of the reformed ACV formula (Bc×Rp×Ru + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc) to this profile using the confirmed central parameters: Bc_a £70, Bc_c £60, Ru 1.34. The Qp base is capitation + core Pt(d) only — Ls(P3), Uc, rurality/London supplement and profile-specific supplements are all excluded from the Qp calculation.

Table 4.6 — Profile 3: Coastal and ageing typology — illustrative ACV calculation

Component	Basis and calculation	Value
Adult capitation	**1571 adults × £70 × Ru 1.34**	**£147,360**
Child capitation	**629 children × £60 × Ru 1.34 — Ru applied consistently to full registered list**	**£50,572**
Core Pt(d) — adults	1571 × £13.40 pathway-weighted delivered prevention (adults)	£21,051
Core Pt(d) — children	629 × £16.60 pathway-weighted delivered prevention (children)	£10,441
Quality premium (Qp) base — sum of cap + core Pt(d)	£147,360 adult cap + £50,572 child cap + £21,051 Pt(d) adults + £10,441 Pt(d) children. Rurality/London cost supplements EXCLUDED from Qp base.	£229,424
Ls(P3) — Pathway 3 lab supplement	**1571 adults × 3% incidence × £120 — delivered-care basis; NHSBSA-auditable; excluded from Qp**	**£5,656**
Quality premium (12% × Qp base)	**£229,424 × 12% — on capitation + core Pt(d) only; Ls, Uc, supplements excluded**	**£27,531**
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£12,000
Uc(a) gross	Unregistered urgent attendances × per-attendance rate	£9,880
Less: Uc(a) patient charge income (exempt patients pay nothing)	Charged attendances × £27.40 — deducted before NHS pays	−£1,140
Uc(a) net NHS urgent care cost	Excluded from Qp base	£8,740
Care home oral health pathway	**8 contracted care homes × 4 structured oral health reviews/yr ×**	**£3,360**

Component	Basis and calculation	Value
Domiciliary prevention	**£105 — named supplement; excluded from Qp base** **40 housebound registered patients × 2 visits/yr × £100 — named supplement; excluded from Qp base**	**£8,000**
GROSS ACV	**Sum of all components above**	**£294,711**
Less patient charges (Pc)	1571 adults × 64% fee-paying × £44.89 average annual charge	−£45,134
NET NHS COMMITMENT		**£249,577**
Gross ACV per registered patient	**£294,711 ÷ 2200**	**£133.96**
Net NHS per registered patient	£249,577 ÷ 2200	£113.44
Indicative current gross expenditure per patient seen — national affordability comparator	£3.108bn ÷ 24.9m patients [3] — the correct reform comparator throughout	£124.82
Modelled ACV relative to national expenditure comparator	**+£9.14 per patient (+7%) reflects Ru 1.34 risk weighting**	**+7%**

P.3.4 Year-5 success measures

The table below outlines the population health KPIs that define success for this profile at Gate 2 (Year 5). They are additional to the core national KPI framework; each is measurable through the Population Oral Health Return and NHSBSA data.

Table 4.7 — Profile 3: Coastal and ageing typology — Year 5 success measures

PROFILE 3 KPI	Measure
KPI 1	100% of contracted care homes with commissioned structured oral health pathway by year 2
KPI 2	Domiciliary oral health coverage: ≥75% of registered housebound patients by year 3
KPI 3	Aspiration pneumonia admission rate in care home population tracked and reported (supplementary KPI)
KPI 4	Denture repair and replacement rate within agreed ICB benchmark by year 3

Profile 4

Mixed urban-suburban typology

Surrey / Guildford typology Ru 1.1

1.10	~68%	−14%
Risk uplift (Ru) *National average — mixed deprivation; sub-national inequality visible at ward level*	**Fee-paying adult proportion** *Highest in paper — reflects lower deprivation and benefit eligibility*	**Reformed vs current per patient** *Formula correctly produces below-average investment for below-average risk*

P.4.1 The current contract's failure mode

A home counties style mixed urban-suburban profile illustrates the challenge of commissioning across apparently average geographies. At ICB or place level, the population may appear broadly moderate risk. That average, however, conceals substantial variation between practices serving more deprived urban wards and those serving lower-risk rural villages or affluent suburbs.

The current contract does not price that variation. A practice serving a population with materially higher deprivation, greater historic unmet need and higher disease probability is paid through the same activity architecture as a practice serving a lower-risk, more regularly attending population. The result is systematic mispricing within the same local system: the places that require more preventive, stabilisation and access work are not funded differently enough to deliver it.

The reformed model corrects this by applying the Ru coefficient at registered practice-list level, rather than relying on an ICB or place average. A practice serving a higher-need Guildford ward is therefore priced differently from a practice serving a lower-risk village population. This is not preferential treatment. It is accurate commissioning.

P.4.2 What the reformed contract changes

The primary innovation for this profile is granularity. The formula does not need to look unusual at national level to produce materially different outcomes at ward or practice level.

Within a Surrey-style mixed urban-suburban typology, illustrated by Guildford, a practice serving a more deprived ward, including populations in higher-need IMD deciles, would receive a higher Ru — for example approximately 1.28–1.35 — producing a gross per-patient value of approximately £125–£135. By contrast, a practice serving a more affluent village or lower-risk suburban population might receive a lower Ru — for example approximately 0.88–0.92 — producing a gross per-patient value of approximately £90–£95.

The average profile figure of £107.40 conceals precisely this within-system redistribution, which is the intended outcome of risk-weighted commissioning. Although the profile Ru of 1.10 sits at the national average, the profile gross per-patient value of £107.40 is 14% below the current national gross cost-per-patient comparator of £124.82, as defined in Part 3.

This lower profile value does not indicate underfunding. It reflects more accurate pricing. The reformed model uses pathway-weighted prevention, adult-only Ls(P3), and carries no high-cost locality or profile supplements. It therefore produces a leaner and more accurate commissioning price for a population that the current uniform contract architecture prices above measured need.

P.4.3 Illustrative ACV calculation

Table 4.8 applies the reformed model ACV formula:

$$ACV = (Bc \times Rp \times Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc$$

The calculation uses the confirmed central parameters: adult base capitation Bc(a) £70, child base capitation Bc(c) £60, and profile Ru 1.10.

The Qp base is restricted to risk-weighted capitation plus core Pt(d) only. Ls(P3), Uc(r), Uc(a), rurality or London weighting, and any profile-specific supplements are excluded from the quality premium calculation. This ensures that Qp rewards improvement in prevention, access, continuity and population health rather than unavoidable local cost pressure or activity volume.

P.4.4 Year-5 success measures

Table 4.9 describes the population health KPIs that define success for this profile at Gate 2, Year 5. These measures are additional to the core national KPI framework and are intended to test whether the reformed model is improving equity within an apparently average geography.

For this profile, success is not only an improved ICB-level average. It is evidence that higher-need wards receive proportionate preventive investment, that urgent presentations are converted into continuing care, that pathway allocation reflects measured risk, and that lower-risk populations are maintained safely without absorbing disproportionate routine capacity.

Each KPI is measurable through the Population Oral Health Return, NHSBSA data and practice-level reporting. The purpose is to make within-system redistribution visible, auditable and accountable at Gate 2.

Table 4.9 — Profile 4: Mixed urban-suburban typology — Year 5 success measures

PROFILE 4 KPI	Measure
KPI 1	Within-ICB Ru distribution published annually (decile spread of practice Ru values across the ICB area)
KPI 2	Core20PLUS5 practices receiving Ru >1.20 confirm Core20 population health KPIs [10]
KPI 3	Prevention episode coverage: ≥80% of high-risk registered adults receiving Pt(d) by year 3
KPI 4	Recall interval appropriateness: ≥65% of P1 adults on 12–24 month recall by year 3

Table 4.8 — Profile 4: Mixed urban-suburban typology — illustrative ACV calculation

Component	Basis and calculation	Value
Adult capitation	**1428 adults × £70 × Ru 1.1**	**£109,956**
Child capitation	**572 children × £60 × Ru 1.1 — Ru applied consistently to full registered list**	**£37,752**
Core Pt(d) — adults	1428 × £13.40 pathway-weighted delivered prevention (adults)	£19,135
Core Pt(d) — children	572 × £16.60 pathway-weighted delivered prevention (children)	£9,495
Quality premium (Qp) base — sum of cap + core Pt(d)	£109,956 adult cap + £37,752 child cap + £19,135 Pt(d) adults + £9,495 Pt(d) children. Rurality/London cost supplements EXCLUDED from Qp base.	£176,338
Ls(P3) — Pathway 3 lab supplement	**1428 adults × 3% incidence × £120 — delivered-care basis; NHSBSA-auditable; excluded from Qp**	**£5,141**
Quality premium (12% × Qp base)	**£176,338 × 12% — on capitation + core Pt(d) only; Ls, Uc, supplements excluded**	**£21,161**
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£8,000
Uc(a) gross	Unregistered urgent attendances × per-attendance rate	£4,940
Less: Uc(a) patient charge income (exempt patients pay nothing)	Charged attendances × £27.40 — deducted before NHS pays	−£784
Uc(a) net NHS urgent care cost	Excluded from Qp base	£4,156
GROSS ACV	**Sum of all components above**	**£214,796**
Less patient charges (Pc)	1428 adults × 68% fee-paying × £44.89 average annual charge	−£43,590
NET NHS COMMITMENT		**£171,206**
Gross ACV per registered patient	**£214,796 ÷ 2000**	**£107.40**
Net NHS per registered patient	£171,206 ÷ 2000	£85.60
Indicative current gross expenditure per patient seen — national affordability comparator	£3.108bn ÷ 24.9m patients [3] — the correct reform comparator throughout	£124.82
Modelled ACV relative to national expenditure comparator	**−£17.42 per patient (−14%) reflects Ru 1.1 risk weighting**	**-14%**

Profile 5

Inner-city typology

London - Bermondsey/Hackney typology Ru 1.52

~30%	55%	+39%
Adults with SMI, homelessness or insecure housing	**Uc(a) exempt rate**	**Reformed vs current per patient**
Highest complexity registered population in the paper	***Highest in paper — more exempt patients reduces charge recovery***	***London weighting + high Ru + SMI/outreach supplements***

P.5.1 The current contract's failure mode

An inner-city profile, typified by areas such as Bermondsey, Hackney and Tower Hamlets (London), presents a qualitatively different clinical, social and operating context from the other profiles. Practices may serve populations with high levels of severe mental illness, complex social need, insecure housing, asylum or refugee status, language barriers, transient living circumstances and limited continuity of previous dental care.

The current contract does not price that complexity adequately. High levels of unregistered urgent demand, higher exempt rates, longer appointment times, additional communication needs, liaison with community services and greater practice overheads all increase the cost of delivering safe and effective NHS dentistry. Yet the UDA model continues to price activity through a structure that does not systematically recognise disease probability, social complexity, London delivery costs or the additional work required to convert episodic urgent care into continuing care.

The result is sustained financial and operational fragility. In this profile, the reform test is therefore not only whether the model can fund prevention. It is whether it can make NHS dental provision in high-need inner-city communities viable, stable and more appropriately remunerated than under the current contract.

P.5.2 What the reformed contract changes

The reformed model changes the economics of this profile through three mechanisms in addition to the standard ACV formula.

First, the Ru coefficient prices population disease probability. In this profile, Ru 1.52 reflects the higher combined impact of deprivation, local disease prevalence, fluoridation status and urgent demand.

Second, London weighting is applied as a locality cost adjustment. It recognises the legitimate additional cost of delivering care in the capital, including workforce, premises and operating-

cost pressures. London weighting is not a substitute for Ru: Ru prices disease probability; London weighting recognises delivery-cost pressure.

Third, two profile-specific supplements are applied where commissioned: an SMI prevention supplement for registered adults with community mental health team involvement, and an outreach supplement for community-based access, engagement and care-navigation work. The SMI supplement recognises the additional time required for extended appointments, liaison, acclimatisation, prevention and continuity planning. The outreach supplement recognises the work required to reach patients who are unlikely to access conventional practice-based care without active engagement.

London weighting, the SMI prevention supplement and the outreach supplement are all excluded from the Qp base. This is deliberate. They compensate for legitimate cost and access requirements; they should not inflate performance payments. The quality premium should reward measurable improvement in prevention, access, continuity and population health, not unavoidable locality cost pressure.

P.5.3 Illustrative ACV calculation

Table 4.11 applies the reformed model ACV formula to this profile:

ACV = (Bc × Rp × Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc

The calculation uses the confirmed central parameters: adult base capitation Bc(a) £70, child base capitation Bc(c) £60, and profile Ru 1.52.

The Qp base is restricted to risk-weighted capitation plus core Pt(d) only. Ls(P3), Uc(r), Uc(a), London weighting and profile-specific supplements are excluded from the quality premium calculation. This ensures that Qp rewards performance improvement rather than cost pressure, activity volume or commissioned access supplements.

London weighting is therefore treated as a locality cost adjustment, not a disease-risk adjustment. Ru prices probability of disease; London weighting prices the additional cost of delivering care in the capital.

P.5.4 Year-5 success measures

Table 4.10 outlines population health KPIs that define success for this profile at Gate 2 (Year 5). They are additional to the core national KPI framework. For this profile, success is not measured solely by registration growth or activity volume. It must also show that patients with severe mental illness, insecure housing, language barriers, asylum or refugee status, and high urgent-care use are being converted into continuing care, receiving delivered prevention, and moving from episodic crisis presentation into a registered dental home.

Each KPI is measurable through the Population Oral Health Return, NHSBSA data and practice-level reporting. The purpose is to make the additional investment visible, auditable and accountable at Gate 2: London weighting and profile-specific supplements must translate into measurable improvements in access, continuity, prevention delivery and population oral health, not simply higher contract value.

Table 4.11 — Profile 5: Inner-city London typology — illustrative ACV calculation

Component	Basis and calculation	Value
Adult capitation	**1285 adults × £70 × Ru 1.52**	**£136,724**
Child capitation	**515 children × £60 × Ru 1.52 — Ru applied consistently to full registered list**	**£46,968**
London weighting (15%)	(adult cap + child cap) × 15% — cost recognition, NOT in Qp base	£27,554
Core Pt(d) — adults	1285 × £13.40 pathway-weighted delivered prevention (adults)	£17,219
Core Pt(d) — children	515 × £16.60 pathway-weighted delivered prevention (children)	£8,549
Quality premium (Qp) base — sum of cap + core Pt(d)	£136,724 adult cap + £46,968 child cap + £17,219 Pt(d) adults + £8,549 Pt(d) children. Rurality/London cost supplements EXCLUDED from Qp base.	£209,460
Ls(P3) — Pathway 3 lab supplement	**1285 adults × 3% incidence × £120 — delivered-care basis; NHSBSA-auditable; excluded from Qp**	**£4,626**
Quality premium (12% × Qp base)	**£209,460 × 12% — on capitation + core Pt(d) only; Ls, Uc, supplements excluded**	**£25,135**
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£14,000
Uc(a) gross	Unregistered urgent attendances × per-attendance rate	£18,720
Less: Uc(a) patient charge income (exempt patients pay nothing)	Charged attendances × £27.40 — deducted before NHS pays	−£1,923
Uc(a) net NHS urgent care cost	Excluded from Qp base	£16,797
SMI prevention supplement	**8% of registered adults with SMI diagnosis × £55 extended appointment episode (103 patients) — named supplement; excluded from Qp base**	**£5,654**
Outreach / access supplement	**56 community outreach sessions × £150 (rough sleepers, asylum seekers, transient communities) — named supplement; excluded from Qp base**	**£8,400**
GROSS ACV	**Sum of all components above**	**£311,626**
Less patient charges (Pc)	1285 adults × 52% fee-paying × £44.89 average annual charge	−£29,996
NET NHS COMMITMENT		**£281,630**
Gross ACV per registered patient	**£311,626 ÷ 1800**	**£173.13**
Net NHS per registered patient	£281,630 ÷ 1800	£156.46
Indicative current gross expenditure per patient seen — national affordability comparator	£3.108bn ÷ 24.9m patients [3] — the correct reform comparator throughout	£124.82
Modelled ACV relative to national expenditure comparator	**+£48.31 per patient (+39%) reflects Ru 1.52 risk weighting**	**+39%**

Table 4.10 — Profile 5: Inner-city London typology — Year 5 success measures

PROFILE 5 KPI	Measure
KPI 1	SMI dental assessment rate: ≥70% of registered adults on SMI register receiving annual oral health assessment by year 3
KPI 2	SMI retention rate: ≥60% in continuous dental care over 24 months
KPI 3	Outreach registration conversion: ≥40% of outreach contacts offered registration accepted by year 2
KPI 4	Exempt patient Uc(a) compliance: all presentations documented and processed within 48 hours

Profile 6

Low-risk middle-income

South Birmingham typology - Selly Oak /Harborne/Edgbaston Ru 0.92

Ru 0.92	78%	−26%
Below national average risk	**Fee-paying adult proportion**	**Reformed vs current per patient**
IMD decile 3; partially fluoridated (60%); 5yo caries 19%	***Highest charge recovery in paper — correct for low-deprivation area***	***Formula correctly directs less investment where disease risk is lower***

Profile 6 is a necessary test of discipline. A risk-weighted model must be capable of pricing down as well as pricing up. If the formula only increases values in high-need areas, it is not a commissioning model; it is a spending model. The purpose of Profile 6 is to show that the reformed architecture can also reduce contract value where measured disease risk, urgent demand and prevention intensity are lower.

P.6.1 The current contract's failure mode

A Harborne–Selly Oak-style Birmingham typology represents a lower-risk, mixed middle-income population where the current uniform national pricing architecture allocates more resource than the measured disease-risk profile would justify. At the same time, the same architecture under-prices higher-risk areas, such as the Hull typology, where deprivation, urgent demand and disease burden are materially greater.

A uniform national pricing model treats these populations as equivalent in need. They are not equivalent. A lower-risk population with stable attendance patterns, lower urgent demand and lower disease probability should not be priced as if it required the same level of preventive, stabilisation and access investment as a high-deprivation urban population.

The reformed model makes that difference explicit. In this profile, **Ru 0.92** applied to base capitation produces a value approximately **8% below** the central base rate per patient, reflecting a genuinely lower disease prior. This is the intended outcome of risk-weighted commissioning.

P.6.2 What the reformed contract changes

The primary effect of the Population Oral Health Contract in a Profile 6 setting is redistribution, not overall cost increase. The practice receives a lower-than-average **ACV** per registered patient because the measured disease-risk profile is lower. That reduction is not a penalty. It is the logical consequence of pricing resource according to probability of need.

The quality premium then changes the practice incentive. Rather than rewarding routine activity volume, it rewards appropriate risk stratification, clinically justified recall interval extension, prevention delivery where indicated, and maintenance of low-risk patients without unnecessary six-month recall. Stable patients remain under the care of the dental home but are reviewed at intervals proportionate to their risk.

The capacity released through appropriate recall optimisation is then redirected towards unregistered local adults who are currently excluded from NHS dental care. In this typology, the reform contract rewards the practice for converting urgent or previously unregistered patients into continuing registered care through **Uc(a)** conversion and dental home responsibility. The model therefore prices lower-risk maintenance more efficiently while still creating an access route for those outside the system.

P.6.3 Illustrative ACV calculation

Table 4.12 applies the reformed model ACV formula to the profile using the confirmed central parameters: Bc_a £70, Bc_c £60, Ru 0.92.

The Qp base is restricted to risk-weighted capitation plus core Pt(d) only. Ls(P3), Uc(r), Uc(a), rurality or London weighting, and any profile-specific supplements are excluded from the quality premium calculation. This ensures that Qp rewards measurable improvement in prevention, continuity, access and population health rather than unavoidable cost pressure, urgent activity volume or laboratory-supported treatment.

P.6.4 Year-5 success measures

For this profile, success is not higher activity volume. It is appropriate maintenance: stable patients reviewed at risk-based intervals, prevention delivered where clinically indicated, avoidable six-month recall reduced, and released capacity redirected towards unregistered local adults. The profile tests whether the Population Oral Health Contract can price down responsibly without reducing care quality or weakening continuity.

The following population health KPIs (Table 4.13) define success for this profile at Gate 2 (Year 5). They are additional to the core national KPI framework; each is measurable through the Population Oral Health Return and NHSBSA data.

Table 4.12 — Profile 6: Low-risk middle-income typology — illustrative ACV calculation

Component	Basis and calculation	Value
Adult capitation	**1428 adults × £70 × Ru 0.92**	**£91,963**
Child capitation	**572 children × £60 × Ru 0.92 — Ru applied consistently to full registered list**	**£31,574**
Core Pt(d) — adults	1428 × £13.40 pathway-weighted delivered prevention (adults)	£19,135
Core Pt(d) — children	572 × £16.60 pathway-weighted delivered prevention (children)	£9,495
Quality premium (Qp) base — sum of cap + core Pt(d)	£91,963 adult cap + £31,574 child cap + £19,135 Pt(d) adults + £9,495 Pt(d) children. Rurality/London cost supplements EXCLUDED from Qp base.	£152,168
Ls(P3) — Pathway 3 lab supplement	**1428 adults × 3% incidence × £120 — delivered-care basis; NHSBSA-auditable; excluded from Qp**	**£5,141**
Quality premium (12% × Qp base)	**£152,168 × 12% — on capitation + core Pt(d) only; Ls, Uc, supplements excluded**	**£18,260**
Uc(r) access retainer	ICB-commissioned; excluded from Qp base	£4,000
Uc(a) gross	Unregistered urgent attendances × per-attendance rate	£4,940
Less: Uc(a) patient charge income (exempt patients pay nothing)	Charged attendances × £27.40 — deducted before NHS pays	−£855
Uc(a) net NHS urgent care cost	Excluded from Qp base	£4,085
GROSS ACV	**Sum of all components above**	**£183,654**
Less patient charges (Pc)	1428 adults × 78% fee-paying × £44.89 average annual charge	−£50,000
NET NHS COMMITMENT		**£133,654**
Gross ACV per registered patient	**£183,654 ÷ 2000**	**£91.83**
Net NHS per registered patient	£133,654 ÷ 2000	£66.83
Indicative current gross expenditure per patient seen — national affordability comparator	£3.108bn ÷ 24.9m patients [3] — the correct reform comparator throughout	£124.82
Modelled ACV relative to national expenditure comparator	**−£32.99 per patient (−26%) reflects Ru 0.92 risk weighting**	**-26%**

Table 4.13 — Profile 6: Low-risk middle-income typology — Year 5 success measures

PROFILE 6 KPI	Measure
KPI 1	Recall interval appropriateness: ≥75% of registered adults on 12–24 month risk-based recall by year 3
KPI 2	Unregistered to registered conversion: net increase in registered list of ≥10% by Year 5
KPI 3	Prevention episode coverage: ≥80% of eligible registered patients receiving Pt(d) by year 3
KPI 4	Quality premium achievement: ≥80% of Qp KPIs met by year 3

4.2 Cross Profile Synthesis

The profiles demonstrate distributional logic, not tariff sufficiency. They show that a single undifferentiated national value would fail to reflect material differences in population need and operating context. The demonstrator must determine whether viable delivery requires a common national base rate, differentiated supplements, a tariff corridor, or a combination of these approaches.

Across the six profiles summarised in Table 4.14, gross ACV ranges from £91.83 per registered patient in the low-risk middle-income profile to £173.13 in the inner-city London profile. This represents an 88.5% differential, driven by measurable differences in population risk, urgent demand, geography and commissioned supplements. Profile 5 therefore receives approximately 1.9 times the modelled gross ACV per patient of Profile 6.

Against the indicative current national gross expenditure comparator of £124.82 per patient seen, four profiles sit above the national reference and two below it. This arithmetic comparison illustrates how the proposed formula redistributes resource towards higher-need and higher-cost populations. It should not be read as a like-for-like tariff comparison or as evidence that any individual profile value is sufficient for provider viability.

The range between the highest and lowest profiles is deliberately material. Ru adjusts payment for population risk, while separately visible supplements recognise legitimate operating and commissioning costs such as rurality, London weighting, care-home provision, outreach and severe mental illness-related complexity. The adequacy of both the coefficient range and the supplements must be tested through actuarial review, provider-income modelling and demonstrator evidence.

Table 4.14 — Cross-profile comparison of gross ACV, net NHS commitment and current national comparator

Profile	Ru	Gross ACV	Gross per patient	Net NHS per patient	Difference from £124.82 national gross expenditure reference
Profile 1 High deprivation/urban	1.54	£369,173	£147.67	£130.04	+£22.85 (+18%)
Profile 2 Rural dental desert	1.21 +rural	£388,845	£129.62	£108.78	+£4.80 (+4%)
Profile 3 Coastal and ageing	1.34	£294,711	£133.96	£113.44	+£9.14 (+7%)
Profile 4 Mixed urban-suburban	1.10	£214,796	£107.40	£85.60	−£17.42 (−14%)
Profile 5 Inner-city London	1.52 +London	£311,626	£173.13	£156.46	+£48.31 (+39%)
Profile 6 Low-risk middle-income	0.92	£183,654	£91.83	£66.83	−£32.99 (−26%)
National current (reference)	**—**	**—**	**£124.82 per patient seen**	**£92.37 per patient seen**	**Reference only**

Reading the comparison column

The negative values shown for Profiles 4 and 6 do not, by themselves, indicate underfunding, just as the positive values for higher-need profiles do not establish overfunding. They show how the central model reallocates resource relative to a national expenditure reference.

The relevant policy question is whether each profile receives sufficient funding for the responsibility, utilisation risk, workforce cost, access obligations and operating conditions it is expected to carry. That cannot be established by comparison with £124.82 alone.

The intended principle is equity rather than uniformity: populations with greater disease probability and higher delivery costs should attract greater resource. Whether the modelled values achieve that objective while sustaining provider participation must be determined through independent calibration, shadow pricing and demonstrator testing.

The commissioning principle

Hull is not Selly Oak. Bermondsey is not Guildford.

A national dental contract that prices them all at £124.82 per patient [3] is not a neutral baseline. It is a systematic mispricing of disease risk that has persisted for nearly twenty years. The reformed model corrects it: one formula, consistent parameters, Ru doing all the differentiating work on the capitation base.

The six profiles demonstrate that this produces commissioning decisions that are fair, defensible and — for the first time — accurate.

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05 Part 5 Conclusions, Implementation and Accountability

What the evidence establishes; what needs to happen, in what order, and by whom; the readiness conditions for the reformed model to succeed; and the principal objections answered

5.0 The verdict

Parts 1–4 specify the case for, architecture of, investment case for, and population application of the Population Oral Health Contract. This part addresses the assurance question: how should the model be tested, calibrated and implemented before national adoption?

That distinction matters. The destination is replacement of the 2006 UDA contract with a prevention-led, risk-weighted contract for NHS dentistry in England. The model is the Population Oral Health Contract, expressed through the Annual Contract Value formula and built around registered responsibility, delivered prevention, urgent-to-continuity care, transparent patient charge reconciliation and measurable public value. The demonstrator is the assurance route: the disciplined mechanism by which assumptions are tested, provider viability assessed, gaming risks surfaced, remuneration calibrated and the model refined before national rollout.

Four sections of analysis converge on a single conclusion: the NHS dental contract in England cannot be repaired by further modification within the UDA architecture.

That conclusion is consistent with findings from the National Audit Office, the Public Accounts Committee, the national dental contract prototype evaluation, and wider evidence on access, provider viability and patient experience. [1–3] It also aligns with the parliamentary commitment to fundamental dental contract reform within this Parliament. [4] The structural incentive — rewarding treatment activity regardless of population need, pricing a Hull / Grimsby typology as if it carried the same risk as a low-risk Harborne–Selly Oak typology, funding consequences more reliably than prevention — is not a flaw that can be adjusted away. It is the design.

The replacement model proposed in this paper rests on four analytical foundations.

Part 1 establishes the policy case. The current contract encodes the wrong prior: it behaves as if population risk were broadly uniform across England, when the evidence consistently shows that it is not. It cannot recognise deprivation, fluoridation status, local disease burden, urgent demand or differential access barriers with sufficient precision to allocate public resource fairly.

Part 2 specifies the service and contract architecture. It establishes that risk-weighted capitation, delivered prevention episode tariffs, the Pathway 3 laboratory supplement, the dental home obligation, urgent-to-continuity access and quality / charge reconciliation together constitute a coherent replacement model. The Population Oral Health Contract is therefore not a general aspiration for prevention. It is an operational contract architecture.

Part 3 establishes the investment case and transition logic. The central programme-weighted model produces an indicative gross ACV of £118.08 per registered patient, compared with current gross expenditure of approximately £124.82 per patient seen. The figures provide an affordability reference but represent different commissioning products. Final tariff values must be determined through actuarial calibration, provider-income analysis and shadow operation. The total NHS commitment grows because coverage expands and the NHS purchases a broader form of prospective responsibility.

Under the central Year 5 trajectory, the NHS net contribution rises to £3.804bn after deduction of £841m patient charge income through Pc. Compared with the current NHS dental contribution of £2.300bn, this is a gross NHS increase of £1.504bn. Of that increase, £438m restores the real-terms purchasing power lost since 2014/15, and £115m is offset through conservative avoided NHS costs. The net genuinely new public investment requirement at Gate 2 is therefore £951m, funding 9.83 million additional patients in NHS dentistry. These figures are reconciled to Annex F, Section 3, NHSBSA 2024/25 dental statistics and the House of Commons Library baseline used in Part 3. [5,6]

Part 3 also establishes a necessary professional compact. Aggregate affordability is not the same as provider viability. The model must not transfer greater responsibility, higher complexity, wider access obligations or more reporting to practices without corresponding resource, transition protection and stable payment flow. Providers should receive one-twelfth of agreed ACV each month, with proportionate annual reconciliation. Provider-income sensitivity analysis, shadow pricing and distributional modelling must precede full financial transition.

Part 4 establishes that the formula behaves differently in the way a risk-weighted model should across six materially different commissioning contexts: from Ru 0.92 in a low-risk Harborne–Selly Oak-style Birmingham typology, to Ru 1.52 plus London weighting in a high-complexity inner-city profile such as Bermondsey. It uses the same IMD, OHID and NHSBSA evidence base as the rest of the paper. [5,7–9] The variation is not inconsistency. It is the model doing what the current contract cannot: pricing risk accurately and directing investment to need.

The verdict is therefore not simply that the current contract is failing. It is that the current contract is structurally incapable of delivering the objectives now required of NHS dentistry: access, prevention, equity, provider viability, urgent-to-continuity conversion and measurable population health improvement.

A contract designed to count activity cannot be expected to deliver population health. A different objective requires a different contract. The Population Oral Health Contract is proposed as that replacement architecture. The remainder of Part 5 sets out how it should be assured, calibrated and implemented without turning reform into perpetual piloting or transferring unfunded risk to providers.

The paper's central proposition

The 2006 GDS dental contract has failed the populations that need it most — not through underfunding alone, but through systematic mispricing.

It treats unequal populations as if they carried equal risk. It concentrates clinical capacity around those already able to attend, while leaving around 27 million adults, disproportionately the most deprived, without recorded NHS dental contact in the previous 24 months.

The reformed ACV corrects that failure. It prices registered responsibility, weights investment by disease probability, funds delivered prevention, protects legitimate treatment cost, and turns unscheduled/urgent access into a route back into continuing care.

The proposition is simple: public money should follow the probability of disease, before disease becomes the cost of treatment.

5.1 Minimum viable reform: the irreducible core

The full ACV architecture is designed as an integrated commissioning system. Risk-weighted capitation, delivered prevention tariffs, the Pathway 3 laboratory supplement, the dental-home obligation, the Uc urgent-care mechanism, patient-charge deduction and the quality premium are intended to work together. These components are mutually reinforcing, but they do not all carry the same structural weight.

Table 5.1 Minimum viable reform: the irreducible core

Minimum viable reform component	Why it is irreducible
Formal registration and dental-home responsibility	Establishes the named population for whom a provider is accountable. It creates the denominator for prevention, recall, pathway allocation, equity monitoring, urgent-to-continuity conversion and population-health measurement.
Risk-weighted capitation — Bc × Rp × Ru	Corrects the historic mispricing of unequal populations. Resource follows measurable disease probability, deprivation, fluoridation status, local caries burden and urgent demand, rather than historic contract value or activity volume.
Commissioned prevention tariffs — Pt(d)	Makes prevention a funded, reportable and auditable service rather than an unfunded aspiration within treatment bands. It allows commissioners to purchase fluoride varnish, fissure sealants, periodontal stabilisation, acclimatisation, dietary advice and other evidence-based interventions for the groups at greatest risk.

These three elements constitute the irreducible structural core of reform. Without them, the fundamental misalignment of the 2006 contract remains intact and NHS dentistry continues to operate primarily as an activity-purchase system rather than a population-health commissioning system.

Registration defines the population for whom the contract is responsible. Risk weighting determines how resource should vary according to population need. Prevention tariffs specify the upstream interventions the NHS is purchasing to reduce disease probability over time.

This is not an argument for implementing a partial or diluted model. The demonstrator programme should test the full ACV architecture from go-live because the remaining components provide essential safeguards and operational support:

- Ls(P3) protects legitimate restorative laboratory costs;
- Uc maintains urgent access for unregistered and transient patients during transition;
- Qp rewards agreed standards and measurable improvement; and
- Pc ensures patient-charge income is treated transparently within gross contract value.

The irreducible core is therefore the minimum test of whether reform is genuine. A model without registration lacks a defined population denominator. A model without risk weighting risks reproducing the inverse care law. A model without commissioned prevention remains a treatment contract with preventive rhetoric attached.

These three components should therefore be present from demonstrator go-live and should not be deferred to later implementation phases.

Their delivery is, however, conditional on an adequately funded contract. The tariff must support provider participation, competitive workforce remuneration and viable delivery of the responsibility being commissioned. Tariff adequacy is not a fourth structural component of minimum viable reform; it is the enabling condition without which the three core components cannot operate in practice.

5.2 What the evidence establishes and what the demonstrator must test

Intellectual honesty requires distinguishing between four categories of claim: what is already established; what is plausible and sufficiently evidenced to justify implementation at demonstrator scale; what must be tested before national rollout; and what must not be claimed until Gate 2 evidence is available.

The purpose of the demonstrator programme is therefore not to prove from scratch that the current contract is failing. That is already established. Nor is it to retest whether prevention works in principle. Much of that evidence is already strong. The demonstrator's purpose is narrower and more important: to test whether this specific contract architecture — formal registration, risk-weighted capitation, pathway-based prevention, the dental home obligation, urgent-to-continuity conversion, quality premium and patient charge treatment — can deliver measurable population health improvement, provider viability and better value for money in live NHS commissioning conditions.

The evidence discipline framework is set out in Table 5.2. The table should be read as the claim-discipline framework for the whole proposal. It protects the argument from overclaiming. The case for replacement does not depend on asserting that every modelled

benefit is already proven. It depends on a clearer proposition: the diagnosis is established, the replacement architecture is coherent enough to test, the investment case is conservative enough to proceed, and the demonstrator is designed to answer the questions that remain.

Gate 2 is therefore not a ceremonial review point. It is the evidence threshold for national rollout. Before Gate 2, the policy claim is that the model is sufficiently justified to implement at demonstrator scale. After Gate 2, the rollout claim should depend on whether the demonstrator shows improved access, prevention delivery, urgent-to-continuity conversion, provider viability, equity and early population health signals against independently evaluated baselines.

A central assurance question for the Population Oral Health Contract is whether the model supports stable provider income while increasing responsibility for access, prevention and risk.

This question must be tested explicitly. The model asks providers to hold registered responsibility, manage higher-need populations, deliver prevention, convert urgent presentations into continuity and report agreed improvement measures. Those responsibilities are only credible if they are matched by explicit risk pricing, stable monthly income, paid prevention, protected legitimate costs, funded urgent access and proportionate reconciliation.

The demonstrator should therefore test whether monthly payment of one-twelfth of agreed ACV, with annual reconciliation against validated delivery, patient charge income, list movement, prevention activity, urgent-to-continuity conversion, legitimate **Ls(P3)** claims and **Qp** achievement, provides sufficient cash-flow stability for providers while preserving commissioner accountability.

This should include provider-income sensitivity analysis across different operating models and population profiles. The evaluation should test principal margin, associate earnings, therapist deployment, premises cost, working capital, cash-flow stability and high-need practice viability before full financial consequences are activated.

The test is not whether every historical allocation is preserved. Some historical allocations do not reflect contemporary need. The test is whether the Population Oral Health Contract can support a fair professional compact: greater responsibility matched by explicit risk pricing, stable income, protected legitimate costs, paid prevention, funded urgent access, proportionate reconciliation and transition protection.

Table 5.2 distinguishes between the propositions supported sufficiently strongly to justify national demonstrators and the elements that remain hypotheses requiring prospective testing. It is intentionally strategic. The detailed demonstrator design—including sites, baselines, comparison arrangements, outcome measures, data requirements, evaluation methods and gate criteria—is set out in Appendix K1.

Table 5.2 Evidence confidence and demonstrator testing framework

Component	Current confidence	What can be concluded now	Principal demonstrator question	What cannot be concluded before national evaluation
Structural diagnosis and need for reform	High	The UDA contract rewards activity rather than continuing population responsibility and does not adequately price risk, prevention or equity.	Does the proposed replacement architecture perform better under live commissioning conditions?	That the Population Oral Health Contract has already improved population oral health at national scale.
Risk-weighted commissioning and Ru	High for the principle; Moderate for the formula	Oral-health need is unevenly distributed and should influence contract value. Deprivation, fluoridation, disease prevalence and urgent demand are legitimate risk variables.	Do the selected variables, weightings and 1.60 cap produce fair, stable and operationally usable contract values?	That the proposed 50/20/20/10 weighting or cap is nationally validated or final.
Base capitation and total ACV	Moderate	The central adult and child rates are plausible within the modelled contract architecture and affordability envelope.	Do ACV values support sustainable delivery across different geographies, list profiles, estate costs and workforce models?	That £70 adult and £60 child are definitive national rates.
Prevention tariffs and care pathways	Moderate–High	The clinical evidence supports commissioned prevention, stabilisation and risk-stratified pathways.	Are tariffs sufficient to generate delivery in high-risk groups, and do patients move towards lower-risk pathways over time?	That every prevention episode produces immediate or cash-releasing savings.
Dental home and registered population responsibility	High for the contractual principle; Moderate for delivery	A named list and continuing-care obligation are necessary for population accountability.	Can registration be built, maintained and equitably distributed, particularly in dental deserts and high-need populations?	That registration alone improves outcomes without effective prevention, recall and continuity.
Urgent access and conversion to continuing care	Moderate–High	Urgent care should be commissioned separately but connected to assessment, stabilisation and registration.	Do urgent attenders convert into continuing care, and does repeat urgent demand fall as registration expands?	That urgent-care costs will fall automatically without active conversion pathways.

Component	Current confidence	What can be concluded now	Principal demonstrator question	What cannot be concluded before national evaluation
Quality premium and outcomes framework	Moderate	A meaningful proportion of value should depend on quality, equity and population-health performance.	Which indicators are valid, attributable, timely and resistant to gaming?	That population outcomes can be judged fairly in the first year or before baselines mature.
Patient charges and net commissioner payment	Moderate–High	Patient charge income should be reconciled and deducted from gross ACV rather than treated as additive provider income.	How do proposed charging and exemption arrangements affect access, uptake, income and equity?	That charge reform is fiscally neutral before observed demonstrator behaviour is available.
Provider viability, workforce and clinical operating model	Moderate	Prospective income, explicit risk pricing, longer terms and skill-mix incentives should support a more stable provider model.	Does the model support viable margins, workforce recruitment and retention, full-scope skill mix, sufficient clinical time and acceptable workload across diverse settings?	That the contract alone resolves workforce shortages, improves workload or protects every historical income position.
Administrative feasibility and data burden	Moderate	The model can be supported by a focused dataset covering registration, risk, pathways, prevention, urgent conversion, charges and quality.	Can the required information be captured reliably without disproportionate administrative burden or loss of clinical time?	That richer reporting automatically improves care or can be absorbed without software and workflow investment.
Affordability, avoided costs and wider public value	Moderate for the primary investment case; Moderate–Low for avoided costs; Plausible but supplementary for wider benefits	The £951 million Year 5 net new investment requirement is a coherent central planning estimate. Wider oral-systemic and public-sector benefits strengthen the case but should remain supplementary.	Are the cost trajectory, avoided NHS activity and wider benefits realised, attributable and assigned to the appropriate budgets?	That wider NCD, productivity or social-care benefits are guaranteed cashable offsets.
Coverage and population-health impact	Moderate for the trajectory; unproven for outcomes	The proposed adult and child coverage trajectories are plausible if commissioning, provider participation and registration infrastructure are established.	Can coverage expand equitably, and does it translate into improved access, continuity, disease outcomes and reduced inequalities?	That national coverage or population-health improvement is assured before independent evaluation.

The purpose of the demonstrator programme is therefore not to retest whether the present contract is failing. It is to determine whether the proposed replacement architecture is operationally deliverable, financially sustainable and capable of producing better access, equity, continuity and population-health outcomes. Appendix K1 translates the questions in Table 5.2 into a defined evaluation protocol.

5.3 The principal objections answered

The following objections are those most likely to be raised by DHSC officials, HM Treasury, ICB commissioners, professional bodies and providers. They are addressed directly, without caricature. Annex K provides the extended treatment of each objection in the format: **o**ur answer, what we acknowledge honestly, and what must be done.

The purpose of this section is not to minimise implementation risk. It is to distinguish between objections that undermine the case for replacement and risks that must be designed for, tested and managed through the assurance route. The central proposition remains the Population Oral Health Contract. The demonstrator is the mechanism by which the model is tested, calibrated and amended before national adoption.

5.3.1 Objection: This costs more money we do not have.

Response: Reform will require greater total investment because it expands coverage and purchases a wider, more accountable form of care. The relevant test is whether the resulting contract is affordable to the NHS, viable for providers and better value than continued expenditure on episodic care and preventable failure.

The central modelled ACV is £118.08 gross per registered patient, compared with indicative current gross expenditure of approximately £124.82 per patient seen. This places the model within a fiscally credible range, but the figures are not directly like-for-like. The proposed contract purchases prospective registered responsibility, prevention, continuity, risk management and urgent-care access over time. The final opening tariff must therefore reflect the cost and value of that responsibility and be tested through actuarial review, provider-level modelling and shadow pricing.

At Year 5, Gate 2, the NHS net contribution rises by £1.504bn against the current baseline. Of this:

- £438m restores the real-terms purchasing power lost since 2014/15 and is therefore inflation catch-up rather than new policy investment;
- £115m is offset through conservative, directly attributable avoided NHS costs; and
- £951m represents genuinely new public investment.

That £951m funds 9.83 million additional patients, together with the prevention infrastructure, dental-home obligation, quality framework, urgent-to-continuity transition and assurance requirements needed to support reform.

By Year 10, genuinely new public investment rises to approximately £1.674bn, funding 13.22 million additional patients compared with the current position. On the supplementary real-terms Green Book view, this equates to approximately £1.070bn in 2024/25 prices, consistent with the analysis in Part 3. [14]

The investment is therefore not a short-term expansion of activity. It is a long-term investment in access, prevention and continuing responsibility. Its value should be judged by the additional population covered, the quality and continuity of care purchased, provider sustainability and the extent to which preventable urgent and hospital demand falls over time. These effects must be tested through the demonstrator and gate-review framework rather than assumed as guaranteed savings.

5.3.2 Objection: This asks practices to take on more risk, more responsibility and more reporting for less money.

Response: This is the most important professional objection and it is legitimate. The Population Oral Health Contract must not be implemented as an unfunded transfer of risk from the NHS to providers.

The model should be configured as a funded responsibility contract. Population risk is priced through Ru; delivered prevention is funded through Pt(d); legitimate Pathway 3 laboratory cost is protected through Ls(P3); urgent access is funded through Uc(r) and Uc(a); and Qp rewards agreed contract-level improvement.

Providers should receive one-twelfth of agreed ACV each month, with proportionate annual reconciliation against validated delivery, patient charge income, list movement, prevention activity, urgent-to-continuity conversion, legitimate Ls(P3) claims and Qp achievement. This gives practices predictable cash flow while preserving commissioner accountability.

The model cannot and should not guarantee that every historical allocation will be preserved. Some historical allocations do not match contemporary need. But it should guarantee a different principle: no provider should be asked to take on greater responsibility, higher complexity, wider access obligations or more reporting without corresponding resource, transition protection and stable payment flow.

Shadow pricing, provider-income sensitivity analysis and distributional modelling must therefore precede full financial transition. That analysis should test principal margin, associate remuneration, therapist deployment, premises costs, working capital, cash-flow stability and high-need practice viability.

5.3.3 Objection: We do not have the dental workforce to expand coverage.

Response: The Population Oral Health Contract does not require twice as many dentists. It requires the available workforce to be deployed differently and more predictably.

Longer recall intervals for low-risk patients release clinical capacity. Dental therapists and hygienists working to existing scope can deliver eligible prevention and stabilisation activity within appropriate governance. The pathway model reduces the assumption that all care must centre on dentist time. Urgent-to-continuity conversion should progressively reduce the recurrent pressure of repeated unscheduled care.

Workforce expansion is still required over the full 10-year contract term. The model should not pretend otherwise. But workforce expansion is not a prerequisite for Year 1 implementation at demonstrator scale. The assurance phase must test whether the model can support recruitment, retention, associate remuneration, therapist deployment and workload sustainability in real provider settings.

5.3.4 Objection: We have tried contract reform before. It did not work.

Response: The profession is right to be sceptical. Previous pilots and prototype models tested elements of reform, but they did not implement the full replacement architecture proposed here: formal registration, risk-weighted capitation, delivered prevention tariffs, Pathway 3 laboratory support, urgent-to-continuity conversion, patient charge deduction, a quality premium linked to measurable improvement, monthly ACV payment, annual reconciliation and a defined gate-review structure.

The Population Oral Health Contract is therefore not another marginal adjustment to the UDA system. It is a specified replacement model.

The demonstrator proposed in this paper is not an open-ended pilot. A pilot asks whether a concept is interesting. A demonstrator tests whether a specified model can be implemented safely, fairly and credibly before national adoption. Gate 1 tests implementation fidelity. Gate 2 determines whether national adoption is justified.

5.3.5 Objection: ICBs do not have the commissioning capacity to run this model.

Response: Correct — and this is one of the paper's most serious implementation risks. It is acknowledged explicitly in Section 5.4.

The answer is not to delay contract replacement until capacity exists everywhere. It is to build commissioning capacity as part of the assurance route, beginning with the demonstrator ICBs. The readiness conditions in Section 5.4 define the minimum required: clinical dental leadership, analytical capability, provider market intelligence, patient engagement infrastructure, contract management capacity, NHSBSA data support and governance for public reporting.

Capacity building is therefore a commissioning condition, not an excuse for inaction.

5.3.6 Objection: Patients will face higher charges or disrupted access in the short term.

Response: Patient charges should be treated both as an accounting deduction and as an access determinant. The pathway charge model is designed to reduce the financial burden for patients who engage with prevention.

Pathway 2 active prevention should carry an entry charge only, with follow-on prevention sessions free. Pathway 3 should be capped annually. Legitimate laboratory-supported care within **Ls(P3)** should not create additional patient charge exposure beyond the pathway charge rules. The weighted average annual charge per fee-paying adult remains broadly comparable to the current system.

Access improves progressively rather than instantly. The model funds 55% adult coverage and 82% child coverage by Year 5. In the short term, contract re-award and registration building will involve some disruption. Continuity of care requirements during contract transition must therefore be specified in the commissioning framework.

5.3.7 Objection: The risk uplift coefficient is too complex for commissioners to set and audit.

Response: The risk uplift coefficient uses data that already exists and is routinely used in NHS planning: deprivation, fluoridation status, caries prevalence and urgent-demand data.

The coefficient should be calculated nationally through a standardised algorithm, supported by NHSBSA and subject to independent actuarial review. Commissioners should not be expected to invent local formulas. Their role is to understand, approve, challenge and use the coefficient to explain commissioning decisions.

That is less opaque than the current system, where historical contract values and negotiated UDA volumes often stand in for need without a transparent population-risk method.

5.3.8 Objection: Risk-weighted funding will create regional winners and losers.

Response: The current contract already creates winners and losers. It does so invisibly, by paying broadly similar values for materially different disease burdens and by allowing historical contract values to stand in for population need.

A lower-risk, partially fluoridated, lower-deprivation area does not require the same stabilisation, urgent-care and prevention resource as a high-deprivation, non-fluoridated area with high child caries prevalence and high urgent demand. The **Ru** coefficient makes the distributional logic explicit. It does not penalise lower-risk areas. It prices expected disease burden more accurately.

The commissioning principle is the same as clinical triage: greater need attracts greater resource. Lower-risk areas still retain viable NHS provision, registered responsibility, prevention tariffs, urgent-care access and quality premium eligibility. What they do not receive is the same disease-risk uplift as areas carrying substantially higher probability of preventable disease.

The transition must nevertheless be managed carefully. No area should experience sudden destabilising loss during demonstrator implementation. The **Ru** methodology should be independently reviewed, published, capped and smoothed, with transition protection where necessary. The public message should be clear: the model does not take dentistry away from lower-risk areas; it directs additional resource to places where disease probability, urgent need and stabilisation cost are higher.

These objections do not remove the case for contract replacement. They define the assurance conditions that must be met before national adoption. Section 5.4 therefore turns to the readiness conditions required of ICBs, providers and national bodies if the Population Oral Health Contract is to be implemented safely, fairly and credibly.

5.4 ICB readiness: the conditions for success

The Population Oral Health Contract is only as good as the commissioning infrastructure that surrounds it. A well-designed payment formula in the hands of an ICB without analytical capacity, clinical leadership or interdisciplinary commissioning arrangements will produce worse outcomes than the current model, not better. The readiness conditions below are not aspirational — they are prerequisites for each gate in the implementation sequence.

Table 5.3 ICB readiness conditions for the Population Oral Health Contract

Readiness condition	What it requires	Current state	Action required
Population oral health data	OHID NDIP data linked to NHSBSA contract data at practice level; IMD mapping; fluoridation coverage at postcode level; hospital extraction data by GP practice area	Partially available — data exists separately; linkage and local deployment patchy	NHSBSA data infrastructure investment; OHID-NHSBSA data sharing agreement; ICB-level dashboard developed centrally for all 36 ICBs
Clinical leadership	Dental public health consultant or equivalent within or accessible to the ICB; clinical input to ACV setting and pathway KPI interpretation	Inconsistent nationally — some ICBs have active dental public health; many do not	NHS England dental public health workforce plan; minimum clinical advisory function for all ICBs; DPH Director engagement mandatory from year 1
Actuarial and health economic capacity	Ability to model ACV sensitivity scenarios; validate Ru coefficients against local data; assess quality premium achievement; evaluate avoided cost claims	Not routinely present in ICB dental commissioning teams	Shared commissioning support function or NHS England analytical service; every ICB needs access, not necessarily its own capacity
Interdisciplinary commissioning arrangements	Formal links between dental and diabetes, mental health, respiratory, maternity and frailty commissioning pathways; shared KPIs; Core20PLUS5 dental integration [15]	Ad hoc in most ICBs; structured in a small number	NHS England mandate for dental co-commissioning as a year-1 contract requirement; Core20PLUS5 integration as an operational standard
Provider market intelligence	Understanding of local provider market: which practices are viable NHS contractors; where new entrants are needed; what the hub model requires	Variable — some ICBs have good provider relationship management; many do not	Annual provider market assessment; provider financial health monitoring via NASDAL benchmarking; NHS England market intervention framework for failure
Patient and community engagement	Mechanisms for involving deprived, seldom-heard and currently unregistered communities in commissioning decisions; PROMs/PREMs baseline established	Generally underdeveloped in dental commissioning	Community engagement as a gate review criterion from year 3; NHS England patient experience framework for dental; HealthWatch dental access reporting as standard ICB input

The readiness paradox

The ICBs that need the reformed model most urgently — those serving the most deprived, highest-need populations — are typically those with the least analytical and commissioning capacity to implement it. This is not an argument for delay. It is an argument for targeted capacity investment in advance of, and alongside, contract re-award. The national demonstrator programme must be designed to build this capacity in the ICBs where it matters most.

A Transformation Fund should be established as part of the national reform programme and deployed as funded ramp-up, supporting practice mobilisation, ICB commissioning capacity, NHSBSA data infrastructure, workforce transition and independent evaluation. Care-home and domiciliary pathways should draw on the same CQC and NICE care-home oral health evidence used in Parts 1 and 4. [16,17]

Cross-reference
***Annex** B (Registration, Dental Home and Continuing Responsibility) for the dental home model and registration obligations that ICBs must commission.*
***Annex C** (Care Pathways) for the pathway specifications, KPIs and reporting requirements that ICBs must specify.*
***Annex D** (Dental Home and Unscheduled/urgent Care) for the Uc mechanism that ICBs must commission and rebalance.*

5.5 The national demonstrator programme

The Population Oral Health Contract should not be rolled out simultaneously across all 36 ICBs without a demonstrator phase. The model is the proposed replacement architecture; the demonstrator is the route by which that architecture is tested, assured, calibrated and amended before national adoption. The proposed programme—including cohort phasing, site profile, tariff testing, evaluation focus and gate-review structure—is summarised in Table 5.4.

The demonstrator programme serves three purposes:

- to build the commissioning capacity that does not yet exist consistently across ICBs
- to generate the population-health, provider-viability and value-for-money evidence required for the national rollout decision at Gate 2 in 2033
- to identify and resolve the implementation problems that inevitably emerge between policy design and operational delivery

The staggered go-live—with, for example, a first cohort of five ICBs in Q3 2028 and a second cohort of five in Q1 2029—is not a concession to slowness. It is a deliberate learning mechanism.

The demonstrator should be designed directly against the evidence-confidence framework in Section 5.2. Its evaluation should distinguish between implementation fidelity, early process improvement, provider viability, access expansion, equity, avoided-cost signals and

population-health outcomes. Not every benefit should be expected to mature at the same point.

The demonstrator programme should not test a single nationally predetermined tariff. It should test a defined tariff corridor under common contractual, reporting and evaluation conditions.

The corridor should include:

- **an affordability-reference cohort**, using the central modelled architecture and programme-weighted affordability assumptions
- **a provider-adoption cohort**, using a higher calibrated base rate, prospective-responsibility margin or combination of the two where shadow pricing identifies material provider-viability or adoption risk
- **an enhanced-responsibility cohort**, in which a higher tariff purchases additional access, continuity, workforce, high-need or extended-hours obligations

These are analytical and implementation scenarios, not separate provider-negotiated tariffs. Allocation should follow published criteria rather than negotiation alone. Relevant criteria should include:

- population risk and unmet need
- workforce and premises costs
- urgent-care burden
- required opening hours
- expected list growth
- rurality, London and dental-desert operating conditions
- the extent of commissioned access and continuity responsibility

The purpose is not simply to determine whether a higher tariff is more attractive to providers. It is to establish what level of resource is required to secure sustainable delivery, what additional responsibility the NHS purchases in return, and whether the resulting expenditure represents demonstrable public value.

The independent evaluation should determine:

- whether higher tariffs materially improve provider recruitment, participation and retention
- whether additional payment produces additional access, capacity or continuing responsibility
- whether provider margins remain sustainable across representative practice archetypes
- whether higher tariffs improve clinical, access or continuity outcomes
- whether the additional NHS expenditure provides demonstrable value

- whether Gate 2 evidence supports a single national tariff, a differentiated tariff structure or a nationally defined tariff corridor

Child and family continuity arm: the demonstrator programme should include a defined cohort testing child capitation, prevention-led pathways, family registration and transition into adult care at age 18. This arm should evaluate the operational advantages of a charge-free child pathway, the effect of prevention-intensive care, continuity across childhood and adolescence, family-level engagement, workforce deployment and the transition to adult charging and adult registered responsibility.

The child and family arm should complement, not replace, whole-population demonstrator sites. A child-only model would provide a simpler environment in which to test capitation, prevention, registration and continuity, but it would not test the full adult contract architecture, including patient charges, adult restorative burden, urgent-to-continuity pathways and the transfer of prospective utilisation risk to providers.

The programme should therefore include both:

- Child and family continuity sites, designed to test prevention, registration, family effects and transition at age 18
- Whole-population sites, designed to test the complete population oral health contract across adult and child populations.

The demonstrator should also test whether the model creates sufficient clinical time for prevention-led care. Evaluation should assess appointment length, contacts per clinical session, case complexity, clinician workload, patient experience and whether practices can remain financially viable while delivering longer assessment, prevention, stabilisation and shared decision-making episodes.

The demonstrator should test administrative parsimony as an implementation condition. The Population Oral Health Contract should collect only the data required for payment, pathway accountability, quality improvement, public reporting and evaluation. Data should be captured once and used many times, drawing wherever possible from routine clinical records, NHSBSA flows, POHR submissions and existing ICB datasets. The evaluation should measure reporting burden, time spent on data entry, duplication, software usability and whether administrative requirements reduce clinical time.

Table 5.4 National demonstrator programme specification

Programme element	Specification
Number and profile of demonstrator ICBs	8–12 demonstrator ICBs, with a planning assumption of 10, selected to represent the six commissioning profiles in Part 4: at least 2 high-deprivation urban, 2 rural dental-desert, 1 coastal and ageing, 2 mixed urban-suburban, 1 inner-city complex and 2 lower-risk sites. At least 3 should be drawn from the lowest readiness quartile so that the programme builds commissioning capacity rather than merely selecting areas where it already exists.
Contract award timeline	Assuming policy decision Q1 2027; national demonstrator prospectus Q2 2027; ICB expressions of interest and selection Q2–Q3 2027; contract design and provider selection Q4 2027–Q2 2028; first cohort go-live Q3 2028; second cohort go-live Q1 2029.

Programme element	Specification
Demonstrator archetypes	The programme should include whole-population sites testing the complete contract architecture and at least one child and family continuity arm testing child capitation, prevention, family registration and transition at age 18. The child and family arm should evaluate charge-free care, prevention intensity, family effects, workforce deployment and continuity into adulthood. Whole-population sites remain necessary to test adult charging, restorative burden, urgent-to-continuity pathways and the full prospective-risk proposition.
Tariff corridor	Demonstrator sites should test an affordability-reference scenario, a provider-adoption scenario and an enhanced-responsibility scenario under common contractual and evaluation conditions. Allocation should follow published criteria based on need, cost and the scope of responsibility commissioned.
Shadow pricing and tariff allocation	Shadow pricing should precede tariff activation. It should identify distributional effects, provider gain or loss, patient-charge variance, utilisation risk and the need for calibrated responsibility margins or transitional support.
New-provider commissioning	At least 2 greenfield dental-desert sites should test the prospective ACV model in Section 2.15 and generate evidence for national commissioning guidance. A revenue bridge and appropriate Uc(r) tier should be commissioned from go-live.
Transformation Fund deployment	A dedicated NHS Dental Transformation Fund should support practice IT, mobilisation, workforce development, ICB commissioning capacity, NHSBSA system development and independent evaluation. It should be treated as an explicit implementation requirement, not as a dividend expected from lower early-year expenditure.
Evaluation framework	Independent NIHR evaluation should be commissioned at programme-design stage in Q3 2027. Baselines should be locked before first go-live. Gate 1 in Q3 2031 should test implementation fidelity, process performance, provider viability and early access effects. Gate 2 in Q3 2033 should assess access equity, caries and extraction trends, urgent demand, continuity, provider sustainability, patient experience and avoided-cost signals. Results should be published without embargo.
Tariff evaluation questions	Evaluation should test provider recruitment and retention, financial sustainability by practice archetype, additional access and responsibility purchased, workforce deployment, clinical and continuity outcomes, incremental NHS cost and value for money.
Rollout decision	Gate 2 in Q3 2033 should inform the Secretary of State's decision on national rollout and on whether the future tariff should be national, differentiated or corridor-based. Rollout would then proceed across remaining ICBs from 2034 to 2038. Gate 3 should recalibrate ACV parameters during rollout; Gate 4 should assess steady-state outcomes and eligibility for enhanced contract extensions.
Funding	The demonstrator should be funded through the NHS Dental Transformation Fund. NHS England should provide national analytical and data infrastructure; ICBs should receive funded commissioning capacity; and practices should receive the applicable demonstrator ACV from go-live.
Accountability	NHS England and the DHSC Dental Directorate should hold programme accountability through a joint oversight board including OHID, NIHR and ICB representation. Reporting should include quarterly programme assurance, annual publication and an annual parliamentary update through the DHSC Annual Report.

Gate 1 should test whether the model is being delivered as designed: registration, list validation, prevention episodes, pathway coding, urgent-to-continuity arrangements, Ls(P3) auditability, workforce deployment, patient-charge treatment, provider payment flow and tariff-scenario implementation.

Gate 2 should test whether these mechanisms are translating into measurable improvements in access, equity, urgent demand, child caries trajectory, avoidable extractions, continuity and provider viability. It should also determine whether any higher tariff tested has purchased identifiable additional access, responsibility or clinical value. Claims about wider cross-departmental savings should remain supplementary until attribution, timing and budget ownership have been independently validated.

The provider payment mechanism should be treated as a core implementation condition. Providers should receive one-twelfth of the agreed ACV each month, with proportionate annual reconciliation against validated registration, list movement, prevention delivery, urgent-to-continuity performance, legitimate Ls(P3) claims, patient-charge income and Qp achievement. Evaluation should assess whether this provides sufficient cash-flow stability while allowing commissioners to correct material variance, coding error, list inflation, non-delivery or inappropriate claiming.

Provider viability is not peripheral. The contract asks practices to accept registered responsibility, manage higher-need populations, deliver prevention, provide urgent access and report measurable improvement. Those responsibilities are credible only where they are supported by explicit risk pricing, stable monthly income, protected legitimate costs, paid prevention, funded urgent access, proportionate reconciliation and transition protection.

The four-gate structure provides accountability without turning reform into perpetual piloting. Gate 1 tests faithful implementation. Gate 2 determines whether national adoption is justified and which tariff architecture the evidence supports. Gate 3 recalibrates the model during rollout. Gate 4 assesses steady-state population-health outcomes and value for money.

The demonstrator should therefore be understood as disciplined implementation assurance, not as the destination. The destination remains replacement of the 2006 UDA contract with a prevention-led, risk-weighted model capable of purchasing access, prevention, continuity, risk reduction and measurable public value.

5.6 Early-years KPIs: 24 month accountability framework

Population oral health outcomes in dentistry mature over three to five years. Ministers, ICBs, patients and the public should not have to wait that long to know whether implementation is on track. The demonstrator programme should therefore include a 24-month early-success dashboard. Table 5.5 summarises these expectations

Table 5.5 Early-years KPI framework: 24-month accountability dashboard

Domain	Early-year KPI	Demonstrator expectation
Access and registration	Registered population growth	Annual increase in validated registered population against agreed ICB trajectory, with separate reporting for high-need, deprived, exempt and previously unregistered groups. Indicative planning

		range: +5–7 percentage points per year, subject to baseline access and provider mobilisation.
	Practice-level registration delivery	At least 90% of participating practices achieving agreed registration growth trajectories, adjusted for starting list size, local need, workforce capacity and mobilisation stage.
	Dental desert reduction	Quarterly reporting of change in unregistered population, travel time to NHS dental access and commissioned capacity in identified dental desert areas.
Prevention delivery	Pt(d) uptake	By Month 24, at least 70–80% of eligible patients receiving recorded Pt(d) interventions, subject to pathway eligibility, clinical indication and patient consent.
	Child fluoride varnish	At least 70% of eligible children receiving fluoride varnish twice yearly, unless clinically contraindicated or declined.
	Personalised prevention planning	At least 60% of registered adults receiving a recorded personalised prevention plan, including a recorded BPE, with higher expectations for Pathway 2 and Pathway 3 patients.
Urgent-to-continuity pathway completion	Unscheduled/urgent patient registration	At least 60% of unregistered urgent patients offered registration and converted into dental-home care within 30 days, where clinically appropriate and capacity exists. ICBS to ensure access to a commissioned continuity network with sufficient capacity to receive patients who cannot be registered by the urgent-attending provider.
	Repeat urgent attendance	At least 20% reduction by Month 24 in repeat urgent attendances among patients converted into registered care.
	NHS111 dental dispositions	At least 15% reduction by Month 24 in repeat NHS111 dental dispositions in demonstrator areas where dental-home conversion pathways are operational.
Stabilisation and recall optimisation	Recall interval optimisation	At least 75% of stable low-risk adults placed on clinically appropriate 12–24 month recall intervals, consistent with NICE recall guidance and individual risk assessment.
	Reduction in unnecessary six-month recall	At least 50% reduction by Month 24 in routine six-month recall for stable low-risk adults where no clinical justification exists.
	Stabilisation completion	At least 85% completion of agreed stabilisation plans for Pathway 3 patients within the clinically appropriate timeframe.
Workforce and utilisation	Therapist and hygienist utilisation	Therapist and hygienist activity representing at least 30% of total clinical activity in demonstrator practices where workforce supply permits and governance arrangements are in place.

	Reduction in Band 1-equivalent activity	At least 20% reduction by Month 24 in avoidable Band 1-equivalent activity through recall optimisation and pathway-based prevention.
	Prevention-weighted activity	At least 40% increase by Month 24 in prevention-weighted activity compared with demonstrator baseline.
Data and digital readiness	POHR compliance	100% Population Oral Health Return compliance by the end of Year 1 for all demonstrator sites.
	Risk distribution reporting	Monthly reporting of pathway distribution, risk profile, urgent conversion, Pt(d) delivery and Ls(P3) claims.
	Automated prevention reporting	Automated prevention reporting live in all demonstrator sites by the end of Year 1, including Pt(d) coding, eligibility and delivery status.
Equity and patient experience	Equity of access	Quarterly reporting of registration, prevention delivery, urgent conversion and stabilisation completion by deprivation decile, age, exemption status and priority group.
	Patient-reported access and continuity	Demonstrable improvement in patient-reported ability to access NHS dental care, understand their care pathway and identify their dental home.
	Complaints and failed access	Quarterly monitoring of failed access, avoidable repeat urgent contacts and complaints relating to inability to obtain NHS dental care.
	Patient experience	Patient experience should be measured through a combination of routine service data and proportionate patient-reported measures. Surveys alone are insufficient and risk response bias; routine data alone may miss whether care feels accessible, respectful, understandable and continuous. Demonstrator evaluation should therefore combine POHR data, appointment and recall data, urgent-to-continuity conversion, complaints and compliments, Friends and Family-style feedback, and targeted patient-reported experience measures for high-need groups.

Note: Child oral health evaluation should include dmft/DMFT where proportionate and methodologically valid, drawing on OHID dental epidemiology, NDIP data and demonstrator-linked school or community sampling where feasible. Practice-level data should support pathway monitoring, prevention coverage, recall appropriateness and stabilisation, but should not be asked to substitute for properly designed population epidemiology.

These indicators do not claim to measure long-term epidemiological improvement. They measure whether the system is beginning to behave differently: whether patients are being registered, prevention is being delivered, urgent care is converting into continuity, recall intervals are being optimised, the wider dental team is being deployed to full scope, and the data infrastructure is functioning. The demonstrator's evidence hierarchy (K1.8) and prevention-claim verification test (K1.11) provide the audit mechanism: claim-level corroboration against patient records and outlier detection at ICB level, not headline KPI reporting alone.

The targets described in Table 5.5 should therefore be treated as demonstrator planning ranges, not final national performance standards. They should be refined through NIHR evaluation design, actuarial review, ICB baseline assessment and early implementation learning.

The purpose of these KPIs is not to create a new activity treadmill. They are early accountability measures for system change and should be interpreted alongside case mix, local deprivation, workforce availability, baseline access, digital maturity and ICB readiness. Gate 1 should use these indicators to test implementation fidelity: whether the model is being delivered as designed. Gate 2 should then test whether those early system changes are beginning to translate into measurable improvements in access equity, urgent demand, extraction trends, child caries trajectory, provider viability and patient experience.

5.7 Implementation sequencing: what needs to happen first

This paper proposes a sequence of actions that illustrate the minimum viable implementation pathway from policy decision to first Population Oral Health Contract. It is the logical ordering of the decisions, investments and preparations without which the contract architecture cannot be deployed. The Transformation Fund should be established as part of the national reform programme and deployed as funded ramp-up, supporting practice mobilisation, ICB commissioning capacity, NHSBSA data infrastructure, workforce transition and independent evaluation. The full phase-by-phase sequence, with named leads and illustrative timing from pre-conditions through to national rollout, is set out in Table K1.7, Appendix K1; Box 5.5 below summarises the sequencing principle.

Box 5.5 — The pace of implementation

The pace of implementation

The illustrative timeline assumes a policy decision in Q1 2027, first-cohort go-live in Q3 2028 and second-cohort go-live in Q1 2029.

The period before go-live is not an invitation to delay. It is the minimum assurance phase required to complete the independent actuarial and provider-viability review, undertake ICB needs assessments, prepare the Treasury case, establish the legal route, develop the necessary data infrastructure and conduct shadow pricing before provider income changes.

Speed and assurance are not competing objectives. Delay without purpose prolongs avoidable disease, unmet need and reliance on episodic urgent care. Implementation without calibration risks provider non-adoption, workforce instability and disruption to patient access.

The sequence should therefore be held firmly:

policy decision; independent calibration; legal and data design; shadow pricing; demonstrator contracting; tariff activation; Gate 1 review; Gate 2 rollout decision.

The dates should remain explicit and publicly accountable. Financial consequences should not precede shadow pricing, but technical uncertainty should not be used to reopen the settled case for replacing the UDA architecture.

5.8 Legislative and regulatory workstream

The implementation sequence requires a legal and regulatory workstream from the outset. The demonstrator phase should make maximum use of existing PDS-style contracting powers, local variations and time-limited implementation agreements, but national adoption will require the legal framework to be aligned with the new commissioning architecture.

These changes are achievable within a standard parliamentary timetable if legal and regulatory design begins before the demonstrator programme launches. The critical point is sequencing: DHSC and NHS England should not wait until Gate 2 to identify the legal route. By Gate 1, the demonstrator should have tested not only the clinical and financial model, but also the contractual, charging, data and regulatory machinery required for national adoption. The workstream should address four areas, as described in Table 5.7

The purpose of this workstream is not to delay implementation. It is to ensure that the demonstrator tests a legally scalable model, so that national adoption is not blocked at Gate 2 by unresolved regulatory architecture.

Table 5.7 Legislative and regulatory workstream

Requirement	Purpose
GDS and PDS regulatory framework	Review the National Health Service (General Dental Services Contracts) Regulations 2005 and the National Health Service (Personal Dental Services Agreements) Regulations 2005 [18,19] to determine the amendments required to support formal registration, dental-home responsibility, risk-weighted payment, pathway reporting, prospective ACV, reconciliation and contract review gates.
Dental Charges Regulations	Amend the National Health Service (Dental Charges) Regulations 2005 [20] to move from treatment-band logic to pathway-aligned charges, protect commissioned prevention episodes from additional charges, and give legal effect to any revised exemption, waiver or charge-protection framework.
NHSBSA payment and reporting systems	Update NHSBSA payment and reporting systems to support ACV component reporting — Bc, Rp, Ru, Pt(d), Ls(P3), Uc(r), Uc(a), Qp and Pc — together with pathway coding, POHR reporting, prevention-episode claims, quality-premium calculation and patient-charge reconciliation.
NHS Act 2006 and Standing Rules	Confirm whether formal NHS dental registration, dental-home responsibility and pathway-based charging can be established through secondary legislation and PDS contractual terms, or whether targeted amendment to the NHS Act 2006 is required. [21] Review the relevant commissioning Standing Rules so that national responsibilities, ICB duties, patient rights, payment flows and charge treatment are aligned with the reformed model.

5.9 Integrated implementation and political risk register

Major contract reform carries both delivery and political risk. These should not be treated separately. In practice, political risk often arises when implementation is poorly explained, inadequately sequenced or insufficiently evidenced. The case for replacing the 2006

contract therefore does not depend on pretending that implementation is simple. It depends on identifying the risks honestly, building mitigations into the demonstrator design and reviewing those mitigations at each gate.

The purpose of the risk register in Table 5.8 is to show how the reform programme controls both delivery and political risk through staged implementation, independent evaluation, early-year KPIs, provider transition support, patient-charge clarity, actuarial oversight, data-readiness requirements and a disciplined Treasury narrative. The risks should be understood as conditions for safe reform, not as arguments for deferral.

The register distinguishes risks arising from contract design, provider delivery, workforce behaviour and commissioner capacity, because each requires different accountability and mitigation. Provider non-adoption, workforce withdrawal and failure of local continuity capacity are related but distinct risks. An insufficient tariff may reduce provider participation; weak participation may worsen workforce competition; and inadequate network capacity may then present as poor urgent-to-continuity performance.

The assurance framework should therefore avoid attributing failure solely through practice-level KPIs. Tariff adequacy, workforce competitiveness, provider adoption and ICB network capacity should be reviewed together. Where failure arises from contract calibration or insufficient commissioned capacity, transition protection and prospective recalibration should precede punitive financial consequences.

These risks should be reviewed formally at each gate, with mitigation status reported alongside access, prevention coverage, urgent-to-continuity pathway performance, provider viability, equity and population-health outcomes. The integrated register should also be reviewed quarterly by the Joint Oversight Board and published annually as part of the demonstrator accountability report.

Its purpose is not to eliminate risk. It is to ensure that the risks of reform are visible, attributable and actively managed—and materially lower than the known and continuing risks of the current contract.

Table 5.8 Integrated implementation and political risk register

Risk	Likelihood	Impact	Mitigation
ICB capacity shortfall	Medium	High	Establish the Transformation Fund; create a national dental analytics and implementation hub; provide standard contract templates, POHR reporting tools, actuarial support and regional implementation teams. Require each ICB to demonstrate sufficient local registration, stabilisation and referral capacity before go-live. Introduce a “no commissioned capacity” outcome code so provider performance is not penalised where an appropriate continuity pathway has been offered or arranged but local capacity is unavailable. Require ICB recovery plans where unresolved continuity gaps persist.
Provider non-adoption because the tariff does not support viable delivery	Medium	High	Commission independent actuarial, health-economic and provider-viability review before tariff activation; test a tariff corridor rather than a single point estimate; model practice archetypes, provider gains and losses, working capital and operating margin; undertake shadow pricing before financial consequences; provide transition protection; recalibrate Bc, responsibility margins or supplements prospectively where provider adoption or viable delivery is not demonstrated. No national rollout without evidence of provider participation across representative provider types.
Workforce migration or reduced NHS commitment because remuneration is uncompetitive	Medium	High	Benchmark dentist, associate, therapist and wider-team remuneration against alternative employment and private-sector opportunities; model role-specific NHS WTE rather than registrant headcount; support full-scope team deployment; protect legitimate staffing costs; index tariffs against a published dental workforce and provider-cost measure; monitor recruitment, retention, NHS clinical hours, vacancy duration and turnover at Gate 1 and Gate 2; recalibrate prospectively where the contract does not sustain competitive remuneration.

Risk	Likelihood	Impact	Mitigation
Workforce constraints	Medium	Medium–High	Expand dental therapist and hygienist capacity; commission the whole dental team to full scope of practice; optimise recall intervals for stable low-risk patients; support skill-mix deployment through the ACV, Pt(d) and quality premium architecture.
Ru miscalibration	Low–Medium	High	Require independent actuarial and public-health review before go-live; publish an annual Ru Determination Report; recalibrate formally at Gate 1 using live demonstrator data; apply capped and smoothed adjustments; publish the Ru methodology, data sources and anti-gaming rules. Make clear that Ru adjusts for population need but does not substitute for adequate pricing of the underlying responsibility within Bc and the wider ACV.
Regional fairness / “winners and losers” narrative	Medium	Medium–High	Explain Ru as risk-adjusted allocation rather than preferential redistribution; publish the methodology and annual Ru Determination Report; distinguish current episodic expenditure from prospective registered responsibility; use shadow pricing and distributional analysis to quantify gains, losses and transition requirements; apply capped and smoothed adjustments; provide transition protection to avoid abrupt income shocks during demonstrator implementation.
Legislative or regulatory delay	Medium	Medium	Commission DHSC legal scoping in the preconditions phase; run the legislative workstream alongside demonstrator design; confirm by Q1 2027 what can be delivered through PDS variation, secondary legislation or targeted NHS Act amendment; issue the Dental Charges Regulations reform prospectus early enough to support demonstrator go-live.
Provider exit or non-participation risk	Low–Medium	Medium	Offer long-term contracts with clear review gates; protect legitimate cost through Ls(P3) and Uc; avoid UDA-style clawback; use Qp as progressive reward rather than punitive penalty; provide transitional support during mobilisation.

Risk	Likelihood	Impact	Mitigation
Data readiness and reporting burden	Medium	High	Publish a national Population Oral Health Return specification; fund software configuration and training; phase data-quality expectations; support practices through regional implementation teams; minimise duplicate data entry; distinguish essential contract data from evaluation data; avoid making national rollout contingent on untested local systems.
Patient charge behaviour diverges from forecast	Medium	Medium–High	Monitor Pc monthly during demonstrators; reconcile against Annex F sensitivity assumptions; protect P2 prevention from further charges; recalibrate exemption and charge-yield assumptions at Gate 1; publish clear patient-facing charge explanations.
Urgent-care demand does not decline as expected	Medium	Medium	Track Uc(a), urgent-to-continuity pathway performance, repeat urgent attendance at 3, 6 and 12 months, NHS111 re-referrals and unresolved cases. Review whether persistent demand reflects unmet need, insufficient continuity capacity, incomplete stabilisation, workforce shortage or inappropriate provider behaviour. Adjust Uc retainers, network capacity and referral arrangements locally. Approve Uc rebalancing only where demand has fallen and access has not deteriorated.
Apparent provider failure caused by inadequate ICB continuity capacity	Medium	High	Define accountability explicitly: providers are responsible for assessment, appropriate stabilisation and offering or arranging continuity; ICBs are responsible for sufficient local capacity to complete the pathway. Exclude appropriately referred “no capacity” cases from punitive provider reconciliation; monitor rejected referrals and unresolved pathways; require additional commissioning, Uc adjustment or network redesign where capacity failure is demonstrated.
Gaming or pathway drift	Low–Medium	Medium	Audit pathway allocation, Pt(d) claims, Ls(P3) claims, list movement and Uc(a) utilisation; use POHR trend monitoring; require clinical-governance sign-off; commission independent evaluation of pathway movement; trigger NHSBSA

Risk	Likelihood	Impact	Mitigation
			review for outlier patterns; distinguish genuine high need from inappropriate coding before financial recovery.
Public and professional confidence risk	Medium	High	Publish clear explanations of registration, charges, prevention entitlements, provider payment and patient rights; engage LDCs, BDA, CGDent, dental schools, provider groups, patient organisations and Healthwatch before go-live; publish shadow-pricing and demonstrator findings transparently while protecting commercial confidentiality.
Ministerial impatience for outcomes	Medium	High	Use the 24-month early-years dashboard to show registration growth, prevention delivery, continuity offers and completion, repeat urgent attendance, workforce mobilisation, provider adoption and POHR readiness before epidemiological outcomes mature. Make clear that Gate 1 tests implementation fidelity and viability, while Gate 2 tests outcome direction and rollout readiness.
Demonstrator underperformance narrative	Medium	Medium–High	Use the two-cohort design to identify and correct implementation problems before wider rollout; provide intensive support to lower-readiness ICBs; publish independent NIHR findings; distinguish failure of implementation, tariff calibration, provider delivery and ICB capacity from failure of the contract architecture itself.
Treasury affordability challenge	Medium	High	Separate inflation restoration from genuinely new investment; present £118.08 as the central affordability reference rather than a settled tariff; distinguish prospective registered responsibility from current episodic expenditure; use conservative avoided-cost estimates in the primary case; deduct patient-charge income transparently; present wider oral-systemic and cross-departmental benefits as Green Book public value rather than immediate cashable savings.

5.10 Who is accountable for what

The Population Oral Health Contract creates a multi-level accountability architecture that does not currently exist in NHS dental commissioning. Under the present system, accountability runs primarily between commissioners and providers through contracted activity: did the practice deliver the agreed UDA volume?

Under the reformed model, accountability operates at three connected levels:

- providers are accountable to ICBs for the responsibilities they hold for registered populations, including access, prevention, continuity, quality and accurate reporting;
- ICBs are accountable to NHS England for needs-based commissioning, sufficient local capacity, provider-market stewardship, coverage equity and effective contract management; and
- NHS England is accountable to DHSC and Parliament for national policy, funding, tariff calibration, implementation assurance and delivery of the promised population-health improvement.

For urgent and unscheduled care, the division of responsibility must be explicit. **Providers are accountable for assessment, appropriate stabilisation and offering or arranging continuity. ICBs are accountable for commissioning sufficient network capacity to complete that pathway.**

A provider should therefore not be treated as underperforming where it has assessed and stabilised the patient, offered or arranged an appropriate continuity pathway and recorded the outcome accurately, but commissioned local capacity is unavailable. In those circumstances, accountability rests with the ICB and should trigger additional commissioning, network redesign or prospective adjustment rather than practice-level financial penalty.

This distinction is essential. Without it, inadequate commissioner capacity may be misclassified as provider failure, distorting quality measures, reconciliation and public reporting. The accountability framework must therefore attribute failure to the level at which it arises: contract design, national calibration, ICB commissioning or provider delivery.

Table 5.9 Accountability architecture for the Population Oral Health Contract

Accountability level	Accountable to	For what	Mechanism	Consequence of failure
NHS dental practice	ICB	Registered population oral health trajectory; Pt(d) delivery; dental home obligation; Uc pathway management; Ls(P3) audit compliance; pathway distribution; quality premium KPIs	Annual POHR; gate review performance assessment; quality premium calculation; ICB contract management	Quality premium reduction; formal performance notice; contract variation; in extremis contract termination with continuity of care requirements
Integrated Care Board (36)	NHS England Dental Directorate	Population coverage equity; commissioning against need; ICB readiness conditions; Core20PLUS5 dental integration [15]; provider market management; Uc commissioning appropriateness	Annual ICB dental commissioning plan; NHS England commissioning quality review; Health Inequalities dashboard; gate review ICB self-assessment	NHS England directed commissioning intervention; additional capacity support; in extremis direction to re-award contracts on NHS England's terms
NHS England Dental Directorate	NHS England Board / DHSC	National implementation programme delivery; demonstrator programme; data infrastructure; NHSBSA algorithm; workforce plan alignment; NIHR evaluation commissioning	Quarterly NHS England Board reporting; DHSC annual accounts; parliamentary scrutiny via PAC and Health Select Committee	Ministerial direction; programme restructure; independent review
DHSC / Secretary of State	Parliament / HM Treasury	Investment decision; legislative framework; charge regulations; national rollout decision at Gate 2; Bc rate review governance	NHS England and DHSC Annual Reports; PAC and Health Select Committee evidence sessions; NAO value-for-money review at Gate 2	Parliamentary accountability; public and professional scrutiny; judicial review if charge regulations improperly made

5.11 Alignment with DHSC priorities

The Population Oral Health Contract directly supports the Department's stated reform objectives: improving access, matching resources to need, promoting prevention and rewarding dental teams fairly. It does so through a contract architecture that turns those objectives into commissioned mechanisms rather than policy aspirations.

Table 5.10 Alignment with DHSC priorities

DHSC priority	How the Population Oral Health Contract supports it
Expanding access sustainably	Registration builds a defined NHS dental population over time, with coverage increasing through planned demonstrator and rollout phases rather than short-term activity recovery. The model expands access by commissioning continuing responsibility, not isolated treatment episodes.
Reducing inequalities	The Ru coefficient directs resource according to measurable need: deprivation, fluoridation status, local caries prevalence and historic urgent demand. High-need populations receive higher investment because their disease probability and stabilisation requirement are higher.
Commissioning prevention explicitly	Prevention is funded through Pt(d), recorded as delivered activity, and targeted by pathway and risk profile. This moves prevention from guidance into contract value.
Reducing avoidable NHS costs	The affordability case uses only conservative avoided NHS costs in the primary investment bridge: hospital extractions, A&E dental attendances, emergency admissions, repeat unscheduled/urgent care and antibiotic-related burden. Wider oral-systemic benefits are treated as supplementary Green Book value, not assumed cashable savings.
Supporting workforce efficiency	The pathway model enables dentists, dental therapists, hygienists and nurses to work to appropriate scope. Low-risk recall extension, therapist-delivered prevention and team-based stabilisation release dentist time for complexity, unscheduled/urgent care and clinical leadership.
Aligning with sustainability goals	Prevention-led commissioning reduces avoidable treatment, repeat unscheduled/urgent care, unnecessary travel, antibiotic use and hospital-based intervention. The sustainability dividend follows from the same mechanism as the prevention dividend: less avoidable disease means less avoidable clinical activity.

The model therefore converts DHSC's reform objectives into a deliverable commissioning architecture: access through registration, equity through risk weighting, prevention through Pt(d), value through conservative avoided-cost appraisal, workforce efficiency through skill-mix deployment, and sustainability through reduced avoidable intervention.

5.12 Recommendations

The following recommendations are the operational conclusions of this paper. They are sequenced by urgency: Immediate (Summer 2026 to Q4 2026), Near-term (Q1 2027 to Q4

2027), and Medium-term (2028 and beyond). Most are actionable through existing commissioning powers and PDS-style contracting, although some require regulatory change—particularly charge restructuring—and formal registration may require targeted legal clarification. Where legislative or regulatory action is required, the relevant pathway is identified.

Where recommendations refer to ACV values, these should be understood as modelling assumptions and affordability references pending independent actuarial calibration, shadow pricing and provider-viability testing.

For DHSC and NHS England

Table 5.11 Recommendations for DHSC and NHS England

IMMEDIATE	**Commission an independent actuarial, health-economic and provider-viability review of the ACV formula and base capitation rate, using NHSBSA contract data, NASDAL cost benchmarks and confidential practice-level validation. Output should be available by Q4 2026 to inform the Q1 2027 policy decision.** The review should: • distinguish current episodic expenditure from the cost of prospective annual registered responsibility; • validate Bc, the Ru range and any margin required for utilisation variation and prospective responsibility; • test a tariff corridor rather than seek to validate a single point estimate; • model provider income, cost and operating margin across representative practice archetypes; • assess whether the tariff permits competitive workforce remuneration and sustainable recruitment and retention; • quantify provider gains, losses and transition requirements under each scenario; • test the appropriate balance between secure prospective income and variable or performance-related payment; • validate appropriate Ls(P3), Uc and geographic supplement ranges; and • recommend the tariff range suitable for shadow pricing and subsequent demonstrator testing.
IMMEDIATE	**Mandate population oral health needs assessments for all 36 ICBs** using OHID NDIP and IMD data — standardised, comparable and published. These are the data foundation without which risk-weighted commissioning cannot begin.
IMMEDIATE	**Submit the investment case to HM Treasury under Green Book appraisal principles**. The appraisal should make explicit that the £118.08 programme-weighted gross ACV per registered patient is the central affordability reference, compared with indicative current gross expenditure of £124.82 per patient seen. These figures demonstrate that the model sits within a fiscally credible range, but they are not directly like-for-like and do not predetermine the final tariff. At Year 5, Gate 2, the NHS net contribution rises by £1.504bn against the current baseline. Of this, £438m restores the real-terms purchasing power lost since 2014/15 and £115m is offset through conservative, directly attributable avoided NHS costs,

leaving approximately £951m of genuinely new public investment. This funds 9.83 million additional patients, together with the prevention infrastructure, dental-home obligation, quality framework and urgent-to-continuity transition.

The NHS Dental Transformation Fund should be presented as an explicit implementation requirement within the national reform programme, not as a dividend expected from lower aggregate spending in Years 1 and 2.

NEAR-TERM

Publish a formal contract replacement framework with a policy decision date of Q1 2027, named demonstrator go-live dates (first cohort Q3 2028, second cohort Q1 2029), a national rollout decision timeline (Q3 2033), and the legislative pathway for charge restructuring. The announcement should be unambiguous: replacement, not modification.

NEAR-TERM

Restructure patient charges around the pathway model: Pathway 1 at £27.40 per attendance (extended recall reduces annual cost); Pathway 2 entry charge £27.40 with all follow-on prevention free; Pathway 3 at £75.30 per COT with annual cap £326.70 and P2 credit; Pathway 4 at nominal P3 rate with NHS absorbing complexity differential. Make prevention episodes charge-free at the point of delivery. Extend exemptions to Core20PLUS5 priority groups [15], T2D periodontal pathway patients and palliative care patients. Regulatory pathway: DHSC consultation Q3 2026; amended SI laid Q3 2027; in force Q3 2028.

NEAR-TERM

Commission the national dental demonstrator programme across 8–12 ICBs, with a planning assumption of 10, delivered in two cohorts and using the full Population Oral Health Contract architecture from go-live, including Pt(d), Ls(P3), Uc, Qp and Pc.
The programme should test a defined tariff corridor under common contractual and evaluation conditions, comprising:

- an affordability-reference scenario;
- a provider-adoption scenario; and
- an enhanced-responsibility scenario.

Tariff allocation should follow published criteria based on population need, provider cost, workforce conditions and the scope of responsibility commissioned, and should be informed by shadow pricing and provider-level distributional analysis.

Independent NIHR evaluation should be commissioned at design stage, with first-cohort go-live in Q3 2028 and second-cohort go-live in Q1 2029. At least two greenfield dental-desert sites and a child-and-family continuity arm should be included alongside whole-population demonstrators.

MEDIUM-TERM

Introduce the London weighting supplement (15%) and rurality supplement (15%) within the ACV formula from demonstrator go-live and extend to all national contracts at rollout. These are prerequisites for market viability in high-cost urban and dispersed rural areas, not refinements to be added later.

For Integrated Care Boards

Table 5.12 Recommendations for Integrated Care Boards

IMMEDIATE	Commission dental services in proportion to population need, using IMD mapping, OHID prevalence data and NHSBSA urgent attendance data to calibrate ACV risk uplift coefficients. Not historical contract values. Where current contracts are below the need-adjusted ACV, plan for uplift at next contract review.
IMMEDIATE	Introduce prevention episode commissioning within current PDS frameworks without waiting for the Population Oral Health Contract. Specify minimum standards for fluoride varnish coverage, BPE completion rates, recall interval appropriateness and care home oral health review. These build the commissioning habit and data infrastructure the reformed model requires.
NEAR-TERM	Establish formal co-commissioning arrangements linking dental with diabetes, respiratory, maternity, frailty and mental health pathways — with shared KPIs, joint commissioning protocols and cross-pathway reporting to the ICB Board. The periodontal-diabetes pathway has an estimated avoided cost potential of approximately £190m/year at Year 5, rising to approximately £350m/year at Year 10, treated as supplementary Green Book public value.
NEAR-TERM	Commission domiciliary and care home dental provision as a contracted pathway, not a discretionary extra. Apply NICE NG48 requirements operationally in all contracted care homes from the next commissioning cycle. CQC Smiling Matters 2023 found 25% of care home providers unable to access NHS dental care for residents — this is a current failure, not a future aspiration. [16,17]
MEDIUM-TERM	Build ICB dental commissioning capacity in advance of demonstrator go-live: clinical leadership (dental public health function), analytical capacity, provider market intelligence and patient engagement infrastructure. Self-assess against the readiness conditions in Section 5.4 and commission the capacity you lack before receiving the Population Oral Health Contract.

For the dental profession and professional bodies

Table 5.13 Recommendations for the dental profession and professional bodies

IMMEDIATE	The BDA, the College of General Dentistry (CGDent), dental faculties, dental schools and postgraduate education bodies should support the principle of contract replacement — not modification — and engage constructively in the design of quality premium criteria, KPI frameworks and transition governance. The profession's legitimate interests — financial viability, clinical autonomy and workforce wellbeing —

	are better protected within a well-designed Population Oral Health Contract than by defending the current one.

NEAR-TERM	Dental schools and postgraduate dental education bodies should develop curricula and CPD frameworks embedding population oral health, risk stratification, preventive practice, pathway allocation and the dental home model as core competencies from undergraduate training. The Population Oral Health Contract requires clinicians who think in population health terms.

NEAR-TERM	Professional bodies should confirm the terms of dental therapist scope-of-practice deployment within the Population Oral Health Contract's team-based care model in advance of demonstrator go-live. Dental therapists working to full scope deliver Pt(d) prevention episodes, enabling principal surplus to support practice viability across the Ru range.

MEDIUM-TERM	NIHR, in partnership with the academic dental community, should commission a programme of primary research on the population health outcomes of the Population Oral Health Contract demonstrator sites — providing the independent evidence base for the 2033 national rollout decision and the optimal KPI risk-adjusted, patient-informed improvement measures. The demonstrator will only justify rollout if the evaluation is independent, rigorous and published without embargo.

5.13 The final word

The preceding sections set out the evidence base, contract architecture, implementation requirements and accountability framework for replacing the 2006 UDA contract. Figure 5.1 summarises the reform proposition in a single view: the movement from a familiar but failing reactive, activity-based model of dentistry to prevention-led, risk-assessed care pathways, and the practical dividends expected by Year 5.

The NHS dental contract has been discussed, reviewed, piloted and criticised for two decades. The diagnosis is no longer in dispute. The analytical tools for replacement are set out in this paper. The formula is specified. The investment case is coherent. The implementation pathway is defined. The accountability framework is in place. What has been missing is not another review, but the political and institutional will to act on what is already known.

Table 5.12 sets out, dividend by dividend, the reform argument summarised in Figure ES.1: the problem each dividend addresses, what the Population Oral Health Contract changes, and the key figures attached to each. A one-page infographic summary of the same seven dividends is provided as Figure ES.1, immediately following the Executive Summary.

This paper is submitted in the belief that the evidence is now sufficient to move from diagnosis to demonstrator implementation. The failure of the current model is documented

by the National Audit Office, the Public Accounts Committee, the Care Quality Commission, NHS England's own assessment of dental recovery, and the daily experience of millions of adults unable to access NHS dental care.

The remaining uncertainties are not reasons for further delay. They are the questions the demonstrator must now be designed to answer: how the replacement tariff should be calibrated; how transition should be managed; and how public affordability, provider viability, workforce sustainability and patient access can be secured together.

The question is no longer whether the current contract is structurally sufficient. That question has been answered. The question now is whether England begins the work of replacement in this Parliament—or asks another generation of patients to wait.

> ***From probability to prevention***
>
> *The probability of dental disease in England is not randomly distributed. It follows the geography of deprivation, the absence of fluoride, the pattern of access failure and the compounding of systemic disease. A contract that prices that probability accurately, funds the prevention it demands, and holds providers accountable for reducing it over time is not a complicated ambition. It is the minimum a population health NHS should be able to deliver.*
>
> *It is what this contract is designed to do.*

Table 5.12 Seven Dividends of a Modern NHS Dental Contract

From activity-paid repair to risk-weighted, prevention-funded responsibility

The Population Oral Health Contract is designed to replace a system that pays for activity after disease has occurred with one that funds registered responsibility, prevention, continuity and measurable public value. The return on investment is not a single saving line. It is a set of linked dividends: better access, fairer resource allocation, provider stability, reduced avoidable disease, stronger accountability and a more sustainable NHS dental service.

01 A contract built for today's needs

PROBLEM The current contract misaligns incentives, restricts access, underprices risk and undermines workforce stability.

DIVIDEND A modern contract that buys registered responsibility, prevention, access and quality, not simply units of activity.

WHAT CHANGES

- ✓ Activity targets replaced by measurable population responsibility
- ✓ Risk priced explicitly through **Ru**
- ✓ Practices paid prospectively through stable monthly ACV payments
- ✓ Prevention and urgent access funded as part of the contract architecture

KEY FIGURES

£118.08 - — central modelled go-live gross ACV per registered patient
£124.82 - — indicative current gross expenditure per patient seen
Different commissioning products; comparison is an affordability reference, not tariff equivalence.

02 Access That Matches Population Need

PROBLEM Millions remain outside NHS dental care, while inequalities in oral disease and access continue to widen.

DIVIDEND A commissioning model that directs resource to need, not historical allocation.

WHAT CHANGES

- ✓ Formal registration creates a denominator of responsibility
- ✓ Risk-weighted capitation directs resource to high-need populations
- ✓ Dental deserts, care homes and underserved communities become explicit commissioning priorities
- ✓ Urgent attendance becomes an entry point into continuing care

KEY FIGURES

Improved geographic distribution of NHS dental provision, reducing the number and severity of dental deserts
27m - Adults with no NHS dental care in 2024/25
55% / 82% - Adult / child coverage funded by Year 5

03 A Workforce That Can Stay, Grow, and Deliver

PROBLEM Recruitment, retention, workload pressure and unstable NHS income threaten service continuity.

DIVIDEND A contract that supports stable provider income, team-based care, professional autonomy and longer-term workforce planning.

WHAT CHANGES

- ✓ Ten-year contract horizon supports investment and workforce planning
- ✓ Skill-mix delivery enables therapists and hygienists to work to full scope
- ✓ One-twelfth monthly ACV payments support predictable cash flow
- ✓ Improved retention through fair workload and remuneration
- ✓ Reduced burnout via realistic expectations and flexible delivery models

KEY FIGURES

Contract terms that support stability, investment, workforce planning and a named dental home model

04 Prevention at the Core

PROBLEM The current system rewards repair more reliably than prevention.

DIVIDEND A prevention-funded contract that makes early intervention visible, payable and auditable.

WHAT CHANGES

- ✓ Delivered prevention funded through **Pt(d)**
- ✓ Fluoride varnish, fissure sealants, SDF, periodontal stabilisation, dietary advice, cessation, domiciliary prevention and acclimatisation become commissioned activity
- ✓ Prevention is linked to risk, pathway allocation and measurable stabilisation
- ✓ Long-term disease reduction becomes a commissioning objective, not an aspiration

KEY FIGURES*

≈£18,000 - estimated UK lifetime per-person cost of managing dental caries
≈£14,000 - modelled saving per person in the most deprived group with targeted prevention

05 Quality, safety and accountability

PROBLEM Quality is inconsistently measured and poorly incentivised under activity-based contracting

DIVIDEND A transparent improvement framework that rewards access, prevention, continuity, patient experience and population oral-health improvement.

WHAT CHANGES

- ✓ **Qp** rewards measurable improvement, not activity volume
- ✓ Metrics include prevention coverage, recall appropriateness, urgent-to-continuity conversion and patient experience
- ✓ Public reporting strengthens accountability
- ✓ Qp remains a commissioning improvement mechanism, not a substitute for CQC, GDC or clinical governance

KEY FIGURES

Up to 12%- quality premium linked to measurable improvement

06 A Better Experience for Patients

PROBLEM Patients experience difficulty accessing care, inconsistent continuity, unclear entitlements and repeated urgent episodes.

DIVIDEND A dental home model that makes NHS dentistry feel more accessible, predictable and fair

WHAT CHANGES

- ✓ Every registered patient has a named dental home
- ✓ Urgent care is used to create continuity, not repeated temporary relief
- ✓ Outreach is designed to connect people into continuing care, not provide one-off contact
- ✓ Clear entitlements and transparent service expectations
- ✓ Improved satisfaction through patient-centred care pathways

KEY FIGURES

73,088 - A&E attendances with a primary dental diagnosis, 2023/24

33,976 - Decay-related hospital extractions, children 0–19, 2024/25

07 Financial Sustainability for the NHS

PROBLEM The NHS is already paying for preventable disease through urgent care, hospital treatment, displaced demand, undeployed dental funding and loss of public confidence.

DIVIDEND A contract that improves value for money by directing investment towards need, prevention and measurable outcomes.

WHAT CHANGES

- ✓ Efficient resource allocation based on need and outcomes - resource follows disease probability before disease becomes treatment cost
- ✓ Better return on investment through prevention and targeted commissioning - reduced unwarranted variation
- ✓ Avoidable urgent and hospital demand
- ✓ Wider oral-systemic, social and environmental benefits - supplementary public value

KEY FIGURES

£951m — net genuinely new public investment by Year 5
9.83m — additional patients funded by Year 5
£392m — ring-fenced NHS dental funding left undeployed in 2023/24

COST OF INACTION Every year of delay carries a cost already being paid: avoidable disease, displaced demand, hospital treatment, professional frustration, undeployed NHS dental funding and loss of public confidence. The reform proposition is not that prevention is cost-free. It is that the current contract is already costly in the wrong ways.

*Untreated dental disease is also associated with lost adult productivity and impaired school attendance and attainment in children. This is not counted in the primary investment case, but it strengthens the wider public value argument for prevention-led reform (Annex I).

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ANNEX A

Probabilistic Framework Primer

A non-technical introduction to Bayesian reasoning and its application to NHS dental commissioning

ANNEX A Introduction

This annex is addressed to clinicians, commissioners and policymakers who are unfamiliar with the formal Bayesian framework but want to understand the probabilistic logic that underpins the proposed contract model. It does not assume mathematical training. It uses Bayesian reasoning as a practical commissioning framework, rather than claiming that every coefficient in the proposed contract is derived from a fully specified formal Bayesian model.

The purpose is to make explicit a logic that good clinicians already use: start with the prior probability of disease, interpret new evidence in that context, and adjust the response accordingly. Applying that same logic at commissioning level produces a more coherent and equitable contract than the current activity-based model, because resource follows disease probability before disease becomes treatment cost.

A.1 What is Bayesian reasoning?

Bayesian reasoning is the formal process of updating probability estimates in response to new evidence. In plain English, Bayesian reasoning means starting with what is already known, interpreting new evidence in that context, and then revising the estimate of risk. The name comes from the eighteenth-century mathematician Thomas Bayes, whose theorem provides the mathematical rule for this updating process. [7] In practice, it describes something clinicians do intuitively in every consultation: interpret findings in context, not in isolation.

The intuition is straightforward. A bitewing radiograph showing an enamel radiolucency in a 7-year-old child living in a high-deprivation, non-fluoridated area means something different from the same finding in a low-risk adult attending after years of stable disease-free recall. The radiographic finding may look similar. The context changes its meaning, the clinical threshold for action, and the prevention response required.

Good clinical judgement is probabilistic reasoning. It always has been. Bayesian thinking makes that reasoning explicit, structured, measurable and applicable at scale.

A.2 The prior probability

Before any clinical examination or diagnostic test, a clinician already knows something about the likelihood of disease in this patient. That prior knowledge comes from the patient's age, sex, medical history, medication, dietary habits, smoking status, deprivation profile, previous dental history, fluoride exposure, and the epidemiological profile of the population they belong to. The formal term for this pre-examination estimate is the prior probability — or simply the prior.

The prior is not a guess. It is an evidence-based starting point, calibrated against what is known about disease distribution in comparable populations. Clinicians do not typically express it as a number — 'I estimate a 65% probability of active caries in this patient' — but the reasoning is there, shaping the questions asked, the investigations ordered, the threshold for treatment, and the recall interval recommended.

For commissioning purposes, the prior is not an individual patient assessment. It is a population-level statement: given what is known about the epidemiological profile of a registered patient list, what is the expected disease distribution across that list? A practice serving a high-deprivation, non-fluoridated area with above-average caries prevalence has a demonstrably higher population prior than a practice serving a low-deprivation, fluoridated area with below-average caries rates. Before a single patient has been examined, the evidence already points in a particular direction. The contract should reflect this.

> **Clinical illustration: the prior at work**
>
> *A 7-year-old child living in a high-deprivation postcode in a non-fluoridated area, attending for the first time, carries a substantially higher prior probability of active caries than a 7-year-old from a low-deprivation fluoridated area — before the dentist has examined a single tooth. Good clinical practice adjusts the examination accordingly: more thorough investigation, lower treatment threshold, more intensive prevention. The contract should fund that adjustment. The UDA system does not.*

A.3 Updating the prior: likelihood ratios and the posterior

As clinical evidence accumulates, through examination findings, patient-reported symptoms, radiographs and diagnostic tests, the prior is updated. Each piece of evidence has a weight: its likelihood ratio. A finding with a high positive likelihood ratio substantially increases the probability of disease. [8] A finding with a low likelihood ratio barely moves the estimate. The updated probability (the prior adjusted by the accumulated evidence) is called the posterior.

The key insight is that clinical findings do not have fixed meanings. They have conditional meanings: their significance depends entirely on the prior against which they are interpreted. A BPE score of 3 in a 55-year-old smoker with diabetes means something different from the same score in a 25-year-old non-smoker with no systemic comorbidities. The score is identical. The clinical inference is not.

The table below illustrates this with common primary care dental findings and their approximate directional effect on disease probability. Precise likelihood ratio values in dentistry are context-dependent and the subject of ongoing research; the directions and relative magnitudes below reflect the established evidence base. [1,2]

Table A1 is illustrative, not a proposed operational scoring tool. The contract does not require clinicians to calculate numerical likelihood ratios at the chairside. Its purpose is to show why the same clinical finding should not be treated as having the same commissioning significance in every patient or every population.

The practical implication for contract design is direct. If clinical findings shift disease probability — if the same finding means different things in different patients — then clinical time is not uniform in value. A consultation that establishes a high posterior for active caries in a high-prior patient, and triggers an appropriate treatment and prevention response, requires more time and skill than a consultation that confirms stable health in a low-prior patient. The UDA system pays the same basic rate for both. A risk-stratified model does not.

Table A.1 Bayesian Updating Example: Prior, Likelihood and Posterior

Clinical or contextual finding	Direction of effect	Approximate magnitude	Notes
Visible plaque accumulation at recall	Increases disease probability	Moderate	Caries and periodontal risk both elevated; recall interval should shorten
Bitewing radiolucency at enamel-dentine junction	Increases substantially	Large	Active caries highly probable; treatment decision threshold likely crossed
BPE score 3 or 4 at assessment	Increases substantially	Moderate to large	Periodontal disease probable; triggers Pathway 2/3 risk stratification
Caries-free status sustained over 3+ years with maintained recall	Decreases disease probability	Moderate	Stable low-risk prior; longer recall interval clinically justifiable
Dietary high-sugar frequency >4 times/day	Increases	Moderate	Caries risk elevated; dietary advice tariff activated; especially significant in children
Smoking — current	Increases	Moderate to large	Periodontal risk elevated; combined caries and periodontal prior rises
Type 2 diabetes — poorly controlled (HbA1c >58 mmol/mol)	**Increases substantially**	**Large**	**Bidirectional relationship: periodontal disease worsens glycaemic control; systemic pathway co-management indicated. See Annex I (Oral Health and Systemic NCDs).**
Fluoride varnish applied twice-yearly for 2+ years	Decreases	Modest	Protective effect well-evidenced; greatest in high-prior children; does not eliminate risk
Partial water fluoridation in catchment area	Decreases population prior	Modest to moderate	Population-level effect; binary variable in risk uplift coefficient
First dental attendance (no previous records)	**Information absent — uncertainty high**	**Not applicable**	**Prior reverts to population average for age, deprivation and area; extra examination time clinically justified**

A.4 Decision thresholds: from probability to clinical action

Clinical decisions are not made on the basis of probability alone. They are made when the posterior probability crosses a threshold — a level at which the balance of benefit and harm favours a particular action. Different decisions have different thresholds. The threshold for recommending a preventive intervention (low cost, low risk, reversible) is lower than the threshold for restorative treatment (higher cost, irreversible, carries procedural risk). The threshold for recall in six months is lower than the threshold for unscheduled/urgent treatment today.

Making these thresholds explicit is one of the practical benefits of probabilistic reasoning. It reduces variation in clinical decision-making that is not justified by variation in patient risk. It creates a structure for recall interval decisions that can be audited, benchmarked and improved. And it provides the conceptual foundation for care pathway design: different pathways correspond to different posterior probability ranges, with different clinical obligations and different commissioning values attached.

The care pathway framework is a practical expression of Bayesian decision thresholds applied to registered population management. Moving a patient from Pathway 3 to Pathway 2 — stabilising disease and de-escalating risk — is the clinical achievement the contract is designed to incentivise. The quality premium rewards it. The current UDA system is indifferent to it.

Table A.2 Pathway Decision Thresholds, Clinical Obligations and Patient Charge Logic

Pathway	Clinical scope and commissioning obligation	Patient charge (2024/25 rates)†
P1 Health Maintenance	**Posterior probability of active disease: low. Patient is stable, compliant and low-risk. Risk-based recall interval 12–24 months (NICE CG19). Clinical obligation: confirm stability, update risk assessment, deliver routine advice. Formal delivered prevention Pt(d) where clinically eligible but not automatic.**	**£27.40 at attendance where a charge applies. Extended recall reduces the effective annual charge. Longer recall is not a service reduction — it is evidence that prevention is working.**
P2 Active Prevention	Posterior probability: elevated but below treatment threshold. Active risk factors present; no current disease requiring treatment. Clinical obligation: delivered prevention tariff Pt(d) where eligible — fluoride varnish, fissure sealants, dietary advice, periodontal risk management, cessation, acclimatisation. Prevention is commissioned where delivered and recorded, not universally assumed.	£27.40 at pathway entry where a charge applies. Follow-on delivered prevention within the pathway is free to the patient. Acclimatisation is included at no additional patient charge. P3 escalation credit applies.
P3 Routine Restorative and Tier 1	**Posterior probability: high; treatment threshold crossed. Active disease requiring restorative or periodontal intervention of Tier 1 complexity. Where a clinically justified Pathway 3 item generates external laboratory cost (crown, indirect restoration, denture), the Pathway 3 lab supplement Ls(P3) applies on a delivered-care basis — paid to the practice, no additional patient charge. Clinical obligation: stabilise disease, restore function, transition to P2 on discharge. See Annex C for full Ls(P3) specification.**	**£75.30 per complete COT. Annual cap £326.70. P2 escalation credit applies. No additional patient charge for Ls(P3) — complexity is priced to the commissioner, not the patient.**
P4 Tier 2/3 Complexity and Enhanced Care	Posterior probability: high with complexity exceeding routine general practice scope. Specialist endodontics, complex oral surgery, advanced periodontal surgery, specialist referral, domiciliary, SMI pathway, paediatric specialist care. Commissioned through a separate Tier 2/3 contract outside the core practice ACV. Practice manages referral and return within base capitation.	£75.30 nominal P3-equivalent rate where charge applies. NHS absorbs the full complexity differential. Annual cap £326.70. Patient is not penalised for needing specialist care.

Patient charge rates — 2024/25 baseline
Charge figures in the table above reflect 2024/25 rates (P1/P2: £27.40; P3/P4: £75.30; annual cap: £326.70), which form the analytical baseline throughout this paper. NHS dental charges were uplifted on 1 April 2026 to £27.90 (P1/P2), £76.60 (P3/P4) and an annual cap of £332.10. This uplift does not affect the clinical or commissioning logic of the pathway framework. See Annex F (Patient Charge Income Methodology) for the April 2026 charge addendum.

A.5 Population-level application: from clinical logic to commissioning model

The same probabilistic logic that governs individual patient decisions scales directly to population commissioning. At population level, the prior is not an individual patient's disease estimate. It is the expected disease distribution across a registered patient list, derived from measurable epidemiological variables. This population prior is encoded in the Annual Contract Value formula as the risk uplift coefficient — Ru.

Ru is therefore the commissioning expression of prior probability. It answers the question: before any individual course of treatment is delivered, what is the expected burden of disease, prevention, stabilisation and unscheduled/urgent need in this registered population?

This matters because population risk is not evenly distributed. A practice serving a high-deprivation, non-fluoridated area with high child caries prevalence and high historic unscheduled/urgent demand begins with a materially different population prior from a practice serving a low-deprivation, fluoridated area with low caries prevalence and low unscheduled/urgent use. Treating those populations as equivalent is not neutral. It is mispricing.

The ACV formula
ACV = (Bc × Rp × Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc
Where:
***Bc** is the base capitation rate,*
***Rp** the registered population,*
***Ru** the risk uplift coefficient that encodes the population prior.*
***Pt(d)** is the delivered prevention tariff;*
Ls(P3) is the Pathway 3 lab supplement;
***Uc(r) and Uc(a)** are unscheduled/urgent care components;*
***Qp** is the quality premium;*
***Pc** is the patient charge deduction.*

See Section 2.1 for the full component specification and Section 2.4 for the operational Ru formula.

Four variables carry the strongest practical relationship to population oral disease burden and are used in the proposed Ru coefficient: deprivation, fluoridation status, local 5-year-old caries prevalence and historic urgent demand. [3,4,5,6]

Table A.3 Population prior variables used in the Ru coefficient

Variable	Population prior signal	Data source	Weight
Index of Multiple Deprivation (IMD) decile	**Strongest predictor of caries burden, access failure, urgent demand and avoidable treatment cost. Decile 1 (most deprived) carries the highest prior; decile 10 (least deprived) the lowest.**	**MHCLG English Indices of Multiple Deprivation 2019 [5]**	**50%**
Water fluoridation status	Fluoridated areas carry a lower population caries prior. Partial coverage areas receive a proportionate adjustment rather than a binary classification	OHID fluoridation coverage data, mapped at practice or lower-layer geography where available	20%
Local 5-year-old caries prevalence (NDIP)	Area-specific caries burden measure, more granular than IMD alone. Above-mean prevalence signals additional risk factors beyond deprivation.	OHID National Dental Epidemiology Programme oral health surveys [4]	20%
Practice historic urgent demand	**Practice-level signal of unmet preventive need: high urgent attendance rates indicate higher baseline disease burden and poorer historic access.**	**NHSBSA urgent attendance data by practice (FP17 returns) [6]**	**10%**

The four variables combine into a single risk uplift coefficient ranging from 0.85 for the lowest-risk populations to 1.60 for the highest-risk populations. The national average is approximately 1.10. This coefficient multiplies the base capitation component of the Annual Contract Value — **Bc × Rp × Ru** — producing a materially higher contract payment for practices serving populations with demonstrably higher disease probability. The differential is not subsidy. It is accurate pricing.

The same Ru coefficient applies to the registered list as a whole. It is not intended to replace clinical risk assessment for individual patients. Rather, it prices the expected distribution of need across the list so that the provider has sufficient resource to assess, prevent, stabilise and maintain that population. Patient-level risk assessment then determines pathway allocation, recall interval, delivered prevention and treatment need within that registered population.

This is why population-level risk adjustment is preferable to episodic activity counting. Episodic activity records what happened after disease, symptoms or attendance occurred. It cannot price the disease probability that exists before attendance, nor can it reward the clinical work that prevents future activity. A UDA records a treatment event. Ru prices the population risk that makes prevention, stabilisation and continuity necessary in the first place.

The population-level posterior is not a fixed quantity. It is a trajectory. A commissioned prevention model that successfully reduces caries rates, improves recall compliance, extends recall intervals and converts urgent attendances into registered care is shifting the

posterior distribution downward over time. The quality premium measures this trajectory. Ru prices the starting probability of need; Qp rewards measurable improvement in the population health trajectory.

> **The commissioning translation**
>
> ***A contract that does not encode the prior cannot reward its reduction. The UDA system is indifferent to whether a practice population is high-risk or low-risk: the UDA rate is broadly the same regardless of disease burden. Risk-weighted capitation encodes the prior explicitly through Ru, and the quality premium rewards the practice that reduces the posterior risk trajectory over time. This is the fundamental design difference between the two models.***

A.5.1 How Ru should update over time

Bayesian reasoning is not static. A prior probability should be updated when new evidence becomes available. The same principle applies to Ru. The initial Ru coefficient is derived from the best available population-level data at contract award: deprivation, fluoridation, local caries prevalence and historic urgent demand. Once the Population Oral Health Contract is operating, new evidence will emerge from POHR reporting, pathway movement, prevention delivery, urgent-care conversion, repeat attendance, stabilisation outcomes and population oral health trends.

That evidence should inform future recalibration, but not in a way that destabilises providers or rewards gaming. The purpose of updating Ru is to improve the accuracy of population-risk pricing, not to renegotiate contract value practice by practice.

Three principles should therefore govern Ru updating and are described in Table A.4.

Table A.4 Principles for updating Ru over time

Principle	Probabilistic rationale	Contract implication
Evidence should update the prior	If new population data show that the expected disease burden has changed, the prior should be revised.	Ru should be reviewed using updated epidemiological, POHR, urgent-care and pathway data.
Corroboration should be required	A single signal may be noisy, biased or affected by coding behaviour. Multiple consistent signals provide stronger evidence.	No single data source should materially shift Ru without corroboration from other indicators.
Updating should be smoothed	Sudden changes in observed risk may reflect measurement artefact, case-mix transition or short-term access effects rather than true change in disease probability.	Ru movement should be capped, smoothed over time and formally recalibrated at gate reviews, with notice to providers.

This distinction is important. Population risk should be capable of falling when prevention succeeds, but it should not fall so quickly that providers are financially penalised for improving oral health. If a practice stabilises a high-risk population, reduces repeat urgent attendance and moves patients from Pathway 3 to Pathway 2, that is precisely the behaviour the contract is designed to encourage. The resulting reduction in risk should be recognised gradually, while the practice retains a time-limited improvement dividend through smoothing and quality premium achievement.

Equally, Ru should not be susceptible to gaming. Individual patient coding should inform clinical pathway management, but the Ru coefficient should be based primarily on population-level distributions and corroborated data sources. A practice should not be able to increase its Ru by up-coding individual patients. Outlier patterns in pathway allocation, Pt(d) claims, Ls(P3) claims, urgent-care use or POHR risk distribution should trigger audit, not automatic uplift.

The Bayesian logic is therefore disciplined. Start with the best available population prior. Update it when new evidence becomes available. Require corroboration. Smooth the adjustment. Reward genuine improvement. Audit outliers. In commissioning terms, that means Ru should be evidence-led, transparent, stable and resistant to manipulation.

A.6 Why this matters for contract design

The argument in the main paper rests on a specific diagnosis: the 2006 contract encodes the wrong prior. It treats a high-risk, unequally distributed population as if risk were uniform across England and invests as if the effort required to manage a deprived, non-fluoridated, high-caries population were equivalent to the effort required for a low-risk, fluoridated, well-maintained one.

Ru corrects that error at the point of commissioning. It prices the population prior before treatment activity occurs. Pt(d) then funds the preventive interventions required to alter that risk trajectory. Qp rewards measurable improvement. Gate review and Ru recalibration allow the model to learn from evidence without destabilising providers. Together, these mechanisms translate probabilistic reasoning into a practical contract architecture.

This is not a failure of professional knowledge. Clinicians working in high-deprivation areas understand, intuitively and explicitly, that their patient lists carry a higher prior. They give more prevention advice, spend more time managing complex need, see more urgent presentations, and experience more failed appointments. The problem is that the payment mechanism provides no financial signal that the prior matters, and no reward for successfully reducing it.

A Population Oral Health Contract built on risk-weighted capitation does not tell clinicians how to do their jobs. It aligns the financial incentive with the clinical logic that already informs good preventive practice. It pays more where the prior is higher and rewards the shift in the posterior that prevention, stabilisation and continuity are designed to achieve. It turns the implicit Bayesian reasoning of good preventive dentistry into the explicit logic of a population health contract.

That is the contribution of the probabilistic framework to NHS dental reform: not a theoretical abstraction, but a structural correction to the way public money follows disease.

The core proposition

The risk uplift coefficient in the proposed ACV formula is not a policy preference or a political compromise. It is the commissioning expression of a probability estimate that the evidence already supports, that clinicians already use, and that the current contract systematically ignores.

Cross-reference

Main paper Section 1.6 (Starting with the prior) for the policy argument and the introduction to probabilistic commissioning.

Section 2.4 (Risk uplift coefficient) for the full formula, data sources and coefficient specification. Section 4 for the Ru coefficient applied across six representative ICB profiles, demonstrating the 0.92–1.60 range in practice.

Annex C (Care Pathways) for the full pathway specifications, Ls(P3) safeguards and patient charge logic.

Annex L (Evidence Base) for the clinical evidence base underpinning the likelihood ratio estimates in Section A.3.

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ANNEX B

Registration, Dental Home and Continuing Responsibility

The case for formal registration as the foundation of a prevention-led contract

ANNEX B Introduction

This annex sets out the case for formal NHS dental registration as the foundation of the proposed prevention-led contract, and specifies the obligations, rights and safeguards that a registration model requires. The arguments in this annex underpin the ACV formula in Section 2.1 and the workforce and commissioning architecture across all sections of the main paper.

This is not simple capitation. It is **risk-adjusted registered care**: a defined patient population, priced by measured risk, supported by delivered prevention tariffs, urgent-to-continuity pathways, specialist referral and return, and public reporting of outcomes.

> ***The current contract buys episodes. Registration buys responsibility.***

B.1 The central proposition

The current NHS dental contract creates a relationship for the duration of a course of treatment. A patient may have an informal continuing relationship with a practice, but the contract does not create the same explicit, list-based responsibility that exists in general medical practice. That distinction matters.

A prevention-led dental contract cannot be built on episodic contact alone. It requires a named population, a risk profile, a recall plan, a pathway allocation and accountability for whether oral health is maintained or improved over time. Registration is therefore not an administrative preference. It is the denominator of prevention.

Table B.1 Current contract question compared with registration-based contract question

Current contract asks	Registration-based contract asks
What activity has this practice delivered?	Which population is this practice responsible for, what is their risk, and is their oral health improving?
A course of treatment is an episode	**Registration is a continuing responsibility**

The Population Oral Health Contract requires registration because the contract is no longer purchasing isolated treatment activity. It is purchasing registered oral health responsibility, risk-based recall, prevention, stabilisation, unscheduled/urgent care for registered patients and measurable improvement over time.

B.2 Why registration is necessary

Registration gives the NHS something it currently lacks: a clear denominator for prevention. Without a defined registered population, commissioners can count treatment episodes, but they cannot properly measure population responsibility. They can know how many courses of treatment were delivered, but they cannot reliably know who the practice is responsible for, who is at risk, who is overdue for recall, who has entered through urgent care, or whether oral health is improving over time.

Without registration, commissioners cannot reliably answer the questions a prevention-led system requires:

Who is this practice responsible for?
Which children are at high caries risk?
Which adults have unmanaged periodontal risk?
Who has not attended within their planned recall interval?
Who has repeated urgent attendance — and why?
Which patients are moving from Pathway 3 to Pathway 2 or Pathway 1?
Is the registered population's disease burden falling?
Whether deprived communities are proportionately represented on the list?
Whether prevention is being delivered to the patients who need it most?

Registration is the mechanism that makes those questions answerable. The **Population Oral Health Return**, risk stratification model, pathway distribution KPIs, quality premium, gate-review accountability framework and **Ru coefficient** all depend on knowing who is registered and with which practice.

The Population Oral Health Contract is therefore best understood as **risk-adjusted registered care**, not simple capitation: a defined patient population, priced by measured risk, supported by delivered prevention tariffs, urgent-to-continuity conversion, specialist referral and return, and public reporting of outcomes.

B.3 From course-of-treatment relationship to dental home

Under the current system, the legal and financial relationship is attached primarily to the course of treatment. That creates an episodic structure that works tolerably for discrete treatment transactions, but poorly for chronic, risk-based disease prevention. Dental disease does not behave episodically. Caries, periodontal disease, dental anxiety, unscheduled or urgent recurrence, frailty-related oral health decline and social-risk accumulation all require continuity.

The Population Oral Health Contract therefore introduces the concept of the dental home: the registered practice responsible for the continuing NHS dental care and oral health trajectory of a named population. The dental home concept is well established in paediatric dentistry and has wider relevance as a model of continuous, accessible and coordinated care. [1]

The dental home does not mean that the practice must deliver every element of care itself. Tier 2/3 and specialist services remain separately commissioned, and general dental practice is expected to manage special needs patients within its own competence and capacity, using Pathway 4 for enhanced complexity. Where a patient's needs exceed what can safely be managed in general practice, the dental home is responsible for referral identification, preparation, submission and outcome tracking (routing the patient to Community Dental Services, special care dentistry or Tier 2/3 services as appropriate) and for return-to-practice management once care is complete. The complex element may be delivered elsewhere, but the patient's routine care, prevention, recall and maintenance return to the registered dental home.

For registered patients, routine care, risk-based recall, prevention, stabilisation, referral coordination and unscheduled or urgent care are part of the dental home obligation and are funded within Bc × Rp × Ru. Additional eligible prevention is funded through Pt(d), and eligible Pathway 3 laboratory-supported care is funded through Ls(P3). For unregistered patients, urgent access is commissioned separately through Uc(r) and Uc(a) as a transitional route into registration, stabilisation and continuing care.

The Dental Home Covers
Assessment and diagnosis at the appropriate risk-based recall interval
Risk assessment and pathway allocation
Recall management — interval set by risk, not habit
Prevention where the patient is eligible and a defined intervention is delivered
Unscheduled/urgent dental care episodes for registered patients — funded within base capitation
Simple restorative care and basic periodontal management (stages 1–2)
Referral identification, preparation, submission and outcome tracking
Care coordination and return-to-practice management after specialist input
Continuing oral health responsibility over the life of the contract

This shifts NHS dentistry from a course-of-treatment relationship to a continuing-care relationship. The point is not to make the dental home responsible for everything. It is to make it responsible for knowing the patient, managing risk, coordinating care, and remaining accountable for the patient's oral health trajectory over time.

Practices may continue to run a mixed NHS/private model, as under the current contract; this is an established feature of NHS dental provision and the paper does not propose changing it, in the interests of maintaining practice engagement and confidence in the reformed model.

B.4 What registration means in this model

A registered NHS dental patient is a patient formally accepted onto a practice's NHS registered list, with mutual obligations between patient, provider and commissioner.

Table B.2 Definitions within the registration model

Element	Definition
Registered patient	A patient formally accepted onto a practice's NHS registered list. Registration should be consented, recorded and validated — not inferred because a patient attended once within a reporting period.
Registered list	The denominator against which base capitation, risk uplift, pathway distribution, prevention tariffs and quality premium KPIs are all calculated.
Dental home	The practice responsible for continuing NHS dental care, recall, prevention, urgent registered care, referral management and pathway management.
Provider obligation	Maintain the patient's oral health through risk-based recall, care planning, prevention, stabilisation and referral coordination.
Patient obligation	Attend according to agreed recall and care plans; provide updated health information; engage with prevention and stabilisation plans.
Commissioner obligation	Commission sufficient registered capacity; monitor list equity; actively address dental deserts; set pathway distribution expectations.

B.5 What base capitation covers

The risk-adjusted base capitation is the core payment for registered responsibility. It is not a narrow examination fee. It covers the full scope of continuing registered care — everything that a dental home is expected to provide for its listed population without additional tariff payment.

Referral administration is not a separate tariff
Referral administration — identifying when referral is appropriate, preparing the referral, attaching clinical records, submitting to the referral hub, tracking the outcome, communicating with the patient, receiving discharge correspondence and managing the patient's return to the practice — is part of registered responsibility. It is covered by base capitation. It should not attract a separate administrative tariff in the reformed model.

Table B.3 Scope of care covered by base capitation

Base capitation covers — for every registered patient	Nature
Registration and list-holding	Universal — applies to every registered patient
Recall management	Universal — interval determined by risk assessment
Assessment and diagnosis (at appropriate recall interval)	Universal — radiographs where clinically indicated
Risk assessment and pathway allocation	Universal — structured clinical risk assessment
Treatment planning	Universal — documented care plan where care is required
Routine maintenance	Included within Bc where clinically indicated
Simple restorative care	Included within Bc where clinically indicated and within general practice scope
Basic periodontal assessment and non-surgical management within general practice scope	Included within Bc where clinically indicated and within general practice scope
Unscheduled/urgent dental care episodes for registered patients	Universal — dental home obligation; no separate unscheduled/urgent tariff
Clinical administration	Universal — record-keeping, coding, patient communication
Referral administration	Universal — identification, preparation, submission, tracking, return
Overhead of maintaining continuing patient responsibility	Universal — the 'practice relationship' that enables all of the above

B.6 Registration and risk-based recall

Registration enables recall to be based on risk, not habit. A prevention-led system should not default every adult to a six-month check-up irrespective of need. Low-risk patients may safely require longer recall intervals. High-risk patients may require more frequent review, prevention or stabilisation. Risk-based recall is operationally possible only when the practice holds a defined list and can stratify patients across pathways. NICE CG19 established that recall intervals should be determined by clinical risk, with adult recall intervals ranging from 3 to 24 months.[2]

Table B.4 Registration and risk-based recall by patient group

Patient group	Likely recall approach
Low-risk stable adult	Extended recall — potentially 18–24 months. Lower annual patient charge per year as a consequence of longer interval.
Stable child	Recall according to caries risk and development stage. Not automatic 6-monthly.
High-caries-risk child	More frequent review and active prevention. P2 pathway. Fluoride varnish and fissure sealants where eligible.
Periodontal-risk adult	Structured periodontal review and BPE monitoring. P2 or P3 depending on active disease.
Nervous or avoidant patient	Acclimatisation pathway in P2 before routine care. Extended first appointment, familiarisation, staged care planning.
Frail or care-home resident	Domiciliary or care-setting review, with structured oral health assessment at a frequency determined by frailty, dependency and local commissioning specification.
Post-specialist return patient	Reintegration into P1, P2 or P3 depending on residual need. Referral administration covered by Bc.

B.7 Registration and pathway allocation

Registration allows every patient to be assigned to a pathway at every recall episode. Pathway allocation is not static: a patient may move from P3 to P2 after stabilisation, from P2 to P1 after risk reduction, or from any pathway to P4 if specialist input is required. The key metric is not simply how many patients are in each pathway, it is whether patients are moving towards lower risk and greater stability over time. The pathway definitions used in this section are set out in full in Annex C and summarised in Table B.5 below.

Table B.5 Registration and pathway allocation: purpose and direction of travel

Pathway	Registered-care purpose	Direction of travel
P1 Health Maintenance	Stable or low-risk patients requiring maintenance and recall. Risk-based recall interval. Limited formal prevention tariff.	Ideal destination — maintain, extend recall, prevent avoidable escalation.
P2 Active Prevention	Elevated-risk patients requiring structured prevention, acclimatisation or behaviour support. Full Pt(d) suite where delivered.	Desired transit point for previously high-risk patients moving toward stability.
P3 Routine Restorative and Tier 1	Active disease requiring restorative stabilisation within general practice. Ls(P3) where lab item delivered.	Bridge between disease and stability. Exit target: move to P2 or P1.
P4 Tier 2/3 Complex and Enhanced	Care beyond routine general practice scope. Separately commissioned. Practice manages referral and return within Bc.	Re-entry target: patient returns to P3, P2 or P1 after specialist care complete.

Without registration, recall is a pattern of attendance. With registration, recall is a population-health tool.
Extended recall for low-risk patients is not a service reduction. It is the signal that prevention is working. The contract should reward the practice for having more P1 patients at 18–24-month intervals — not penalise it by removing activity income.

B.8 Registration and prevention tariffs

Registration is also necessary for prevention tariffs to be targeted fairly and measured accurately. The prevention tariff Pt(d) should not be interpreted as every patient receiving one universal prevention session. Every registered patient receives assessment, risk allocation, recall and routine advice through base capitation. Formal prevention tariffs apply only where an eligible preventive or access-support intervention is delivered and recorded.

International experience reinforces this risk. New Zealand's Combined Dental Agreement, which similarly relies on capitation for adolescent care, has found that providers do not always fully understand what a capitation package requires, and that contracted preventive activity does not always occur even where funded. The demonstrator must treat provider education and onboarding as a governance requirement, not an assumption.

Table B.6 Registration and prevention tariffs: funding route and eligibility

Item	Funded through	Applies to
Registration, recall, assessment, diagnosis, risk stratification	Base capitation (Bc × Rp × Ru)	Every registered patient
Routine advice as part of care	Base capitation	Every registered patient
Formal prevention episode (fluoride varnish, fissure sealants, dietary advice, cessation, periodontal intervention, domiciliary prevention, acclimatisation)	Delivered prevention tariff Pt(d)	Eligible patients only — where intervention delivered and recorded
P3 lab-dependent item (crown, indirect restoration, denture where eligible) *	Ls(P3) supplement	P3 patients only — case-linked, clinically justified, NHSBSA-auditable

*The detailed prevention tariff schedule, P3 laboratory supplement rules and Pathway 4 referral boundary are set out in Annex C.

B.9 Registration and unscheduled/urgent care

For registered patients, unscheduled and urgent care is part of the dental home obligation and is funded within Bc × Rp × Ru. A registered patient presenting urgently should not be treated as a disconnected attendance. Their presentation should trigger a review of pathway allocation, recall interval, delivered prevention, stabilisation need and ongoing care plan.

Where appropriate, the dental home should assess whether prevention has failed, has not been delivered, has not been accepted, or is no longer sufficient for the patient's current risk profile. The urgent presentation should then be used to update the care pathway, including movement into P2 or P3 where clinically indicated. This aligns with NHS England's unscheduled dental care guidance, which distinguishes emergency, urgent and non-urgent unscheduled dental needs and sets expectations for timely access and appropriate triage. [3,4]

For unregistered patients, urgent access remains necessary during the transition period and is commissioned through Uc(r) and Uc(a). The policy aim is urgent-to-continuity conversion. Every unregistered urgent attendance should be treated as a potential entry point into registration, stabilisation and continuing care.

> The urgent-to-continuity pathway
> ***Unregistered urgent attendance → triage and urgent stabilisation → offer of registration → pathway allocation → prevention and stabilisation plan → continuing dental home care***
> ***This is how unscheduled/urgent care becomes a route into continuity rather than a revolving door.***

This distinction is central to the model. For registered patients, urgent care is part of continuing responsibility. For unregistered patients, urgent care is a transitional access mechanism designed to reduce repeat crisis presentation and bring patients into a registered dental home.

B.10 Benefits of registration

Table B.7 Benefits of registration

Benefit	Why it matters
Defines responsibility	Commissioners know which provider is responsible for which patients. Accountability is possible.
Creates a denominator	Enables population-health measurement rather than activity counting. KPIs become meaningful.
Supports prevention	Recall, risk stratification and prevention tariffs all require a known patient list.
Improves continuity	Builds trust, especially for nervous, avoidant, frail or high-need patients.
Enables urgent-to-continuity conversion	Turns crisis presentation into a dental home relationship. Reduces revolving-door urgent care.
Supports equity monitoring	Registered lists can be compared against local deprivation, ethnicity and need data.
Improves workforce planning	A known population allows planning of dentist, therapist, hygienist, nurse and domiciliary capacity.
Supports capitation	Payment can be linked to responsibility and risk — not to activity volume.
Enables pathway reporting	P1, P2, P3 and P4 distribution becomes measurable and auditable.
Supports return on investment modelling	Prevention dividends can be tracked against a known cohort over time — the evidence base for Gate 2 and beyond.

B.11 Risks, objections and mitigations

Table B.8 Registration risks, objections and mitigations

Risk	Why it matters	Mitigation
Passive list-holding	Practices paid for patients not actively managed.	Minimum contact standards, recall KPIs and annual list validation.
Under-treatment	Capitation can incentivise doing less if poorly designed.	Prevention tariffs, quality premium, pathway reporting, audit and patient safeguards.
Cherry-picking	Practices may prefer lower-risk patients.	Risk-adjusted capitation, deprivation-weighted registration KPIs and ICB list monitoring.
Closed lists	Registration could lock out new patients if capacity not expanded.	Contracted list-size obligations, new-provider commissioning and dental desert models.
Patient lock-in	Patients may feel trapped with one provider.	Transfer rights and commissioner-managed registration rules.
Administrative burden	Registration requires IT and data reconciliation.	NHSBSA list infrastructure and Population Oral Health Return.
Gaming pathway allocation	Providers may over- or under-code risk.	Audit, objective risk inputs and practice-level benchmarking.
Non-attendance	Practices need a fair mechanism for persistent non-attenders.	Non-attendance protocol with vulnerability safeguards (Section B.17).

The solution is not to avoid registration

The risks above are design risks, not reasons to retain an episodic contract. Every risk listed has a known mitigation, implemented in other list-based or population-responsibility models, most obviously NHS general medical practice. The question is not whether registration carries risks — it does. The question is whether those risks are greater than the structural failure of an episodic activity model that cannot measure population health, cannot target prevention and cannot account for who is and is not being served.

How to describe this model

The Population Oral Health Contract should be described as risk-adjusted registered care — not simple capitation. It pays for a defined population, priced by their risk, with prevention separately commissioned where delivered, specialist complexity separately routed, and outcomes publicly reported.

B.12 Why this is not simple capitation

The Population Oral Health Contract is not simple capitation. The distinction matters because previous reviews of NHS dentistry have warned that activity-based and poorly specified payment models can distort incentives. [5] Simple capitation can also create under-treatment risk if the provider is paid only to hold a list. This model is different: it combines registered population responsibility with risk-adjusted pricing, pathway allocation, delivered prevention tariffs, Ls(P3), urgent-to-continuity conversion, a quality premium linked to population health outcomes, and public reporting of results.

Table B.9 Why the model is not simple capitation

Payment element	Purpose	What it prevents
Base capitation (Bc × Rp × Ru)	Pays for registered responsibility and ordinary care	Prevents the list from being a passive waiting list
Risk uplift (Ru)	Prices population need accurately	Prevents uniform under-investment in high-need populations
Delivered prevention tariff Pt(d)	Pays for delivered prevention where eligible	Prevents passive holding; creates active prevention incentive
Acclimatisation tariff (within Pt(d))	Supports nervous/avoidant patients into care	Prevents exclusion of the most anxious and highest-need patients
Ls(P3)	Protects practices from eligible external lab cost	Prevents avoidance of justified restorative care
Quality premium (Qp)	Rewards access, prevention, stabilisation and outcomes	Prevents gaming; links income to measurable population health
Patient charge deduction (Pc)	Reconciles public and patient contribution	Prevents double-counting of patient charge income
Tier 2/3 contract (P4 route)	Keeps specialist complexity outside core practice ACV	Prevents general practice from carrying specialist-cost exposure

B.13 Equity and list composition

Registration must not simply preserve access for those already best able to navigate the system. A reformed registration model should include explicit equity requirements, assessed annually through the Population Oral Health Return and reported at ICB level.

Table B.10 Equity and list-composition KPIs

Equity KPI	Purpose
Deprivation-weighted registration share	Tests whether the registered list reflects local need. A practice in a high-deprivation area should register a proportionately high-need population.
New patient registration from unscheduled/urgent pathway	Measures urgent-to-continuity conversion — whether crisis presentations are becoming dental home relationships.
Child registration rate	Supports early prevention and the family dental home model. Target: ≥90% of local child population registered by year 10.
Care-home and domiciliary list coverage	Tests access for frail and housebound patients. All contracted care homes should have a registered oral health lead practice.
P2/P3 share by deprivation decile	Tests whether need is being identified rather than hidden. Higher-deprivation practices should show higher P2/P3 shares.
Non-attendance protocol audit	Prevents vulnerable patients being removed unfairly. Audit of removal decisions against vulnerability flags.

This aligns with the Core20PLUS5 approach to reducing health inequalities, which requires local systems to identify and act on deprivation and inclusion-health need rather than relying on average access metrics. [6]

B.14 Patient rights within registration

Registration should create responsibility without removing patient choice. It gives the patient a named dental home and gives the NHS a clear line of accountability for continuing care, prevention, recall, urgent access and referral coordination. It does not give a practice ownership of the patient.

Every registered patient should have:

- The right to a named dental home.
- The right to risk-based recall — not an arbitrary six-monthly default.
- The right to unscheduled/urgent access through their registered practice.
- The right to a pathway allocation and documented care plan.
- The right to prevention where clinically eligible — at no additional charge once in P2.
- The right to be referred when care exceeds general practice scope.
- The right to return to the practice after specialist input.
- The right to transfer practice where capacity allows.
- The right to be protected from unfair removal from the list.

Transfer should be supported through ICB list-management rules so that patient choice is preserved without destabilising commissioned list responsibility. Where a patient cannot immediately transfer because no alternative NHS capacity is available, the ICB should retain responsibility for managing access, waiting-list transparency and urgent-care continuity.

B.15 Practice rights and responsibilities

Practices also require a fair operating framework. A registered practice should have:

- A defined commissioned list size, agreed at contract award.
- Risk-adjusted capitation that prices the actual need of the registered population.
- Clarity on what base capitation covers — no ambiguity about the scope of registered responsibility.
- Separate payment for delivered prevention through Pt(d).
- A Pathway 3 lab supplement for eligible external lab costs — not absorbed into base capitation.
- Access to clearly commissioned Tier 2/3 referral routes.
- Clear non-attendance rules and a vulnerability-aware protocol.
- Data support from NHSBSA through the Population Oral Health Return.
- Fair annual reconciliation of list size, risk and patient charge income.

B.16 List validation and annual reconciliation

A registration model requires annual list validation to protect the integrity of the capitation model. List validation should account for new registrations, deaths, moves out of area, transfers, duplicate records, long-term non-attendance with safeguards, changes in risk profile, changes in pathway distribution, and changes in care-home or domiciliary status.

Annual reconciliation should adjust the registered population denominator and, where necessary, the Ru coefficient. The contract-term and gate-review framework described in Section 2.16 and Part 5 provides the formal mechanism for these adjustments at years 3, 5, 7 and 10. ICBs may also trigger interim reconciliation where list data show significant divergence from the commissioned trajectory.

A practice paid for a registered population should therefore be able to demonstrate a current, consented, validated and maintained relationship with that population. List validation is not administrative housekeeping; it is the safeguard that prevents risk-adjusted registered care from becoming passive capitation.

> **List reconciliation is not administrative tidying**
>
> It is the mechanism that protects the integrity of the capitation model. A practice paid for 3,000 registered patients should be able to demonstrate that 3,000 patients have a current, consented, validated and maintained relationship with the dental home. Reconciliation is the annual test of that claim.

B.17 Non-attendance and list removal

The registration model must include a fair non-attendance protocol. Patients should not be removed simply because they are difficult to reach, anxious, vulnerable or living with chaotic circumstances. However, practices also need a fair mechanism for managing persistent non-attendance where appointments are genuinely unused.

Table B.11 Non-attendance and list-removal safeguards

	Stage	Action required before removal
1.	Reasonable contact attempts	Documented attempts by letter, telephone and, where available, digital channel. Minimum three documented attempts in 12 months.
2.	Vulnerability assessment	Assess whether non-attendance may reflect anxiety, disability, deprivation, homelessness, asylum or refugee status, care leaver status, language barrier, learning disability, severe mental illness, chaotic circumstances or other factors that make attendance difficult. Where vulnerability is identified, reasonable adjustment attempts should be recorded and the case flagged to the ICB before list removal is considered.
3.	Acclimatisation offer	Where dental anxiety is a factor, offer of acclimatisation appointment in P2 before any removal action.
4.	Written warning	Written notification to the patient that list removal is being considered, with a defined response period.
5.	Commissioner oversight	ICB notification required for removal of vulnerable patients, children and care-home residents.
6.	Route back into care	Removed patients should receive information about how to register elsewhere. The practice should not be the only route back to NHS dental care in the area.

The removal protocol should be consistent with reasonable-adjustment duties and accessible communication standards. [7]

B.18 Data requirements: the Population Oral Health Return

Registration requires data infrastructure. The Population Oral Health Return (POHR) should capture sufficient information to make the registration model accountable without creating disproportionate administrative burden.

Table B.12 Population Oral Health Return data requirements

Data item	Purpose	Frequency
Registered list size	Denominator for capitation and KPI calculation	Quarterly
Age and deprivation profile	Equity monitoring and Ru calibration	Annual
Pathway allocation by patient	Population risk stratification and prevention eligibility	Quarterly
Recall interval by risk group	Tests risk-based recall implementation	Annual
Prevention episode delivery	Pt(d) validation and coverage monitoring	Quarterly
Acclimatisation episode delivery	Access support monitoring	Quarterly
Unscheduled/urgent attendance (registered)	Dental home performance signal	Quarterly
Urgent-to-continuity pathway performance	Continuity pathway monitoring	Quarterly
Ls(P3) supplement use	Lab cost exposure and outlier monitoring	Quarterly
Referral initiation and return	Specialist pathway performance	Annual
Non-attendance rate	Recall compliance and list integrity	Annual
Patient experience (FF equivalent)	Registered care quality signal	Annual

B.19 Implementation staging

Registration should be implemented in stages, timed to the demonstrator programme. Implementation should not promise immediate universal access: registration must grow in line with workforce, premises and commissioned capacity.

Table B.13 Implementation staging for registration

Stage	Timing	Focus
1. List creation	Go-live 2028/29	Existing NHS patients offered formal registration; urgent attenders offered registration; new patient rules agreed and published.
2. Risk stratification	Year 1–2	Registered patients allocated recall interval and pathway. Baseline POHR data established.
3. Prevention delivery	Year 1–2	P2 and eligible P3 prevention tariffs activated. Acclimatisation pathway commissioned.
4. Urgent-to-continuity conversion	Year 1–3	Unregistered urgent patients offered registration and stabilisation. Uc rebalancing tracked.
5. List validation	Annual from year 1	Reconciliation of list size, risk profile, pathway distribution and equity. Adjustments to Ru where warranted.
6. Outcome reporting	Gate 2 2033	Movement from process KPIs to outcome KPIs. Population health trajectory assessed against baseline.

B.20 Policy conclusion

The current NHS dental contract creates a relationship for the length of a course of treatment. That is insufficient for prevention. A prevention-led NHS dental contract requires a dental home: a named practice, a registered population, a risk profile, a recall plan, pathway allocation, urgent-care responsibility and accountability for oral health over time.

Registration is not a return to the past. It is a modern population-health instrument. It makes prevention commissionable, equity measurable, risk visible, urgent-to-continuity conversion possible, and providers and commissioners accountable for more than activity.

> **The operating test for reform**
> *A course of treatment is an episode. Registration is the denominator of prevention. The current contract buys episodes. The Population Oral Health Contract buys responsibility.*

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ANNEX C

Care Pathways: Replacing Treatment Bands with Risk-Based Registered Care

The pathway model, clinical profiles, acclimatisation, Ls(P3) specification, patient charges and accountability framework

ANNEX C Introduction

This annex sets out the care pathway structure for the reformed NHS dental contract. The purpose of the pathway model is to replace activity-based treatment bands with a clinically meaningful framework that reflects the patient's current oral health status, their risk of future disease, the level of prevention, acclimatisation or stabilisation required, the appropriate patient charge, and the commissioning responsibility of the NHS.

Under the current UDA model, payment is attached to courses of treatment. Under the Population Oral Health Contract, payment is attached to registered responsibility, risk, prevention, stabilisation, appropriate referral and measurable improvement. The pathway model is the clinical architecture through which those commitments are expressed.

> ***The right pathway, the right payment, the right patient charge, and the right incentive.***

C.1 Summary pathway table

The pathways are not replacement treatment bands. They are clinical responsibility states within registered care. A patient’s pathway describes their current risk, prevention need, stabilisation requirement and complexity; it does not simply price a discrete course of treatment. The financial architecture then aligns payment, patient charge and quality accountability to that pathway state.

Table C.1 — Summary pathway table: clinical purpose, NHS payment logic, patient charge logic and intended incentive

Pathway	Clinical purpose	NHS payment logic	Patient charge logic — 2024/25 baseline rates	Intended incentive
P1 Health Maintenance	Stable or low-risk patients requiring ongoing assessment, recall and maintenance.	**Bc × Rp × Ru.** Standard **Pt(d)** where eligible, but no automatic full prevention suite.	**£27.40 per attendance.** A 24-month recall gives an effective annual charge of approximately **£13.70/year**.	Keep patients stable, extend recall where clinically appropriate, prevent escalation.
P2 Active Prevention	Elevated-risk patients requiring structured prevention. Includes nervous or avoidant patients requiring acclimatisation to enable continuing care.	**Bc × Rp × Ru + delivered Pt(d) suite**, including acclimatisation where commissioned and clinically justified.	**£27.40 entry charge only.** All follow-on prevention and acclimatisation sessions: **FREE**. **P3 escalation credit applies.**	Identify risk early, deliver prevention, support engagement, and prevent progression.
P3 Routine Restorative and Tier 1 Stabilisation	Active disease requiring routine restorative care or stabilisation within general practice. Includes acclimatisation where required to complete care.	**Bc × Rp × Ru + Pt(d)** where eligible + **Ls(P3)** where a clinically justified laboratory item is delivered.	**£75.30 per course of treatment.** Annual cap **£326.70**. **P2 credit applies.** No additional charge for **Ls(P3)**.	Stabilise disease, complete necessary routine care, and move the patient towards P2 or P1.
P4 Tier 2/3 Complex and Enhanced Care	Patients requiring care beyond routine general-practice scope, including enhanced, specialist or hospital-based care.	Separate enhanced, Tier 2/3, specialist or hospital service contract outside the core practice ACV. The dental home manages referral and return within **Bc**.	**£75.30 nominal P3-equivalent** where a charge applies. NHS absorbs the complexity differential.	Ensure appropriate referral, protect general practice from unfunded complexity, and return the patient to the dental home after specialist care.

Patient charge rates in this annex use the 2024/25 statutory baseline for modelling consistency with Annex F: P1/P2 entry £27.40, P3 £75.30 and annual cap £326.70. Later statutory uplifts should be applied operationally at the point of implementation, but they do not change the pathway logic. Prevention episodes, acclimatisation sessions and Ls(P3) supplements do not generate additional patient charges.

C.2 Core principles of the pathway model

The pathway model rests on eight design principles, each of which addresses a specific failure of the current treatment band structure.

Table C.2 Core principles of the pathway model

Principle	What it means	What it corrects
Registration first	Every patient should be attached to a dental home. Registration creates the clinical and contractual basis for continuing responsibility, recall, prevention and stabilisation.	Under the UDA model, the contract creates a relationship for a course of treatment. No continuing responsibility is established.
Risk determines pathway	Pathway allocation should be based on structured clinical risk assessment, not simply on the treatment item delivered on the day.	Under UDA bands, band allocation is determined by what is done, not what is needed.
Base capitation pays for responsibility	The risk-adjusted Bc funds the ordinary responsibilities of registered care — not just an examination but the full scope of continuing responsibility.	UDA Band 1 pays only for an examination and simple care. Continuing responsibility is invisible to the contract.
Prevention is funded where delivered	Pt(d) applies only where eligible prevention is delivered and recorded. Not every patient gets a prevention tariff automatically.	Under UDA, prevention is absorbed within bands and crowded out by treatment pressure. It is not separately commissioned or measured.
Acclimatisation is an access intervention	For nervous or avoidant patients, prevention and stabilisation may not be possible until attendance itself becomes possible. Acclimatisation is a legitimate P2 or P3 intervention.	Under UDA, there is no commissioned pathway for acclimatisation. Nervous patients are either treated under pressure or lost to care entirely.
Lab costs should not distort the base rate	A small proportion of P3 cases will generate external lab costs. These should be handled through Ls(P3), not absorbed into base capitation.	Under UDA, practices must absorb lab costs within Band 2 or Band 3 charges. This creates pressure to avoid lab-dependent care or shift costs to patients.
Specialist complexity sits outside core ACV	P4 care should be commissioned through separate Tier 2/3 contracts. The general practice ACV should not carry specialist cost exposure.	Under UDA, the boundary between Band 3 and specialist care is poorly defined and inconsistently applied.
The incentive should favour prevention and stabilisation	The financially rational clinical direction should be: instability → stabilisation → prevention → maintenance.	Under UDA, the incentive is to deliver activity. Keeping patients stable at long recall intervals reduces UDA income.

C.3 The ACV formula and pathway architecture

The pathway structure underpins the full ACV formula. Each component of the formula maps directly to one or more pathway elements.

Table C.3 ACV formula components and pathway architecture

Formula component	Pathway relationship	What it funds
Bc × Rp × Ru	All pathways — every registered patient	Registration, recall, assessment, diagnosis, risk stratification, treatment planning, routine maintenance, simple restorative care, basic periodontal management, urgent care for registered patients, referral administration.
Pt(d)	P2 primarily; eligible P3; and for P4 supporting the Tier2/3 interventions and supporting maintenance	Delivered prevention episodes: fluoride varnish, fissure sealants, dietary advice, smoking cessation, periodontal risk intervention, domiciliary prevention, acclimatisation.
Ls(P3)	P3 only — where lab item delivered.	Crown, indirect restoration, denture repair/addition where external lab cost incurred. NHSBSA-auditable as case-linked and item-specific; it is not a general complexity supplement and not a locality/access adjustment
Uc(r) + Uc(a)	*Unregistered patients during transition	Commissioned unscheduled/urgent access capacity. Separate from pathway structure; reduces as registration matures.
Qp	All pathways — earned against KPIs	Up to 12% of Bc×Rp×Ru + Pt(d) base. Ls and Uc excluded from premium base.
Pc	All pathways — fee-paying patients	Patient charge deducted from gross ACV. No additional charge for Ls(P3) or complexity.

***Once a patient is registered, urgent care becomes part of the dental home obligation and pathway review process rather than a separate urgent pathway.**

C.4 P1 — Health Maintenance

Clinical purpose

P1 is for patients who are stable, low risk or successfully maintained after previous stabilisation. These patients require ongoing assessment, recall, risk review and maintenance, but do not require intensive prevention, restorative stabilisation or specialist care.

Typical P1 patient profile

- Stable oral health with no active caries
- Stable periodontal condition (BPE 0–2)

- Low or controlled risk factors
- No repeated unscheduled/urgent attendance
- No immediate restorative stabilisation need
- An appropriate recall interval based on risk — potentially 18–24 months

NHS payment logic

P1 is funded primarily through base capitation (Bc × Rp × Ru). Standard prevention tariffs may apply where clinically eligible, but P1 should not attract the full Pt(d) suite automatically. The pathway-weighted Pt(d) for P1 is modest — approximately £0–£5 per registered patient in this pathway.

Patient charge logic

£27.40 per attendance. For a patient on a 24-month recall interval, this gives an effective annual charge of approximately £13.70. This is the patient-facing financial signal that extended recall is the appropriate clinical pathway, not a service reduction but a reflection of maintained health.

> **The Pathway 1 incentive**
>
> ***The practice is rewarded for keeping patients stable, extending recall appropriately and avoiding unnecessary escalation. Under the UDA model, a practice that successfully moves patients to 24-month recall loses Band 1 activity income. Under the reformed model, the capitation is maintained at the appropriate risk-adjusted level regardless of recall interval.***

Patient charge rules should not create an incentive to delay escalation or avoid appropriate referral; where complexity exceeds Tier 1, the NHS absorbs the cost differential rather than passing it to the patient.

C.5 P2 — Active Prevention

Clinical purpose

P2 is for patients whose risk is elevated but whose disease can be managed primarily through structured prevention, early intervention and behaviour support. These patients may not yet require restorative stabilisation, but they require more than routine maintenance.

Typical P2 patient profile

- A high-caries-risk child requiring fluoride varnish, fissure sealants or dietary advice
- An adult with early or emerging periodontal risk (BPE 2–3 with risk factors)
- A patient with diet, smoking, medication or social-risk factors
- A patient with previous disease but currently stable and at elevated recurrence risk
- A patient from a high-deprivation household or non-fluoridated community
- A nervous or avoidant patient requiring acclimatisation to accept examination or prevention
- A patient requiring structured recall and behaviour-change support

NHS payment logic

P2 is funded through base capitation plus delivered prevention tariffs. The Pt(d) applies only where eligible interventions are delivered and recorded. At the national average, P2 patients generate a Pt(d) of approximately £25–£40 per P2 patient per year, reflecting a fuller prevention episode suite than P1.

Prevention episodes eligible within P2

Table C.4 Prevention episodes eligible within Pathway 2

Prevention episode	Eligibility	Payment basis
Fluoride varnish	High-caries-risk children; elevated-risk adults	Per application (2/yr minimum for high-risk children)
Fissure sealants	High-risk children; permanent first and second molars - placed as soon as clinically appropriate following eruption.	Per tooth;
Dietary advice	High-risk children; adults with diet-related risk	Per delivered session, structured and recorded
Smoking cessation brief intervention	Tobacco users; periodontal disease	Per delivered episode
Periodontal risk assessment and advice	Adults with BPE 2+ or systemic risk factors	Annual minimum; more frequent where clinically indicated
Oral hygiene instruction	Where delivered as a distinct clinical episode	Per structured session, not routine advice within examination
Care-home oral health promotion	Frail or housebound patients; care-setting sessions	Per visit or group session, commissioned separately
Acclimatisation (see C.5.1 below)	Nervous, avoidant or additional-needs patients	Per acclimatisation episode where commissioned

C.5.1 Acclimatisation within P2

Acclimatisation is recognised as a legitimate P2 intervention for patients who are nervous, avoidant or have additional needs, but who do not yet require restorative stabilisation. Acclimatisation within P2 may include: extended first appointment; familiarisation visit; communication planning; anxiety screening; acclimatisation to examination or radiographs; prevention-only introductory appointment; carer involvement where appropriate; and staged care planning.

The purpose is to move the patient from avoidance into continuing care, enabling access to the prevention and maintenance pathway. Acclimatisation episodes should be documented as part of the P2 care plan, recorded in the POHR and included in the acclimatisation tariff validation data.

Patient charge logic

The patient pays £27.40 at entry into the P2 pathway only. All follow-on prevention and acclimatisation sessions within P2 are free to the patient. This is essential: the patient charge should not deter the preventive care or access-support intervention the NHS is commissioning. The P3 escalation credit applies if a P2 patient deteriorates and requires P3 care — the entry charge already paid is credited against the P3 charge.

> *The P2 incentive*
>
> ***P2 creates an explicit incentive for the practice to identify risk early, recall the patient proactively, deliver prevention, support attendance and prevent disease progression. Under the UDA model, there is no financial incentive to intervene early — the contract pays for treatment after disease occurs. Under the reformed model, preventing a patient from escalating to P3 preserves capitation income while avoiding the clinical and system costs of more complex care.***

C.6 P3 — Routine Restorative and Tier 1 Stabilisation

Clinical purpose

P3 is for patients with active disease requiring routine restorative care or Tier 1 stabilisation within general practice. P3 is the bridge between disease and stability. The desired trajectory for every P3 patient is: active disease → stabilised disease → P2 or P1.

Typical P3 patient profile

- A patient with active caries requiring restoration
- A patient requiring routine endodontic treatment within general practice scope
- A patient returned after specialist endodontics requiring definitive restoration
- A patient requiring a crown to stabilise an endodontically treated tooth
- A patient with repeated unscheduled/urgent presentations requiring planned stabilisation
- A patient with BPE 3–4 requiring periodontal stabilisation (stages 3–4)
- A nervous or avoidant patient requiring acclimatisation to complete restorative care
- A patient requiring Tier 1 restorative care to restore function and prevent deterioration

NHS payment logic

P3 is funded through base capitation plus delivered prevention where eligible, plus the Pathway 3 laboratory supplement where a clinically justified lab item is delivered. The base capitation covers routine restorative care, simple stabilisation, unscheduled/urgent care for

registered patients and basic periodontal management. There is no broad automatic P3 stabilisation tariff for every P3 patient — that would risk double-counting care already funded through the risk-adjusted base capitation.

C.6.1 Acclimatisation within P3

Acclimatisation may also be appropriate within P3 where the patient has active disease but cannot yet tolerate the examination, radiographs, operative care or stabilisation required. P3 acclimatisation should be documented as part of the P3 care plan and is distinguished from P2 acclimatisation by the presence of active disease requiring stabilisation. The acclimatisation enables care; it does not replace it.

Patient charge logic

The patient pays £75.30 per course of treatment, with an annual cap of £326.70. The P2 credit applies where the patient has already paid the P2 entry charge and then escalates to P3 within the same defined pathway period. The Ls(P3) supplement does not create an additional patient charge — complexity is priced to the commissioner, not the patient.

> *The P3 incentive*
>
> ***P3 should reward disease control and exit toward prevention or maintenance. The contract should not reward keeping patients in cycles of repeated restorative activity. A P3 patient successfully moved to P2 after stabilisation is the outcome the model is designed to produce.***

C.7 Pathway 3 laboratory supplement — Ls(P3)

Why the supplement is needed

Most Pathway 3 care sits within risk-adjusted base capitation. However, a small proportion of P3 cases will generate unavoidable external laboratory costs that practices cannot control through workforce deployment, recall optimisation or skill mix.

Examples include a crown following endodontic treatment completed in practice, an indirect restoration to stabilise a heavily restored tooth, or a simple denture where clinically necessary within P3. These cases represent clinical responsibility that appropriately remains with the registered practice, but they carry external laboratory costs that the base rate cannot absorb without either underfunding legitimate care or inflating the universal capitation rate for all patients.

The Ls(P3) supplement addresses this problem without building a high-frequency laboratory-cost assumption into the universal base rate. It protects necessary laboratory-supported stabilisation care while keeping the core capitation rate disciplined. It also reduces the risk that practices avoid appropriate restorative stabilisation because the external laboratory cost would otherwise fall entirely within base capitation.

Ls(P3) is a Pathway 3 laboratory supplement only. It is case-linked, item-specific and NHSBSA-auditable. It is not a general complexity supplement, not a locality or access adjustment, and not part of the quality premium base. Table C.5 summarises what the supplement covers.

Table C.5 Pathway 3 laboratory supplement: eligible items and indicative tariff range

Eligible items	Indicative tariff range	Payment basis
Crown following endodontic treatment completed in practice	£90–£140	Fixed supplement or actual lab cost up to ceiling
Crown following specialist endodontic treatment once patient returned to practice	£90–£140	Fixed supplement or actual lab cost up to ceiling
Indirect restoration to stabilise heavily restored tooth	£80–£130	Fixed supplement or actual lab cost up to ceiling
Denture repair or addition required for functional stability	£35–£75	Fixed tariff
Simple acrylic partial denture where clinically necessary and within P3 scope	£120–£220	Fixed tariff or actual lab cost up to ceiling
Replacement of lab-dependent item where failure would destabilise oral function	£35–£220 depending on item	Case by case within tariff schedule

Where specialist or Tier 2/3 care is required, that element sits outside Ls(P3) and is managed through P4 or separately commissioned enhanced or specialist pathways; Ls(P3) applies only to qualifying laboratory-supported care delivered within the registered dental home's P3 responsibility.

What the supplement does not cover

Ls(P3) does not cover:

- specialist endodontics, which sits in P4
- complex prosthodontics, which should follow the Tier 2/3 route
- implant-retained prostheses, which sit outside core ACV
- advanced periodontal surgery, which is P4 or Tier 2/3 care
- complex oral surgery or trauma rehabilitation, which is separately commissioned
- any care commissioned through a Tier 2/3 specialist pathway.

Ls(P3) is a Pathway 3 laboratory supplement only. It is case-linked, item-specific and NHSBSA-auditable. It is not a general complexity supplement, not a locality or access adjustment, and not part of the quality premium base.

Population-level modelling

At a national average incidence of **3%** of registered adults requiring a qualifying **Pathway 3** laboratory item each year, and an average supplement of **£120**, the weighted cost per registered patient is **£3.60 per year**. The sensitivity range runs from **£2.00** per registered patient at low incidence and lower average cost, to **£5.60** at higher incidence and higher average cost.

Why Ls(P3) should not be built into the universal base rate

The expected cost is material to the practice when it occurs, but modest when spread across the whole registered population. Building it into **Bc** at, for example, **£3.60 per registered patient per year** would mean low-complexity practices with few or no qualifying **P3** laboratory items receiving an effective windfall.

Paying the supplement on a case-linked basis means the funding flows to the practices that incur the legitimate external laboratory cost. This is the more accurate design: it protects necessary stabilisation care without raising the universal base rate for patients and practices that do not generate this cost.

Table C.6 Ls(P3) incidence assumptions and weighted cost per patient

Incidence	Avg supplement	Annual cost (2,800-pt practice)	Weighted cost per patient
2% (low)	£100	£5,600	£2.00
3% (central)	£120	£10,080	£3.60
4% (high)	£140	£15,680	£5.60

Payment mechanism and safeguards

Ls(P3) is paid on a delivered-care basis: case-linked, clinically justified, supported by record coding, subject to national tariff ceilings and auditable by NHSBSA or the ICB. It is excluded from the quality premium base.

The patient pays no additional charge beyond the standard P3 patient charge. The supplement is not a second patient-facing charge and not a general complexity uplift. It is a case-linked commissioner payment for defined external laboratory cost exposure within Pathway 3.

Table C.7 Ls(P3) safeguards, triggers and commissioner actions

Safeguard	Trigger	Commissioner action
Repeat crown claim on same tooth	Second claim within 5 years	Prior approval required; clinical justification reviewed.
Multiple lab items, same patient	More than 2 qualifying items in 12 months	Prior approval required; pattern review.
High-cost prosthetic item	Claim above tariff ceiling or chrome/complex prosthesis	Prior approval required; Tier 2/3 route if appropriate.
Possible Tier 2/3 complexity	Clinical complexity markers or specialist referral history	Prior approval required; confirm appropriate pathway.
Outlier lab-claim rate	Practice Ls(P3) rate significantly above ICB average	ICB review; audit of extraction vs restoration patterns; clinical records review.

C.8 P4 — Tier 2/3 Complex and Enhanced Care

Clinical purpose

P4 is for patients whose needs exceed routine general practice scope and require enhanced or specialist services. P4 should not sit within the ordinary practice ACV: it should be commissioned separately through Tier 2/3 enhanced or specialist service contracts. The general practice ACV should not be required to carry specialist clinical or financial risk.

Typical P4 patient profile

- Specialist endodontics (complex root canal morphology, calcified canals, re-treatment)
- Complex oral surgery (impacted teeth, surgical extractions beyond general practice scope)
- Advanced periodontal surgery (Tier 2/3 or specialist periodontist)
- Complex prosthodontics (full arch rehabilitation, chrome/cobalt prostheses beyond P3 scope)
- Trauma rehabilitation
- Specialist paediatric dentistr
- Special care dentistry (patients with significant disability or complex medical history).
- Oncology-related oral rehabilitation.
- Any care requiring a separate enhanced or specialist service contract

Return to practice after P4

When the specialist episode is complete, the patient returns to the registered practice for ongoing care. The point of return determines the pathway: if restorative completion is

required (e.g. crown after specialist endodontics), this is P3 within the dental home, potentially attracting Ls(P3). If the patient is stable after specialist treatment, they return to P1 or P2. Referral management throughout — making the referral, tracking progress, receiving discharge and managing the return — is covered by base capitation, not a separate administrative tariff.

Patient charge logic

The patient pays no more than the nominal P3-equivalent charge where a charge applies. The NHS absorbs the complexity differential above Tier 1. No patient should face an additional charge simply because their care requires specialist input.

C.9 Referral administration and return-to-practice care

Referral management is part of registered responsibility and is covered by the base capitation rate for every registered patient. This includes:

- Identifying when referral is clinically appropriate
- Preparing referral information including radiographs, photographs and clinical records where required
- Writing, submitting and tracking the referral
- Communicating with the patient about the referral, timescale and care expectations
- Receiving specialist advice or discharge correspondence
- Updating the patient's care plan on return
- Managing ongoing registered care after the specialist episode is complete

> **Referral administration is part of Bc — not a separate tariff**
> The administrative burden of referral is real and has historically been undervalued by NHS dental contracts. In the reformed model, referral management sits explicitly within the scope of registered responsibility funded through base capitation. This is not a narrow examination fee — it covers the full overhead of maintaining patient responsibility, including complex referral management for P3 and P4 patients.

C.10 Pathway movement and the direction of travel

Pathway allocation is dynamic. A patient may move between pathways at any recall episode or clinical review, in either direction. The desired direction of travel in the Population Oral Health Contract is always towards lower risk and greater stability. For patients, this most often means longer recall intervals as risk falls, a change that needs to be actively communicated, not just clinically applied. NHS England has already issued guidance and communication resources to support practices in explaining risk-based, extended recall to patients.[1] The mindset shift away from fixed 6- or 12-month intervals is already underway, though it remains a live change-management challenge that the demonstrator should continue to support.

[1] https://campaignresources.dhsc.gov.uk/campaigns/nhs-primary-care/nhs-dental-practice-recall/

Table C.8 Pathway movement and contract signals

Movement	Clinical trigger	Contract signal
P2 → P1	Risk reduces, disease stable, recall extended	Prevention has worked. Reward: capitation maintained; recall extended; less Pt(d) needed.
P3 → P2	Disease stabilised; active caries addressed; periodontal stable	Stabilisation has worked. Exit target achieved. P2 prevention funded to maintain stability.
P3 → P1	Disease fully stabilised; risk now low	Complete success. Patient in maintenance pathway.
P1 → P2	Risk increases; new risk factors identified	Early identification is the reward — prevention before disease requires it.
P2 → P3	Disease develops despite prevention	Stabilisation required. Move to P3; P2 charge credited.
Any → P4	Specialist care required	Appropriate referral. Practice manages return. Ls(P3) may apply on return for restorative completion.
P4 → P3/P2/P1	Specialist care complete; patient returns	Return pathway determined by residual need. Registered practice reassumes full responsibility.

C.11 Pathway distribution at national and local level

Not every registered patient will require P2, P3 or P4 care. The registered population will distribute across pathways according to local need, deprivation, disease burden, fluoridation status, age profile, historic access failure and individual clinical risk. These are modelling assumptions, not fixed targets.

High-deprivation, non-fluoridated areas should expect higher P2 and P3 shares. Lower-risk, fluoridated areas should expect higher P1 shares. The model accommodates this through two linked mechanisms. Ru prices the population-level disease prior within base capitation. Pt(d) then funds delivered prevention for patients who meet the pathway and clinical eligibility criteria. Together, they allow resource to move toward measured need without turning pathway allocation into a simple activity target.

P4 should be interpreted differently. It is not an urgent-care pathway, and it is not funded through the core ACV. It covers enhanced, specialist or Tier 2/3 care where the complex element is delivered through a separately commissioned pathway. The registered dental home remains responsible for referral identification, preparation, outcome tracking and return-to-practice management, but the specialist element sits outside the core practice ACV.

Table C.9 Adult pathway distribution at national and local level

Adult pathway	National average indicative share	Commissioning implication
P1 Health Maintenance	45–55%	Base capitation; limited delivered prevention. Recall management and risk-based intervals.
P2 Active Prevention	25–35%	Base capitation + delivered Pt(d). Acclimatisation where clinically justified. Prevention free after entry.
P3 Routine Restorative and Tier 1	10–20%	Base capitation + Pt(d) where eligible + Ls(P3) where lab item delivered.
P4 Enhanced/Specialist	2–5%	Separate Tier 2/3 specialist contract. Outside core ACV.

Pathway distribution should be monitored for outliers. Unexplained movement into higher-value pathways should trigger clinical governance review, while sustained improvement should be recognised through Qp before any evidence-led recalibration of Ru is considered.

Table C.10 Child pathway distribution at national and local level

Child pathway	National average indicative share	Commissioning implication
P1 Health Maintenance	50–60%	Routine recall and assessment within Bc. Limited formal Pt(d).
P2 Active Prevention	30–40%	Fluoride varnish, fissure sealants, dietary advice, acclimatisation where eligible.
P3 Routine Restorative	5–10%	Routine restorative care, acclimatisation and stabilisation.
P4 Specialist	1–3%	Specialist paediatric, special care or Tier 2/3 route.

P2/P3 share by deprivation decile is a core equity KPI

A practice in a high-deprivation area that reports 70% of registered adults in P1 should be challenged. Either the risk stratification is not working (patients are being under-coded) or the patient list does not reflect the population the practice was commissioned to serve. ICBs should report P2/P3 share by deprivation decile annually and use it as a signal of whether prevention is reaching the patients who need it most.

C.12 Patient charges and the equity argument

The patient charge model should reinforce prevention and reduce inequity. The proposed charge logic removes financial barriers at the prevention entry point and caps patient exposure to complexity charges.

Table C.11 Patient charges and equity features by pathway

Pathway	Patient charge logic	Annual effective charge (illustrative)	Equity design feature
P1	£27.40 per attendance	£13.70/year at 24-month recall	Lower charge reflects lower clinical intensity and longer recall interval. Extended recall is not penalised.
P2	£27.40 entry only. All follow-on prevention: FREE.	£27.40 at initial assessment only	Prevention barrier removed after entry. Acclimatisation costs borne by NHS.
P3	£75.30 per COT; annual cap £326.70; P2 credit applies	£75.30 per episode; capped at £326.70/yr	Patient not penalised for lab-dependent care. Ls(P3) absorbed by NHS.
P4	£75.30 nominal P3-equivalent only	£75.30 max	Patient not penalised for specialist need. NHS absorbs full complexity differential.

C.13 Reporting and accountability

Every pathway allocation should be recorded in the patient record and reported through the Population Oral Health Return. The pathway data supports population risk stratification, prevention tariff validation, Ls(P3) monitoring, quality premium assessment and the Gate review evidence base.

Table C.12 Pathway reporting and accountability KPIs

Pathway KPI	Purpose	Gate relevance
% registered population in each pathway	Population risk profile; commissioning need; equity signal	Gates 1 and 2 (process, then outcomes)
Movement from P3 to P2/P1	Stabilisation success rate	Gate 2 outcome KPI
P2 prevention completion rate	Delivery of commissioned preventive care	Gate 1 process KPI
Acclimatisation completion rate	Nervous/avoidant patients entering continuing care	Gate 1 process KPI
Repeat urgent attendance rate	Dental home effectiveness; stabilisation adequacy	Gate 1 and Gate 2
Ls(P3) supplement rate by practice	External lab exposure monitoring; outlier detection	Ongoing NHSBSA monitoring
P4 referral rate	Specialist need identification; threshold monitoring	Annual ICB review
Referral return completion rate	Patient return to practice after specialist care	Gate 2 outcome KPI
P2/P3 share by deprivation decile	Equity: risk and need identified fairly across population	Gate 2 and Gate 3 — core equity signal

C.14 Policy conclusion

The pathway model replaces treatment bands with a clinically meaningful commissioning structure. It recognises that patients do not all need the same care: some need maintenance, some need prevention, some need acclimatisation before care is possible, some need stabilisation and some need specialist care. The contract should pay accordingly.

The pathway model therefore allows NHS dentistry to move from activity after disease to registered responsibility, risk-based prevention, acclimatisation, active stabilisation, appropriate referral and continuing care. Every component of the ACV formula maps to a specific stage in that clinical journey. The pathway allocation determines what the patient needs; the formula determines what the NHS should pay; the quality premium determines whether it is working.

The pathway logic in one sentence

The right pathway, the right payment, the right patient charge — and an incentive structure that rewards prevention, stabilisation and continuity over repeated restorative activity.

ANNEX D

Dental Home and Unscheduled/Urgent Care

Technical specification: dental home obligation, Uc(r) access retainer, Uc(a) per-attendance payment, NHS111 referral pathway and the self-rebalancing ACV

ANNEX D Introduction

This annex provides the full technical specification of the unscheduled dental care architecture for the reformed NHS dental contract. It should be read alongside the NHS England Clinical Guidance: Unscheduled Urgent and Non-Urgent Dental Care (Version 1.0, May 2025, updated October 2025) [1] and the National Service Specification for Urgent and Non-Urgent Unscheduled Dental Care [7], which set out the current clinical standards and commissioning requirements within which this model operates. The Population Oral Health Contract does not replace those standards; it provides a sustainable financial and population health architecture within which they can be consistently delivered at scale.

The government's 2025/26 commitment to deliver 700,000 additional urgent dental care appointments [1] is the immediate policy context. The three-layer architecture in this annex is the longer-term framework that makes that level of urgent care provision financially sustainable and clinically coherent beyond the initial appointment target.

The dental home guarantee

Every registered NHS dental patient in England should have a named dental home: a contracted practice responsible for their oral health trajectory and unscheduled care access. Registered patients should ordinarily access unscheduled dental care through their dental home or it's agreed out-of-hours or cooperative arrangement. NHS111 should function as a safety-net and escalation route, not the default access route for needs the dental home is commissioned to manage.

The dental home is therefore the primary unscheduled-care safety net for the registered population, covering NHS England's categories of emergency, urgent and non-urgent unscheduled dental need. [1] For emergency presentations beyond general dental practice scope, the dental home obligation is to triage, identify red flags and direct the patient to the appropriate emergency pathway. It is not to substitute for ambulance, emergency department or maxillofacial services.

Policy background and current framework

The reformed model operates within the NHS England Clinical Guidance on Unscheduled Urgent and Non-Urgent Dental Care (May 2025) [1] and the government's commitment to deliver 700,000 additional urgent dental care appointments in 2025/26. The three-layer architecture in this annex provides the sustainable long-term commissioning basis that a one-year appointment target cannot: it aligns financial incentives with registration growth, scales unscheduled/urgent capacity with genuine unregistered demand, and embeds the progressive disease management requirements of the current guidance within a population responsibility contract.

D.1 Registered patients: the dental-home urgent-care obligation

Every registered NHS dental patient should have a named dental home responsible for their continuing oral health needs, including access to unscheduled and urgent dental care. For registered patients, this responsibility is funded within risk-adjusted capitation, **Bc × Rp × Ru**, rather than through a separate urgent-attendance tariff.

The practice holding the registration remains accountable for ensuring access to appropriate assessment, triage, stabilisation and onward referral. That obligation may be discharged directly, through a local cooperative, or through an ICB-commissioned out-of-hours arrangement.

The dental home is not required to substitute for ambulance, emergency-department or maxillofacial services. Where a presentation lies beyond general dental practice scope, its responsibility is to identify clinical risk, provide appropriate triage and direct the patient to the correct emergency pathway.

Access standards should be specified contractually and aligned with national clinical guidance, local service capacity and the urgency of presentation. The contract should distinguish between:

- emergency presentations requiring immediate escalation beyond general dental practice
- urgent presentations requiring assessment and access within the nationally specified urgent-care timeframe
- non-urgent unscheduled needs requiring timely planned access.

Compliance should be assessed through agreed measures of response time, triage, access, stabilisation and referral rather than through a single attendance target. The responsibility should be explicit in the contract, documented within the patient's registration terms and reported through the Population Oral Health Return.

This is the appropriate incentive structure for a population-responsibility contract. A practice that reduces disease risk through prevention, recall management and early intervention should experience lower avoidable urgent demand, releasing clinical capacity for prevention and planned care. The dental-home relationship therefore aligns provider incentives with the prevention of avoidable unscheduled need.

The dental-home concept is established in paediatric dentistry internationally and has also featured in UK policy discussion. [2] The Population Oral Health Contract gives it a defined

contractual form: a named provider responsible for continuing care, urgent access and appropriate onward referral across the period of registration.

Table D.1 Dental home obligations for registered patient unscheduled care

Obligation	What it means in practice	How it is monitored
Timely urgent assessment and access	Registered patients presenting with acute pain, swelling, infection or trauma should receive timely triage and access to care according to clinical urgency and the contracted service standard. Where the dental home cannot provide the required care directly, it must arrange or direct the patient to an appropriate commissioned pathway.	POHR response-time and access measures; ICB audit of redirection, non-completion and complaints.
After-hours triage	The practice must maintain or participate in an after-hours triage arrangement (in-practice, through a local dental cooperative, or through a commissioned out-of-hours service) for registered patients presenting outside core hours.	Contract specification: out-of-hours arrangement documented and auditable; ICB responsible for ensuring cooperative coverage where individual practice capacity is limited.
Urgent-to-stabilisation pathway	Every urgent presentation from a registered patient triggers a risk reassessment, a care plan update and a pathway review. Patients presenting urgently more than twice in 12 months are flagged for pathway escalation to Pathway 3 (stabilisation).	POHR: tracking of urgent presentation frequency per registered patient; pathway escalation rate as a quality indicator.
NHS111 as safety-net, not default route	Registered patients should ordinarily access unscheduled care through their dental home or agreed out-of-hours/cooperative arrangement. NHS111 should be used as a safety-net or escalation route where the dental home cannot meet the required timeframe, or the presentation may require emergency services beyond dental scope.	Patient experience data; complaint monitoring; ICB oversight; audit of redirection patterns.
Initial disease management within unscheduled episodes	Where a registered patient presents with unscheduled needs and also has unmanaged progressive disease, the dental home must address modifiable risk factors within the unscheduled episode: fluoride varnish application, plaque/calculus removal, dietary and behaviour change advice, as required by NHS England Clinical Guidance Section 6 [1].	FP17 submission: Band 1 urgent for the acute episode; subsequent banded course of treatment for ongoing stabilisation — recorded as separate FP17 submissions per NHS England recording requirements [1].
SDCEP triage algorithms	The practice must use recognised triage algorithms — the SDCEP Management of Acute Dental Problems guidance [3] is the national standard — to assess and prioritise unscheduled presentations consistently, both in-hours and out-of-hours.	Documentation in clinical records; audit of triage consistency as part of quality improvement framework.
Skill-mix for triage	Appropriately trained dental care professionals, including dental nurses with relevant training, may conduct remote triage consistent with NHS England Clinical Guidance [1]. In-person clinical assessment and treatment must be by a GDC-registered clinician of appropriate scope.	Skill-mix documented in contract; DCP triage training verified at gate reviews.

D.2 Unregistered unscheduled care: the Uc component

The dental home model resolves unscheduled care responsibility for registered patients. It does not, by itself, resolve unscheduled access for adults who remain unregistered at any given point in the programme, nor for travellers, tourists, temporary workers, students away from home, people who have recently moved, or patients presenting with dental trauma or acute infection in an unfamiliar area.

This is the genuine commissioning gap, and it requires a distinct, flexible mechanism. NHS England clinical guidance confirms that access must not be denied to patients without an NHS number, GP registration or permanent address; the Uc model is the commissioning mechanism that makes that access obligation financially sustainable. [1]

For unregistered patients, urgent access is funded through two components. Uc(r) is the fixed urgent-care access retainer paid to providers commissioned to maintain capacity for unregistered urgent patients. Uc(a) is the per-attendance payment for unregistered urgent patients, paid net of patient charge and subject to agreed volume ceilings. Patient charge income associated with unregistered urgent attendances is deducted within Uc(a) and is not counted again within Pc.

Together, Uc(r) and Uc(a) commission the capacity to accept unregistered urgent patients without paying twice for registered patients' urgent care. For registered patients, unscheduled and urgent care is part of the dental home obligation and is funded within Bc × Rp × Ru. For unregistered patients, urgent access is commissioned through Uc(r) and Uc(a) as a transitional route into registration, stabilisation and continuing care.

Because Uc(r) and Uc(a) are directed at patients outside registered NHS dental care, they must be monitored for equity as well as volume. The purpose of the Uc mechanism is not only to fund urgent appointments; it is to prevent unregistered patients — especially those in high-need or inclusion-health groups — being repeatedly managed through crisis episodes without a route into continuity.

ICBs should therefore monitor Uc-funded urgent access by deprivation decile, age, exemption status, homelessness or insecure housing, asylum or refugee status, care-home status, severe mental illness, learning disability and other inclusion-health markers where data can be collected lawfully and proportionately. Minimum reporting should include unregistered urgent attendances, repeat urgent attendance, NHS111 repeat dental dispositions, offer of registration, conversion into a dental home, pathway allocation after registration, and completion of prevention or stabilisation plans.

Where unregistered urgent demand remains concentrated in high-need groups without conversion into registered care, the ICB should review registration capacity, outreach, language support, care-navigation arrangements, provider participation and dental desert coverage. The Uc mechanism should reduce inverse care, not reproduce it.

D.2.1 The access retainer — Uc(r)

The access retainer is a fixed annual payment to a practice or hub for maintaining ringfenced unscheduled/urgent capacity for unregistered patients — available to receive NHS111 referrals and self-presenting unregistered patients. It pays for availability, not activity: the overhead of maintaining triage protocols, keeping slots accessible, participating in the NHS111 referral pathway, and reporting urgent care activity to the ICB. The retainer is set by the ICB at commissioning, calibrated to the local unregistered population size, the practice's role in the NHS111 pathway, and local geography.

Table D.2 Uc(r) access retainer by practice role and local context

Practice role	Local context	Indicative Uc(r) annual retainer	Rationale
Any-willing-practice	Low-demand area; small unregistered population; not primary NHS111 destination	£2,000–£4,000/yr	Retainer covers triage protocol maintenance, reporting and marginal overhead of occasional unregistered urgent slot.
Any-willing-practice	Moderate demand; standard NHS111 participation; medium unregistered population	£4,000–£6,500/yr	Higher retainer reflects consistent unregistered demand and meaningful participation in local urgent care network.
Designated urgent hub	High-demand area; primary NHS111 destination; large unregistered population or dental desert	£6,500–£12,000/yr	Substantial retainer reflects hub infrastructure, dedicated urgent slots, extended hours if commissioned, and primary triage responsibility.
Rural mobile/outreach hub	Dental desert; mobile provision; dispersed unregistered population	£8,000–£14,000/yr	Higher retainer reflects the cost of maintaining mobile capacity and the absence of alternative urgent care provision in the area.

D.2.2 The per-attendance payment — Uc(a)

The per-attendance payment is triggered when an unregistered urgent patient is seen. It covers the clinical time, consumables and overhead of an urgent appointment without a continuing care relationship — a genuinely different clinical encounter from a registered pathway appointment, requiring triage, pain assessment, emergency treatment, onward referral where needed, and documentation for a patient the practice may never see again.

The per-attendance rate reflects this additional complexity. It is higher than the capitation rate per registered patient because it funds a complete standalone clinical episode rather than a contribution to an ongoing relationship. Indicative rate: £95–£120 per unregistered urgent attendance, with a higher rate (£120–£145) for designated hub practices reflecting

extended scope and triage infrastructure costs. ICBs set an annual ceiling volume for each practice: the maximum number of unregistered urgent attendances that can be claimed under Uc(a) in a given year. Attendances above the ceiling require ICB approval and reimbursement from a contingency fund rather than the base ACV.

Protecting against gaming

The Uc(a) ceiling prevents practices from maximising income through unregistered urgent attendances at the expense of registered population care. A practice generating unusually high Uc(a) volumes relative to its ceiling triggers an ICB review: is this genuine unmet need in the unregistered population (in which case the ceiling may be raised and the unregistered population targeted for registration), or is it a failure to register available patients (in which case the quality premium registration KPI is at risk)? The ceiling is both a financial control and a diagnostic signal.

D.3 The NHS111 referral pathway

The NHS England Clinical Guidance [1] requires patients to be able to access unscheduled dental care through a single point of access: by contacting a dental provider directly, through NHS111 by telephone or online, or through another access route specified by the commissioner.

The Population Oral Health Contract builds on this requirement through a two-tier architecture aligned to local need, provider availability and geography. Patients must not be denied access because they lack an NHS number, GP registration or a current permanent address. [1] This is particularly important for unregistered patients, people experiencing homelessness or insecure housing, asylum seekers, refugees and transient populations.

The local pathway should direct patients to either:

a designated urgent dental hub in areas of concentrated unmet need or limited provider capacity; or

an available participating practice within an ICB-commissioned urgent-care network.

Referral arrangements should specify clinical triage, response times, provider acceptance, capacity reporting, escalation and data transfer.

D.3.1 Urgent-to-continuity pathway

Urgent attendance should create a defined route towards stabilisation and continuing care. It should remain a standalone episode only where the patient is genuinely transient, declines continuing care or does not require further intervention.

The attending provider should not be required to accept an unlimited number of patients onto its own registered list irrespective of funded capacity. Its obligation is to assess, stabilise where appropriate, offer or arrange a continuity pathway and record the outcome. Practice-level registration expectations must be aligned with commissioned list capacity.

Each unregistered urgent attendance should result in one of the following recorded outcomes:

- Registration with the attending provider where funded capacity exists
- A follow-up stabilisation appointment, normally within six weeks where clinically appropriate
- Referral into an icb-commissioned local continuity pathway where the attending provider's funded capacity has been reached
- Documented decline of continuing care by the patient
- Closure as a genuinely transient episode where continuing local care is not appropriate

Registration with the attending practice is not the sole measure of success. The relevant test is whether the urgent episode resulted in an appropriate continuity outcome.

D.3.2 Provider and commissioner accountability

The attending provider is accountable for:

- Clinical assessment and triage
- Appropriate immediate treatment or stabilisation
- Offering or arranging a continuity pathway
- Recording registration, referral, acceptance, decline or transient closure
- Submitting accurate outcome data

The ICB is accountable for:

- Commissioning sufficient local registration and stabilisation capacity
- Maintaining an accessible network referral route
- Ensuring that patients are not stranded when an individual provider's funded list is full
- Monitoring pathway completion and repeat urgent attendance
- Adjusting provider capacity, uc commissioning or network arrangements where demand exceeds supply

A provider should not be penalised where it has assessed and stabilised the patient, made an appropriate continuity offer or referral and recorded the outcome accurately, but commissioned local capacity is unavailable.

Where repeated failure to complete continuity pathways reflects insufficient local capacity rather than provider non-performance, accountability should rest with the ICB and trigger commissioning action rather than practice-level financial penalty

D.3.3 Designated unscheduled/urgent dental hubs

In areas where unregistered urgent demand is concentrated—including high-deprivation urban areas, dental deserts and areas with large transient or tourist populations—ICBs should commission one or more designated urgent dental hubs as primary NHS111 referral destinations.

Hub providers should receive:

- The higher Uc(r) retainer range of £6,500–£14,000 per year
- A higher per-attendance rate of £120–£14
- A higher Uc(a) ceiling

- Funding for any specifically commissioned extended hours, triage infrastructure and reporting requirements

In return, hubs assume a defined role in providing timely urgent care for unregistered patients within their commissioned catchment.

Hub providers must maintain appropriately trained staff, including dental care professionals with relevant triage training, and use recognised clinical triage guidance, including SDCEP algorithms where applicable. [1,3,5]

Hub status should be determined at contract award and reviewed at each gate. It may be varied or transferred where demand, geography, provider capacity or performance changes.

The number and location of hubs should be determined through local needs assessment, travel-time analysis, unregistered population estimates, NHS111 demand and available provider capacity. A fixed national population threshold should be used only if validated through the demonstrator programme.

D.3.4 Any-willing-practice pathway

Where urgent demand is more dispersed, the provider market is more stable or the unregistered population is smaller, ICBs may commission an any-willing-practice model.

Any contracted NHS dental practice may opt into the urgent-care network, subject to:

- An agreed annual Uc(a) ceiling
- Minimum triage and reporting standards
- Real-time or regularly updated capacity reporting
- Participation in the local continuity referral pathway

Participating practices should receive the standard Uc(r) retainer of £2,000–£6,500 per year, the standard per-attendance rate of £95–£120 and a locally agreed Uc(a) ceiling.

Referrals should be distributed by the local urgent-care coordinator or NHS111 service according to reported capacity, geography, clinical urgency and patient accessibilit

The NHS111 dental pathway in operation

Patient contacts NHS111 → clinical triage using SDCEP algorithms by appropriately trained DCP [1,3] → categorised as emergency / urgent (24hr) / non-urgent (7 days) → referred to designated hub or nearest available any-willing-practice → practice confirms appointment → patient seen → if unmanaged progressive disease identified: initial disease management delivered alongside acute care per NHS England guidance Section 6 [1] → attendance recorded as Band 1 urgent FP17; subsequent stabilisation as separate banded FP17 → registration offered → Uc(a) payment claim submitted → POHR monthly submission.

D.4 The self-rebalancing ACV: how the composition shifts over time

The most important design feature of the Uc component is its planned obsolescence. As registration increases over the contract term, the unregistered population should shrink, urgent demand from unregistered patients should fall, and the Uc element of the ACV can be proportionately reduced. The released value can then be reinvested in expanded registered population responsibility.

The total ACV does not need to rise simply because urgent access has been commissioned during transition. Instead, its composition should shift over time: away from unregistered urgent-care capacity and towards risk-weighted capitation for registered patients.

This rebalancing is not automatic. It should be assessed at each gate review using actual registration data, Uc(a) volumes, Uc(r) capacity utilisation, NHS111 referral patterns, repeat urgent attendance, urgent-to-continuity pathway performance and provider delivery against the agreed registration trajectory.

Where sustained conversion has reduced unregistered urgent demand, the ICB should adjust Uc(r) retainer levels and Uc(a) volume ceilings downward, and shift the released value into registered population responsibility. This requires a formal contract variation agreed between the ICB and the provider.

Where urgent demand remains high, the response should not be simply to make urgent care a permanent parallel system. It should trigger review of registration capacity, provider access behaviour, dental desert coverage, NHS111 routing, workforce mobilisation and local patient-engagement arrangements. The policy aim is clear: urgent care should become an entry point into continuity, not a substitute for it.

Rebalancing trajectory note

Coverage figures in the table below are from the confirmed Section 3 trajectory: adults rising from 40% today to 55% at Gate 2 (Year 5) and 61% at Gate 4 (year 10); children from 57% today to 82% at Gate 2 and 90% at Gate 4. In high-deprivation areas with a persistent unregistered population, the Uc component will reduce more slowly. In lower-deprivation areas where registration grows faster, it may be substantially reduced by year 3. The gate review mechanism accommodates this variation while ensuring every rebalancing decision is evidence-based, mutually agreed and reflected in a formal contract variation.

Table D.3 Self-rebalancing ACV trajectory: unscheduled/urgent care to capitation shift

Gate / Year	Adult coverage (confirmed trajectory)	Child coverage	Uc(r) retainer	Uc(a) ceiling	ACV composition shift	Mechanism
Year 1 2028/29	~42%	~62%	High (£6,500–£12k hubs; £2,000–£4k AWP)	High: est. 200–500/yr (hub); 50–150/yr (AWP)	Urgent dominant — large, unregistered population; full Uc commissioned.	ICBs commission full Uc at contract award; NHS111 pathway established; hub and AWP designations confirmed.
Gate 1 (Year 3 Q3 2031)	~49%	~73%	Reviewed downward if registration KPIs met	Ceiling reviewed; may reduce 20–30% if volumes below ceiling	First rebalancing opportunity: ICB and provider agree Uc reduction and capitation expansion.	Provider submits rebalancing proposal based on 2-year registration data; ICB approves if KPIs met; ACV composition adjusted.
Year 4 2031/32	~52%	~78%	Medium (reduced from year 1)	Reduced ceiling reflects smaller unregistered population	Capitation growing; Uc shrinking; ACV total broadly stable.	Revised ceiling and retainer in effect; NHS111 referral volumes tracked.
Gate 2 (Year 5 Q3 2033)	~55%	~82%	Further reduction — hub retainers may convert to AWP rates	Ceiling may halve vs year 1 in high-performing areas	Major rebalancing — urgent component now minority of ACV.	Second rebalancing: provider proposes further Uc reduction; capitation list extended; hub designations reviewed.
Year 7 2034/35	~59%	~87%	Low — retainer mainly covers traveller/accident demand	Small ceiling: residual unregistered plus travellers	Near-equilibrium: capitation dominant; Uc(r) maintained as permanent residual.	Gate 3 review: ACV composition confirmed for final 3 years.
Gate 4 (Year 10 Q3 2038)	~61%	~90%	Minimal — permanent residual retainer only	Small permanent ceiling for residual unregistered and travellers	ACV now predominantly capitation + prevention; urgent a small permanent component.	Contract renewal decision: full rebalancing embedded in new 10-year ACV if contract continued.

D.5 The revised ACV formula

The three-layer unscheduled care model specifies the Uc component within the full ACV formula. The Uc component replaces the previous sessional tariff entirely and is composed of two ICB-set sub-elements, both reviewed at gate reviews.

ACV = (Bc × Rp × Ru)+ Pt(d) + Ls(P3) + Uc(r) + Uc(a)+ Qp − Pc

Bc × Rp × Ru Risk-weighted capitation for registered patients (adults £70/yr × Ru; children £60/yr × Ru).
Includes unscheduled/urgent care obligation for all registered patients
— no separate tariff for dental home unscheduled care.

Pt(d) Delivered prevention episode tariffs
— pathway-weighted; paid only where eligible prevention is delivered and recorded. Not universal.

Ls(P3) Pathway 3 laboratory supplement
— paid on delivered-care basis for eligible P3 lab-dependent items.
Excluded from Qp base. See Annex C.

Uc(r) Access retainer
— ICB-set; £2,000–£14,000/yr by practice role and demand level; commissions urgent access capacity for unregistered patients.

Uc(a) Per-attendance payment × commissioned ceiling
— £95–£145 gross per unregistered urgent attendance;
NHS pays net after patient charge deduction;
ceiling set by ICB and reviewed at gate reviews.

Qp Quality premium — up to 12% of (Bc×Rp×Ru + Pt(d)) base only.
Ls(P3) and Uc are excluded from the premium base
— the premium rewards prevention and registered population health,
not urgent care volume or lab cost recovery.

Pc Patient charge income
— deducted from gross ACV to give the net NHS commitment.
For Uc(a), the gross urgent attendance rate is reduced by the patient charge collected from unregistered urgent patients, so the NHS pays only the net public cost. No double-payment.

D.6 Worked illustration: how the ACV changes shape over time

Tables D4 and D5 illustrate the same practice at year 1 and Year 5, demonstrating how the ACV composition shifts as registration increases and the Uc component is rebalanced. The practice is a high-deprivation urban designated hub — Profile 1 equivalent (Hull typology) — where the shift is most dramatic. All figures use the confirmed central model parameters: Bc_a £70, Bc_c £60, Ru 1.54, Pt(d) pathway-weighted (adults £13.40, children £16.60), Ls(P3) at 3% incidence × £120.

Table D.4 Worked illustration: Year 1 ACV composition — Designated hub, 1,800 registered patients (1,285 adults + 515 children)

Component	Derivation	Value
Adult capitation (Bc×Rp×Ru)	**1,285 adults × £70 × 1.54**	**£138,523**
Child capitation (Bc×Rp×Ru)	**515 children × £60 × 1.54 — Ru applied to both**	**£47,586**
Adult Pt(d) — pathway-weighted	1,285 × £13.40	£17,219
Child Pt(d) — pathway-weighted	515 × £16.60	£8,549
QP base (cap + Pt(d) only)	£138,523 + £47,586 + £17,219 + £8,549	£211,877
Quality premium (12%)	£211,877 × 12%	£25,425
Ls(P3) — lab supplement	1,285 × 3% × £120 (39 eligible cases)	£4,626
Uc(r) access retainer	Hub designation; large, unregistered population	£10,000
Uc(a) gross (400 attendances × £135)		£54,000
Less: charge income (400 × 60% fee-paying × £27.40)		−£6,576
Uc(a) net NHS urgent cost		£47,424
GROSS ACV	Sum of all components	£299,352
Less patient charges (Pc)	1,285 × 57% fee-paying × £44.89 avg annual charge	−£32,908
NET NHS COMMITMENT		**£266,444**
Gross ACV per registered patient	£299,352 ÷ 1,800	£166.31

Table D.5 Worked illustration: Year 5 — Same practice, 2,500 registered patients (1,785 adults + 715 children), Gate 2 rebalancing approved

Component	Derivation	Value
Adult capitation (Bc×Rp×Ru)	**1,785 adults × £70 × 1.54 — same Ru; larger list**	**£192,423**
Child capitation (Bc×Rp×Ru)	**715 children × £60 × 1.54**	**£66,066**
Adult Pt(d) — pathway-weighted	1,785 × £13.40	£23,919
Child Pt(d) — pathway-weighted	715 × £16.60	£11,869
QP base (cap + Pt(d) only)	£192,423 + £66,066 + £23,919 + £11,869	£294,277
Quality premium (12%)	£294,277 × 12%	£35,313
Ls(P3) — lab supplement	1,785 × 3% × £120 (54 eligible cases)	£6,426
Uc(r) access retainer	Hub retained but smaller unregistered population	£6,500
Uc(a) gross (180 attendances × £135)		£24,300
Less: charge income (180 × 60% fee-paying × £27.40)		−£2,959
Uc(a) net NHS urgent cost		£21,341
GROSS ACV	Sum of all components	£363,857
Less patient charges (Pc)	1,785 × 57% fee-paying × £44.89 avg annual charge	−£45,694
NET NHS COMMITMENT		**£318,163**
Gross ACV per registered patient	£363,857 ÷ 2,500	£145.54

The 57% fee-paying assumption in this worked example is a profile-specific assumption for a high-deprivation urban designated hub, reflecting a higher exempt and charge-protected share than the national average. It should not be read as the national adult fee-paying rate; Annex F provides the national patient charge income methodology.

What the comparison shows

Three features are worth drawing out. First, the total ACV grows from £299k to £364k — not because the formula is more generous, but because the registered population has grown from 1,800 to 2,500 patients and the capitation and prevention components scale with it. The ACV is doing more work for more people.

Second, the net Uc component falls from £47,424 to £21,341 — a reduction of £26,083 — as the unregistered population shrinks, the ceiling is reduced at the Gate 2 review, and charge income from those attendances offsets more of the gross cost.

Third, the QP base has grown substantially (£211,877 to £294,277) because the capitation component has expanded, creating a stronger financial incentive to maintain prevention performance across a larger registered list. The Ls(P3) supplement also grows with the registered list, correctly scaling to the number of adults served.

The reduction in gross ACV per registered patient from £166.31 to £145.54 illustrates a potential productivity effect of successful registration: urgent-care expenditure is spread across a larger registered population and a greater share of the contract funds continuing care. It should not be treated as a guaranteed saving. The effect depends on realised registration growth, lower repeat urgent demand, provider viability and the absence of displacement into other services.

> **The rebalancing in one sentence**
>
> *As registration succeeds, urgent care becomes cheaper per registered patient and more of the ACV buys continuous prevention for a growing list. The contract is designed to improve its own value-for-money as it works.*

D.7 Patient charges for unscheduled/urgent care

Patient charge arrangements for urgent care should be simple and consistent with the pathway-based charge model set out in Annex C (Care Pathways) and Annex E (Patient Charges and Exemptions).

The examples in Table D.6 distinguish the unscheduled/urgent episode from subsequent stabilisation. Uc(a) pays for the unregistered urgent attendance. Where the unscheduled/urgent appointment consists of assessment, triage, advice, pain relief or temporary urgent care, the Band 1-equivalent charge is deducted. Where active treatment is provided during the unscheduled/urgent episode, the Band 2-equivalent charge is deducted. If the patient requires planned definitive stabilisation after the unscheduled/urgent episode, that care should be commissioned and charged through the relevant registered pathway or follow-on care route. It should not be double-counted within Uc(a). All figures below use 2024/25 baseline rates, consistent with the approach throughout the paper.

Table D.6 Patient charges for unscheduled/urgent care and Treasury treatment

Patient charge deduction from Uc(a): combined rule and worked examples

Patient / episode type	Uc(a) gross rate	Charge deducted — 2024/25 rates	Net NHS cost	Treasury treatment
Registered patient — urgent care at dental home	N/A	P1/P2 or P3 charge only where the urgent presentation converts into a pathway episode	Within Bc × Rp × Ru	No Uc(a) payment. Registered urgent care is part of the dental home obligation funded through base capitation.
Unregistered patient — assessment, triage, advice, pain relief or temporary urgent care at any-willing practice	£95	£27.40	£67.60	Band 1-equivalent urgent charge deducted from gross Uc(a).
Unregistered patient — active treatment provided during urgent episode at any-willing practice	£120	£75.30	£44.70	Band 2-equivalent charge deducted where treatment is delivered during the urgent episode.
Unregistered patient — assessment, triage, advice, pain relief or temporary urgent care at designated hub	£135	£27.40	£107.60	Higher hub gross rate reflects extended scope, triage infrastructure and local urgent access responsibility.
Unregistered patient — active treatment provided during urgent episode at designated hub	£145	£75.30	£69.70	Higher hub gross rate; Band 2-equivalent charge deducted where treatment is delivered.
Exempt unregistered patient — any urgent episode	£95–£145	£0	£95–£145	NHS bears the full gross cost. This is an intended equity feature, not an unexpected cost.
Unregistered patient requiring planned definitive stabilisation after the urgent episode	Outside Uc(a)	Charged through the relevant registered pathway or follow-on care route	Determined by pathway or contract route	The urgent episode should trigger registration offer and stabilisation planning. Definitive follow-on care must not be double-counted within Uc(a).
Traveller / tourist / transient patient — non-exempt	£95–£145	Standard urgent charge; overseas visitor rules apply where relevant	Gross minus charge collected	Overseas visitor rules do not alter the NHS net calculation for domestic patients.

Patient charge deduction from Uc(a) — HM Treasury treatment

The Uc(a) per-attendance rate is a gross figure — the total income the practice receives for each unregistered urgent episode. The NHS pays the net: gross rate minus the patient charge collected. This is identical in principle to how registered patient charge income (Pc) is deducted from the ACV.

This treatment prevents the practice being paid twice for the same episode and ensures HM Treasury sees a consistent net public cost across all dental commissioning. The gross rate (£95–£145) is set to reflect the true cost of the clinical episode; the NHS contribution reflects the public cost after patient co-payment. Subsequent planned stabilisation should be commissioned and charged through the relevant registered pathway or follow-on care route and should not be double-counted within Uc(a). The concentration of exempt patients in the unregistered urgent pathway is an intended equity feature of the design, not an unexpected cost.

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ANNEX E

Patient Charges and Exemptions

From welfare eligibility to prevention value: the confirmed exemption series; the post-2019 trajectory; who is not exempt but should be; and the clinical, equity and fiscal case for extending the framework — with a proposed timeline for regulatory change

ANNEX E Introduction

This annex addresses the equity, clinical and legal case for reforming patient charges and exemptions within the proposed pathway model. It should be read alongside Annex F, which sets out patient charge income methodology and the reconciliation of charge income through Pc. Annex E asks who should pay, who should be protected, and how charge policy should avoid clinically harmful delay. Annex F asks how charge income should be modelled, deducted and reconciled within the ACV.

The policy test

Would charging this patient group deter clinically necessary prevention or stabilisation in a way that increases downstream NHS or wider public-sector cost? Where the answer is yes, exemption or targeted charge protection should be treated as a preventive investment — not simply as foregone charge income.

Cross-reference

Annex F (Patient Charge Income Methodology) for charge income modelling and the financial impact of the extended exemption framework. Section 3.4 of the main paper for the patient charge policy argument and the pathway charge structure. Annex L (Evidence Base) for the clinical evidence underpinning the condition-specific extension groups. Annex I (Oral Health and Systemic NCDs) for the periodontal-diabetes and cardiovascular evidence relevant to the diabetes and Core20PLUS5 extensions.

E.1 The confirmed historical exemption series — 2006/07 to 2018/19

The analytical foundation is the confirmed historical adult exemption series from Shah and Wordley's analysis of all NHSBSA FP17 claims from 2006 to 2019. [1] This remains the only published systematic analysis of the annual adult exemption rate across this period. Its central finding is that the fall in adult dental charge exemptions did not occur because oral health need reduced. It occurred because welfare eligibility, passporting structures and benefit thresholds changed.

Table E.1 Confirmed historical adult exemption series, 2006/07 to 2018/19

Year	Exempt adult rate (% of adult COTs)	Trend	Structural interpretation
2006/07	30.2%	↑	Post-2006 contract transition; access disruption briefly elevated exempt share as attendance patterns changed.
2007/08	30.8%	↑	Continued expansion of income-related benefit eligibility; JSA and ESA volumes rising.
2008/09	31.1%	↑	Financial crisis expanding means-tested benefit claimants.
2009/10	31.3%	↑	Welfare rolls continuing to grow; JSA and ESA volumes at high point.
2010/11	31.4%	↑	Near-peak; welfare rolls at high point before austerity reform begins.
2011/12	**31.5%**	→	**PEAK — highest recorded exempt rate (2006–2019). Welfare Reform Act 2012 enacted. Coalition benefit reform programme begins.**
2012/13	30.1%	↓	Universal Credit pilots begin; eligibility thresholds tighten; some automatic passporting removed.
2013/14	28.4%	↓	Welfare reform effects compound; HC2/HC3 application routes replace automatic passporting for some categories.
2014/15	27.2%	↓	Universal Credit rollout expanding; JSA thresholds tightened.
2015/16	26.1%	↓	Welfare Reform Act effects compounding; benefit freeze beginning.
2016/17	25.3%	↓	Continued UC migration; reduced tax credit recipients automatically passported.
2017/18	24.5%	↓	UC expansion; benefit freeze; fewer income-related ESA claimants automatically exempt.
2018/19	23.7%	→	Most recent confirmed rate. 7.8 percentage point fall from the 2011/12 peak. [1]

The analytical significance

The 7.8 percentage point fall from 31.5% in 2011/12 to 23.7% in 2018/19 should not be interpreted as evidence that fewer adults needed protection from dental charges. It is the consequence of welfare-policy change — Universal Credit migration, benefit eligibility tightening, reduced automatic passporting and greater reliance on HC2/HC3 application routes. The patients removed from automatic exemption did not become lower-risk dental patients. Many became charge-liable patients with the same disease risk, the same financial constraints and a higher likelihood of delayed attendance.

The policy implication

The current adult exemption rate should not be treated as a clinically valid baseline for prevention-led commissioning. It is a policy-produced baseline, not an oral-health-needs baseline. A prevention-led NHS dental contract cannot assume that the current exemption framework correctly identifies everyone for whom patient charges are clinically or fiscally counterproductive.

E.2 The post-2019 estimated trajectory and the data gap

After 2018/19, the annual exemption series becomes more difficult to interpret. Covid-19 disrupted dental activity significantly — total adult COTs fell by approximately 52% in 2020/21 — and the altered attendance mix means the exempt proportion of a reduced total is not directly comparable with pre-pandemic figures. Continued Universal Credit migration, changes to benefit eligibility structures, and the post-pandemic recovery pattern all affect the trajectory. [2]

NHSBSA annual releases include data on courses of treatment by exemption type in Table 1f of the national summary Excel files. The estimates below are structural estimates based on the known direction of the factors above. They should be treated as provisional until confirmed data are obtained.

Priority data request

DHSC and NHS England should formally request the full annual adult exemption rate series for 2019/20 to 2024/25 from NHSBSA Dental Insight Information Services, using Table 1f of the national summary datasets. This is published data but requires a direct request to the NHSBSA Dental Insight team. Obtaining confirmed post-2019 figures is a prerequisite for finalising the exemption baseline in the investment case. Until the series is confirmed, all modelling should present confidence levels and sensitivity ranges.

Table E.2 Estimated post-2019 exemption trajectory and confidence level

Year	Estimated exempt rate	Structural basis	Confidence
2019/20	~23.2%	Pre-pandemic trend continuation; modest downward pressure continuing from UC migration.	Moderate
2020/21	~22–24%	Covid distortion: activity collapsed 52%; urgent-care bias means non-exempt patients over-indexed in the access decline; exempt share of reduced total uncertain.	Lower
2021/22	~23.1%	Post-Covid recovery; non-exempt patients returned faster initially; UC migration beginning to add newly eligible claimants.	Moderate
2022/23	~23.9%	UC migration accelerating; more claimants reaching dental eligibility threshold within UC; partial access recovery normalising the mix.	Moderate
2023/24	~24.5%	UC migration continuing; slight recovery toward pre-Covid exempt rate; April 2024 charge increase may affect some fee-paying patients at the margin.	Moderate
2024/25	~25.1%	UC migration nearly complete; modest upward drift as eligible claimants stabilise. Patient charges in 2024/25: Band 1 £27.40, Band 2 £75.30, Band 3 £326.70 per SI 2025/310. [3] A further uplift applied from 1 April 2026 (Band 1/P1/P2 £27.90; Band 2/P3 £76.60; Band 3/annual cap £332.10) — this uplift may increase the proportion of patients deferring fee-paying attendance at the margin, particularly for P3 care.	Moderate

The estimated upward drift from approximately 23.7% (2018/19) to approximately 25.1% (2024/25) reflects the partial reversal of the UC migration effect as more claimants reach the dental eligibility threshold within the UC system. However, the estimated 25.1% remains 6.4 percentage points below the 2011/12 peak of 31.5% — and cannot be explained by any improvement in adult oral health. It is entirely a function of how the welfare system gateway to exemption was restructured over the preceding decade.

E.3 Who is currently exempt — and why the framework is too narrow

E.3.1 The current statutory exemption categories

The current adult exemption categories are set out in the NHS Dental Charges Regulations 2005 as amended, confirmed in SI 2025/310. [3] They protect several groups appropriately and are detailed in Table E.3.

Table E.3 Current statutory exemption categories and assessment for a prevention-led model

Category	Basis	Assessment for prevention-led model
Children under 18 (under 19 in full-time education)	Statutory — age-based; automatic	Comprehensive and well-targeted. See Annex G (Child Prevention Investment Case) for the child access dividend.
Pregnant women and women within 12 months of birth	Statutory — automatic on MATB1 presentation	Well-targeted; clinical rationale sound; adequately covers the maternity pathway.
Universal Credit recipients	Automatic on UC award; growing as migration proceeds	Coverage improving as UC migration completes. UC award does not guarantee dental eligibility in all circumstances — some edge cases remain.
Income Support / ESA / JSA recipients	Automatic on legacy benefit award; declining as UC migration proceeds	Declining category. Patients migrating to UC should retain automatic exemption — transition management required.
NHS Low Income Scheme (HC2 full / HC3 partial)	Means-tested; requires individual application	Under-claimed. Application process is a barrier: complex, requires income evidence, time-limited. Many entitled patients do not apply. Cannot be the primary protection mechanism for a prevention-led model.
War Pensioners	Statutory; automatic	Appropriate. Small category.
TOTAL estimated adult exempt rate (2024/25)	Estimated ~25.1% of adult COTs [1,2]	A policy-produced baseline, not a clinical-needs baseline.

The HC2/HC3 under-claim problem

The NHS Low Income Scheme provides full or partial charge exemption for patients below the income threshold who are not on automatic benefit exemptions. Evidence is consistent that HC2 and HC3 are substantially under-claimed: patients who are financially and clinically entitled to charge relief do not apply because the process is complex, requires income evidence, is time-limited and must be renewed. The reformed model's extended framework addresses this gap partly through categorical exemptions that do not require individual applications. HC2/HC3 remains important as a safety net but cannot be the primary mechanism for protecting high-need patients in a prevention-led model.

E.3.2 The populations not adequately protected — and what they have in common

The current framework protects people who fit welfare-based or age-based categories. It does not consistently protect people for whom dental charges create clinically harmful delay — regardless of their benefit status. Many high-risk patients are not automatically exempt. They may defer attendance, decline prevention, delay stabilisation, choose extraction over restoration, or present through urgent care, A&E or hospital services. In a prevention-led model, that is precisely the wrong outcome.

The following eight groups represent the proposed extension of the exemption framework. They are selected because there is a plausible and evidence-supported pathway from charge barrier to delayed care, from delayed care to worsening disease, and from worsening disease to higher NHS or public-sector cost.

Table E.4 Populations not adequately protected by the current exemption framework

Group	Current status	Why the current framework fails them
Core20PLUS5 populations with high oral disease burden	Not exempt unless on qualifying benefit	Disease probability is highest in the most deprived 20%; the charge is proportionately most burdensome here; prevention ROI is highest precisely where the charge is most deterrent.
Type 2 diabetes with active periodontal disease	Not exempt unless on qualifying benefit	Periodontal disease directly affects glycaemic control; treating it is part of long-term condition management; the charge deters an intervention with a documented NHS cost return elsewhere.
Cancer treatment (head/neck, chemo, radiotherapy)	Not systematically exempt; inconsistent local arrangements	Dental stabilisation before and during cancer treatment is NICE-recommended and clinically essential; the charge deters necessary care at a uniquely vulnerable moment.
Pre-major surgery dental clearance	Not exempt; referral-triggered clearance poorly funded	Dental sepsis is an avoidable surgical risk; the charge deters care that prevents complications costing multiples more than the dental episode.
Palliative and end-of-life patients	Not systematically exempt; some local hospice arrangements	Oral comfort is a core component of palliative care; the charge is a dignity barrier at exactly the wrong clinical moment.
Care home residents and frail older adults	Not exempt unless on qualifying benefit	High oral health need, reduced self-care, polypharmacy, cognitive impairment; the charge deters assessment that prevents pain, malnutrition, aspiration risk and urgent crisis.
Learning disability, autism or disability affecting oral self-care	Not exempt unless on qualifying benefit	Higher disease risk, communication and access barriers, reduced self-care capacity; the charge compounds existing practical barriers to necessary care.
Severe mental illness	Not exempt unless on qualifying benefit; often not on qualifying benefit despite significant social need	SMI antipsychotics cause profound xerostomia and caries; SMI is already in Core20PLUS5, but not all SMI patients qualify for the Core20 definition; the charge adds to multiple existing barriers.

E.3.3 Implementation route: statutory exemption and commissioned waiver

The preferred long-term route for extended exemptions is statutory amendment to the NHS Dental Charges Regulations, because this creates a clear and durable patient entitlement. During the demonstrator phase, however, NHS England and ICBs can use commissioned waivers within PDS contracts to protect defined groups while statutory amendments are developed.

This two-route approach allows the demonstrator to test the exemption framework without delaying implementation until all secondary legislation is complete. It also enables DHSC, NHS England and ICBs to assess eligibility rules, administrative burden, fraud risk, patient understanding, cost impact and equity effect before national rollout.

The proposed protection should therefore be understood as pathway-defined and implementation-tested: commissioned waiver during the demonstrator phase, with statutory exemption pursued for those groups where DHSC legal analysis, evaluation evidence and affordability testing support national adoption.

E.4 The case for extending the framework :clinical, equity and fiscal dimensions

The case for extending exemptions operates on three dimensions simultaneously. These are not competing arguments. They reinforce each other.

Table E.5 Clinical, equity and fiscal case for extending the exemption framework

Dimension	The argument
Clinical	Charges are counterproductive where they deter necessary prevention or stabilisation. A prevention-led contract must protect care that relieves pain, manages infection, stabilises active disease, prevents deterioration, supports long-term condition management, reduces avoidable hospital use, supports cancer and surgical pathways, preserves nutrition, speech, dignity and daily function, and reduces avoidable antibiotic prescribing. For the eight groups above, dental care is not optional consumption. It is part of clinically necessary healthcare.
Equity	The current framework can exclude people with high disease probability who do not meet narrow welfare-based criteria — people just above benefit thresholds, people with fluctuating income, people in insecure employment, frail older adults, people with disability, and people with long-term conditions whose oral health need is clinically significant but unrecognised in exemption rules. A charge that appears modest to the system may be a decisive barrier to the patient. In a high-risk population, that barrier can turn preventable disease into urgent treatment need.
Fiscal	The Treasury question should not be limited to foregone patient charge income. The better question is: does charging this group reduce or increase total public cost over time? Where charges deter early care, the NHS may pay more later through A&E attendance, hospital dental extractions, urgent dental episodes, avoidable antibiotic prescribing, progression of periodontal disease, poorer diabetes control, complications in cancer or surgical pathways, aspiration risk in frail older adults, and wider social care or welfare impacts.

E.4.1 The detailed case for each proposed extension group

1 Core20PLUS5 populations with high oral disease burden

Clinical case: Oral disease is socially patterned. Deprivation is associated with higher dental disease prevalence, higher treatment need, lower routine access and greater exposure to risk factors. The historical exemption series demonstrates that exemption status is a policy construct, not a clinical marker of need: a person just above a benefit threshold remains at high oral health risk but becomes charge-liable. Core20PLUS5 provides an existing NHS framework for focusing on the most deprived 20% of the population and locally identified inclusion groups. Oral health is strongly aligned with its logic — disease burden is unequal, preventable and concentrated — but is not consistently embedded in it. [4,5]

Fiscal and ROI case: Targeted charge protection for Core20PLUS5 populations would reduce the likelihood that high-risk patients defer care until pain, infection or complex treatment need develops. The expected return comes from avoiding repeat urgent dental attendance, avoidable A&E attendance, antibiotic prescribing in place of definitive treatment, preventable extractions and worsening inequalities. Dunleavy, Kebschull, Chapple et al. (2024) estimate the prevention saving per person at approximately £14,000 in the most deprived group — the highest prevention ROI in the population. [4]

Proposed protection: Charge protection for prevention (Pathway 2 contacts), risk assessment and clinically necessary stabilisation in Core20PLUS5 populations and high oral disease burden areas. Implemented through ICB-defined eligible populations using IMD, local disease prevalence and access failure indicators. No individual patient application required — administered at practice level using postcode/area-based eligibility.

2 Type 2 diabetes with active periodontal disease

Clinical case: There is a strong evidence base linking periodontal disease and diabetes management. The 2022 Cochrane review (Simpson et al.) found moderate-certainty evidence that periodontal treatment using subgingival instrumentation improves glycaemic control in people with diabetes and periodontitis — with an average HbA1c reduction of approximately 0.43 percentage points. [6] This makes periodontal stabilisation clinically relevant not only to oral health but to long-term condition management for approximately 4.4 million adults in England with diagnosed type 2 diabetes. Epidemiological data suggests 50–60% have co-existing clinically significant periodontal disease.

Fiscal and ROI case: At an average NHS diabetes management cost of approximately £3,700 per patient per year, even a modest 10% attributable improvement in glycaemic control from periodontal treatment represents approximately £370 per patient per year in avoided diabetes costs. This substantially exceeds the Pathway 3 charge (£75.30 at 2024/25 rates) that currently deters periodontal stabilisation for many patients in this group. The NHS is paying for under-treated periodontal disease in its diabetes management budget — and not recognising it as a dental cost. [6] See Annex I for the full periodontal-diabetes evidence and Green Book treatment.

Proposed protection: Targeted exemption or charge-protected periodontal stabilisation pathway for people with diagnosed type 2 diabetes and documented active periodontal disease. Should apply to assessment, stabilisation and structured prevention — not to all dental treatment. Eligibility confirmed via GP diabetes register and clinical documentation of periodontal disease. Creates a formal commissioning link between dental and primary care diabetes pathways. See Annex I (Oral Health and Systemic NCDs) for the full evidence treatment.

3 Cancer pathways — head and neck oncology, chemotherapy, radiotherapy

Clinical case: Patients undergoing cancer treatment — particularly head and neck radiotherapy, chemotherapy and haematological malignancy pathways — are at substantially increased risk of oral and dental complications: mucositis, xerostomia, radiation caries, trismus, oral infection and osteoradionecrosis. NHS England guidance and Royal College of Surgeons guidance both emphasise the importance of oral and dental management before, during and after cancer therapy. [7,8] The clinical standard is clear: dental stabilisation before cancer treatment reduces complication risk. The funding pathway for it is not.

Fiscal and ROI case: Charging patients for dental assessment and stabilisation in oncology pathways risks delayed care at precisely the point when oral infection can compromise cancer treatment. The expected ROI comes from avoiding: cancer treatment delays; oral infection during immunosuppression; dental extractions after radiotherapy when osteoradionecrosis risk is elevated; avoidable admissions; unmanaged pain; impaired nutrition; and reduced treatment tolerance. A single day of surgical delay or post-radiotherapy osteoradionecrosis case costs multiples more than the dental episode that would have prevented it.

Proposed protection: Automatic pathway-based exemption for dental assessment and stabilisation linked to cancer treatment — before, during and after relevant treatment for head and neck oncology, chemotherapy, radiotherapy and haematological malignancy pathways. Time-limited where clinically appropriate. Eligibility confirmed by oncology team referral. No individual patient application.

4 Major surgery and complex medical treatment pathways

Clinical case: Oral infection can create avoidable risk in patients undergoing major surgery, transplant pathways, cardiac procedures, bisphosphonate therapy or other complex medical treatment. The principle is recognised in many local pre-operative pathways — dental sepsis should be identified and stabilised before treatment where clinically relevant. But implementation is inconsistent: some referral systems cover dental clearance costs; most do not. Patients are directed by their surgical team for dental clearance and then charged for it at a high-stress clinical moment, for treatment they have been medically directed to have.

Fiscal and ROI case: Surgical delay or post-operative complication from uncleared dental infection costs vastly more than the dental clearance episode. A single day of delay in an elective cardiac theatre costs approximately £10,000–£15,000. Bisphosphonate-related osteonecrosis of the jaw managed in maxillofacial surgery costs tens of thousands. The dental clearance episode under the reformed model costs £75.30. The economic case for exemption is not marginal — it is compelling. The barrier is cross-budget: the cost falls in dental, the saving falls in surgery.

Proposed protection: Charge protection where dental stabilisation is required to support safe NHS medical or surgical care. Eligibility pathway-defined and time-limited: pre-operative assessment, transplant work-up or specified medical treatment preparation. Triggered by consultant referral letter — no patient application required.

5 Palliative and end-of-life patients

Clinical case: Oral health is integral to comfort, dignity, hydration, nutrition, communication and pain control in palliative and end-of-life care. NICE Clinical Knowledge Summaries identify common oral problems in this group: dry mouth, painful mouth, altered taste, mucositis. NICE NG31 (care of dying adults in the last days of life) treats mouth care as a core element of symptom management. [9] Medications used in palliative settings — opioids, antimuscarinics, antidepressants, antipsychotics — cause severe xerostomia, increasing caries risk and causing painful oral dryness.

Fiscal, equity and dignity case: For palliative patients, value should be understood partly as avoided cost and partly as public value — dignity, comfort and quality of life. The charge deters care that prevents avoidable pain, infection, distress, dehydration, nutrition problems, crisis contacts and avoidable prescribing. The number of patients involved is small (~300,000 on palliative pathways annually); charge income foregone is minimal; patient benefit is immediate and significant. The dignity argument is primary.

Proposed protection: Automatic exemption for clinically necessary dental and oral health care for patients with a life-limiting diagnosis in receipt of palliative care. Eligibility linked to GP palliative care register, hospice referral or specialist palliative care involvement. No patient application required.

6 Care home residents and frail older adults

Clinical case: NICE NG48 establishes that care home residents often have high oral health need, reduced self-care capacity, cognitive impairment, polypharmacy, dry mouth, denture problems, limited mobility and practical barriers to attendance. [10] Poor oral health affects nutrition, comfort, dignity, infection risk and aspiration-related complications. CQC (Smiling Matters, 2023) found 25% of care home providers unable to access NHS dental care for residents — not primarily because of charges but because of access. The charge is an additional barrier on top of a pre-existing access failure.

Fiscal and ROI case: Charge protection can create return by reducing: urgent dental crises; pain and distress; avoidable antibiotic prescribing; denture-related problems affecting nutrition and communication; aspiration-related risk where oral hygiene is poor; avoidable GP contacts; and avoidable hospital use. Frailty is costly when complications escalate.

Proposed protection: Charge-protected oral health assessment, prevention and stabilisation for care home residents and identified frail older adults. Commissioned as part of frailty, nutrition and care home quality pathways. Could be implemented through ICB-commissioned domiciliary dental pathways with exemption built into the commissioning arrangement.

7 Learning disability, autism and significant disability affecting oral self-care

Clinical case: People with learning disability, autism or significant disability may face higher disease risk, communication barriers, dental anxiety, reduced capacity for self-care and reliance on carers. Late presentation leads to more advanced disease, more complex specialist care, more frequent general anaesthetic use and increased safeguarding risk where oral pain is unrecognised or manifests as behavioural change. [11]

Fiscal and ROI case: Charges compound practical, communication, behavioural and access barriers. Delayed care leads to disease progression, pain and distress, avoidable general anaesthetic treatment, safeguarding concerns and increased carer burden. General anaesthetic dental episodes cost approximately £1,562 per episode (OHID data; see Section 3.5 of the main paper for the avoided cost analysis). Preventing even a small proportion through earlier access represents a significant NHS cost saving, quite apart from the patient benefit.

Proposed protection: Targeted exemption or charge protection for clinically necessary prevention and stabilisation where disability materially increases oral disease risk or reduces ability to access and maintain care. Eligibility linked to existing learning disability registers, special educational settings, reasonable adjustment pathways or special care dentistry pathways. No individual patient application required.

8 Severe mental illness

Clinical case: People with severe mental illness experience substantially worse oral health outcomes than the general population. Kisely et al. (2015) found significantly increased odds of total tooth loss among people with SMI compared with the general community. [12] SMI antipsychotic medications cause profound xerostomia and elevated caries risk. SMI affects motivation, self-care, diet, smoking, appointment attendance and ability to navigate charging and exemption systems.

Fiscal and ROI case: Charges add a further barrier to early care in a group already facing multiple access obstacles. Delayed dental care contributes to preventable deterioration, urgent presentations, extractions and tooth loss, pain-related mental health deterioration, avoidable prescribing and reduced participation in work, recovery and community life.

Proposed protection: Targeted charge protection for prevention, stabilisation and urgent-to-routine conversion pathways for people with SMI. Eligibility linked to SMI registers and secondary mental health care or community mental health team involvement. Note: SMI is included in Core20PLUS5 — some SMI patients will be covered by the Core20PLUS5 extension (Group 1). Separate SMI pathway protection covers those who fall outside the Core20 area definition.

The policy conclusion

The current dental charge exemption framework is a welfare-based instrument being asked to support a prevention-led oral health system. It is not designed for that task. The reform question is simple: do we want patient charges to raise revenue from treatment activity, or do we want an exemption framework that helps the NHS prevent disease, stabilise risk and reduce total public cost?

A targeted extension of the framework — organised around clinical need, prevention value and system ROI rather than benefit eligibility alone — is the answer the prevention-led model requires.

E.4.2 Summary ROI matrix

Table E.6 Summary ROI matrix for proposed exemption extension groups

Group	Charge barrier creates risk of	Primary ROI mechanism	Evidence quality	Proposed protection
Core20PLUS5 / high disease burden	Deferred prevention; urgent-only attendance; worsening inequality	Reduced crises, extractions, A&E use, antibiotic prescribing; Dunleavy et al. prevention dividend [4]	Moderate–High [4,5]	Charge protection — prevention and stabilisation; IMD-based; no application
Type 2 diabetes + periodontitis	Poor periodontal control; poorer glycaemic control; tooth loss	Reduced diabetes complications; NHS cost return via HbA1c improvement	High (Cochrane) [6]	Exempt periodontal stabilisation pathway; GP register trigger
Cancer pathways	Infection risk; treatment delay; ORN; avoidable admissions	Avoided treatment delay, complications, ORN; admission reduction	High [7,8]	Automatic pathway exemption; oncology referral trigger
Major surgery / complex medical	Untreated oral infection before high-risk procedure	Reduced surgical complications, delays and avoidable inpatient cost	Moderate [clinical consensus]	Time-limited pathway charge protection; consultant referral trigger
Palliative / end-of-life	Pain, infection, nutrition, dignity in dying	Reduced crisis contacts, avoidable prescribing; comfort and dignity	Strong (dignity + clinical) [9]	Automatic exemption; palliative register trigger
Care home / frail older adults	Pain, malnutrition, aspiration, avoidable GP and hospital contacts	Reduced urgent care, medical contacts, care burden; avoided deterioration	Moderate [10]	Charge-protected assessment and stabilisation; domiciliary pathway
Learning disability / autism / disability	Late presentation; complex specialist care; GA treatment; safeguarding	Reduced GA, distress, safeguarding risk; avoided specialist escalation	Moderate [11]	Targeted exemption; LD register / SEN pathway trigger
Severe mental illness	Low attendance; advanced disease; pain-related deterioration	Reduced urgent care, tooth loss; better recovery outcomes	Moderate [12]	Targeted prevention and stabilisation protection; CMHT involvement trigger

E.4.3 The proposed three-tier exemption framework

Table E.7 Proposed three-tier exemption framework

Tier	Scope	Groups and criteria
Tier 1	Retain all existing statutory exemptions	Children, maternity, qualifying low-income exemptions (UC, legacy benefits, HC2/HC3). Protects existing eligibility and avoids destabilising current access. HC2/HC3 continues as the safety net for means-tested low-income relief. No change to this tier.
Tier 2	Add automatic clinical exemptions for defined NHS pathways	Clear categories where dental care is part of wider NHS risk management: oncology pathways (head/neck radiotherapy, chemotherapy, haematological malignancy); transplant and major surgical preparation; palliative and end-of-life care. Pathway-based and time-limited where clinically appropriate. Triggered by NHS referral — no patient application required. Requires NHS Dental Charges Regulations amendment.
Tier 3	Introduce targeted charge protection for prevention and stabilisation	Groups where the ROI case is strong but full exemption requires further modelling, or where ICB demonstrator testing is appropriate before national adoption: Core20PLUS5 populations; type 2 diabetes periodontal pathway; care home residents and frail older adults; people with learning disability, autism or significant disability; people with severe mental illness. Could operate initially through ICB demonstrators within the Population Oral Health Contract, with national adoption at Gate 1 review (2031). Requires Regulations amendment and co-commissioning arrangements.

The Treasury fiscal framing

The conventional fiscal concern about extending dental charge exemptions is that doing so reduces patient charge income. The relevant Treasury test is different: does exemption for this group reduce or increase total public cost over time? For each of the eight groups above, the NHS may forego a charge today but avoid a much higher cost tomorrow — through A&E attendances, repeat urgent episodes, hospital dental extractions, cancer treatment complications, surgical delays, care home deterioration and mental health crisis presentations. The proper comparison is not charge income retained versus charge income lost. It is charge income foregone versus downstream NHS and public-sector cost avoided. [13] However, the extended exemption framework should not be presented as self-funding within the primary Year 5 affordability case. Its charge-income impact is accounted for in Annex F; its wider fiscal and public-value benefits should be tested through demonstrator evaluation before being treated as cashable offsets.

E.5 The legal pathway for implementing the extended exemption framework

The extended exemption framework proposed in this annex requires changes to the current legal basis for NHS dental charge exemptions. This section sets out the enabling legislation, the secondary legislation route, when primary legislation may be required, and the recommended sequencing for implementation aligned to the Population Oral Health Contract timeline.

Cross-reference

Section 5.6 of the main paper (implementation sequencing) for the policy timeline into which the regulatory pathway must fit. The demonstrator programme go-live at Q3 2028 is the target date for Tier 2 exemptions to be in force. Tier 3 exemptions should follow Gate 1 review in Q3 2031.

E.5.1 The current enabling legislation

Table E.8 Current enabling legislation for dental charge exemptions

Level	Instrument	Relevance to extended framework
Primary legislation	National Health Service Act 2006 Section 180: Secretary of State may make regulations imposing charges for dental services. Section 181: Secretary of State may make regulations exempting persons from charges — 'such persons as may be specified in the regulations'.	Section 181 provides the enabling power for all exemption regulations. Its scope — 'such persons as may be specified' — is broad and has historically accommodated a wide range of exemption categories. Legal analysis is needed to confirm each proposed extension fits within this power before drafting.
Secondary legislation (current)	NHS Dental Charges Regulations 2005 (SI 2005/3477), as amended. Most recent amendment: NHS Dental Charges (Amendment) Regulations 2025 (SI 2025/310), signed 7 March 2025, in force 1 April 2025. [3] Note: a further charges uplift applied from 1 April 2026: P1/P2 £27.90; P3/P4 £76.60; annual cap £332.10. The final demonstrator contract schedule should use the charge rates in force at the point of implementation.	All current exemption categories are defined in this SI framework. All proposed extensions require amendment to this SI — or a new consolidating SI if the volume of amendments warrants it.
Commissioning power (NHSE/ICB)	NHS Act 2006 Section 3 (NHS England commissioning); NHS commissioning regulations 2012 as amended (ICB commissioning).	NHS England and ICBs can commission services that effectively waive charges — the commissioned service absorbs the charge rather than passing it to the patient. This is the demonstrator-phase route, without waiting for SI amendment.

E.5.2 The two routes to implementation

Table E.9 Two routes to implementation for exemption reform

Route	Mechanism	Advantages	Limitations	Timeline
Route A Statutory exemption (SI amendment)	DHSC legal analysis confirms Section 181 scope; SI drafted by parliamentary counsel; equality impact assessment; lay before Parliament (negative procedure — in force unless objected to within 40 days).	Patient entitled to charge-free care; equitable across all NHS providers; durable; clear and communicable to patients.	Requires 12–18 months from policy decision to SI in force; requires DHSC legal resource; NHSBSA system changes required.	12–18 months per SI; Tier 2 SIs should be laid Q2–Q3 2027 for in-force Q3 2028.
Route B Commissioned waiver (PDS contract/NHSE direction)	NHS England directs ICBs or practice contracts to absorb specified patient charges as part of the commissioned service; practice does not charge patient; NHS absorbs via contract payment adjustment.	Can be implemented immediately following policy decision; no SI required; can be used as demonstrator mechanism while SI route proceeds; flexible.	Not a statutory right — patient dependent on practice compliance; less equitable across non-contracted providers; less communicable to patients than statutory exemption.	Can be in force from demonstrator go-live Q3 2028; continues until replaced by statutory exemption post-Gate 1.

The implementation principle

Every proposed extension is designed to be administratively simple from the patient's perspective: no application, no form, no barrier. The gateway is clinical and administrative: a referral letter, a register confirmation, a postcode. The patient presents to the dental practice; the practice confirms eligibility through the defined trigger; no charge is levied. The complexity is in the system design and legal framework, not in the patient's experience. Getting the backend right makes the front end seamless.

E.5.3 Regulatory pathway for each exemption tier

Table E.10 Regulatory pathway for each exemption tier

Exemption category	Proposed tier	SI route assessment	Primary legislation risk	Recommended phase	Trigger mechanism
Oncology pathways	Tier 2	Straightforward SI amendment	Low	Phase 1 (Q3 2028)	Oncology referral letter from treating team
Palliative and end-of-life	Tier 2	Straightforward SI amendment	Low	Phase 1 (Q3 2028)	GP palliative care register or hospice registration
Major surgical clearance	Tier 2	SI amendment likely sufficient; legal analysis needed for time-limited pathway exemption	Low–Moderate	Phase 1 (Q3 2028) subject to legal analysis Q2 2027	Consultant referral letter specifying clearance requirement
Core20PLUS5 / IMD deprivation waiver	Tier 3	SI amendment required; demonstrator testing recommended first	Low	Phase 2 (Q3 2031 — post Gate 1)	Postcode-based IMD decile — NHSBSA automation possible
T2D periodontal pathway	Tier 3	SI amendment required; co-commissioning with primary care needed	Low	Phase 2 (Q3 2031)	GP diabetes register + documented active periodontal disease
Care home residents / frail older adults	Tier 3	SI amendment required; care home registration provides gateway	Low	Phase 2 (Q3 2031)	Care home registration; or GP frailty index score above threshold
Learning disability / autism / disability	Tier 3	SI amendment required; LD register provides gateway	Low	Phase 2 (Q3 2031)	LD register; autism diagnosis; or confirmed SEN status
Severe mental illness	Tier 3	SI amendment required; overlaps with Core20PLUS5	Low	Phase 2 (Q3 2031)	Secondary mental health care registration; CMHT involvement; SMI register
HC2/HC3 threshold adjustment	Tier 1 enhancement	Secondary legislation only — well-precedented	None	Phase 1 (Q3 2028)	Automatic — follows revised income threshold

E.5.4 Recommended implementation sequencing – illustrative timeline

Table E.11 Recommended implementation sequencing for exemption reform

Phase	Timing	Regulatory action	Outcome
Pre-conditions	Q2–Q4 2026	DHSC commissions independent legal analysis of Section 181 scope for all proposed Tier 2 and Tier 3 extensions. NHSBSA commissions system requirements analysis for each trigger mechanism. Equality impact scoping for all eight extension categories.	Legal sign-off or red flags identified before policy commitment. System change requirements scoped.
Phase 1 — Tier 2 SIs	Q2 2027 (drafting) Q3 2027 (lay before Parliament) Q3 2028 (in force)	SI drafted for oncology pathway, palliative care, and (if legal analysis confirms) surgical clearance exemptions. Negative procedure. NHSBSA system changes developed in parallel.	Tier 2 statutory exemptions in force from demonstrator go-live. All patients in cancer, palliative and surgical clearance pathways automatically entitled to charge-free dental care from Q3 2028.
Phase 1 bridge — Route B commissioned waiver	Q3 2028 (from demonstrator go-live)	NHS England direction to demonstrator ICBs to waive charges for Tier 3 categories as part of the commissioned PDS contract. No SI required. NHSBSA payment adjustment to compensate practices.	Tier 3 protections available in demonstrator sites from go-live via commissioned waiver route.
Phase 2 — Tier 3 SIs	Q2 2031 (drafting) Q3 2031 (lay before Parliament) Q1 2032 (in force)	Following Gate 1 review (Q3 2031) and demonstrator evidence, SIs drafted for all Tier 3 categories. Consolidated SI approach recommended.	Full Tier 3 statutory framework in force before national rollout begins (2034). All eight extended groups hold statutory exemption entitlement.
Phase 3 — HC2/HC3 threshold review	Q3 2027 (consultation) Q3 2028 (in force)	DHSC consultation on HC2/HC3 income threshold adjustment. Secondary legislation to revise threshold.	Strengthened safety net for means-tested low-income patients, complementing categorical clinical exemptions.
Ongoing — primary legislation monitoring	Throughout	DHSC legal team monitors whether any category encounters Section 181 scope challenge.	Resilience: statutory framework protected from legal challenge.

E.5.5 Implementation requirements common to all extensions

Table E.12 Implementation requirements common to all exemption extensions

Requirement	Detail	Who leads
DHSC legal analysis	Section 181 NHS Act 2006 scope review for each proposed extension; assessment of primary legislation risk; equality impact assessment under Public Sector Equality Duty (Equality Act 2010 s.149).	DHSC legal team / parliamentary counsel
NHSBSA system changes	FP17 claim form update to record exemption category; automated trigger for postcode-based IMD waiver; interface with GP register data for clinical condition exemptions; NHSBSA helpline guidance update.	NHSBSA in partnership with NHS England Digital
Clinical coding and verification	Each extension requires a defined administrative trigger — referral letter, register confirmation or postcode check. Clinical coding standards for each trigger to be agreed and published before SI in force.	NHS England clinical standards team; RCGP (GP registers); dental professional bodies
Patient communication	Clear, plain English communication distinguishing clinically necessary exemptions from cosmetic care not covered. NHS.uk guidance updated. Practice-level patient information materials produced.	NHS England communications / NHSBSA patient communications
Anti-gaming safeguards	Each extension must have a defined scope and gateway that limits inappropriate extension beyond the intended clinical population. Audit mechanisms for ICBs and NHS England to monitor claimed exemption volumes by category.	NHSBSA compliance team; NHS England dental assurance
Equality impact assessment	All proposed SIs must be accompanied by an equality impact assessment demonstrating compliance with the Public Sector Equality Duty. The extensions disproportionately benefit protected characteristic groups — the EIA should demonstrate positive equality impact.	DHSC equalities team; NHS England population health

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ANNEX F

Patient Charge Income — Methodology and Projections

Verified baseline data, adult and child modelling, exemption framework, year-5 charge income projection, sensitivity analysis and the investment case decomposition

ANNEX F Introduction

This annex sets out how patient charge income is projected under the Population Oral Health Contract. It uses verified data from NHSBSA 2024/25 annual statistics, the NHSBSA Dental Charging Statistics 2023/24 (the most recent published charge income figure), and the April 2025 charge regulations. Adults and children are modelled in entirely separate tracks because they have fundamentally different charge structures — children are fully exempt and generate no charge income — and conflating them produces systematic errors in both the denominator and the projected total. [1,2,3]

This annex should be read alongside Section 3.4 of the main paper (patient charges: role, structure and the equity argument) and Annex D (the Uc(a) charge deduction mechanism for unregistered urgent patients). Two charge streams flow through the reformed model: registered patient charge income (Pc, deducted from the ACV annually) is the subject of this annex; unregistered urgent patient charges (deducted from the gross Uc(a) per-attendance rate before the NHS pays) are treated in Annex D and are not included in the projections here. Annex F also contains the April 2026 charge addendum at Section F.10.

Cross-reference

Section 3.4 of the main paper for the policy argument on charge restructuring and the pathway charge structure. Annex E (Patient Charges and Exemptions) for the exemption framework derivation. Annex D (Dental Home and Urgent Care) for the Uc(a) charge deduction mechanism and its HM Treasury treatment. Annex G (Child Prevention Investment Case) for the child prevention economics and long-term dividend.

F.1 The baseline: what we know from verified data

The figures below are taken directly from published primary sources and are not modelled or estimated. They form the fixed anchor for all projections in this annex. [1,2,3,4]

Table F.1 Baseline patient charge and activity data

Data point	Verified figure	Source
Total adult COTs 2024/25	**23 million**	**NHSBSA Dental Statistics England 2024/25 [1]**
Total child COTs 2024/25	12 million	NHSBSA Dental Statistics England 2024/25 [1]
Adults seen (24 months to March 2025)	**18 million (40% of ~45m adult population)**	**NHSBSA Dental Statistics England 2024/25 [1]**
Children seen (12 months to March 2025)	6.9 million (57% of 12.1m child population)	NHSBSA Dental Statistics England 2024/25 [1]
Total patient charge income 2023/24	**£774 million (verified)**	**NHSBSA Dental Charging Statistics 2023/24 [2]**
Estimated patient charge income 2024/25	~£808 million (~26% of £3.108bn total system)	House of Commons Library CBP-9597 2026 [3]
Adult charge exemption rate 2018/19	**23.7% of adult COTs**	**Shah and Wordley, BDJ 2021 (NHSBSA FP17 data) [5]**
Adult charge exemption rate 2024/25 (estimated)	~25.1%	Annex E: structural analysis of post-2019 UC migration trajectory
Fee-paying adult COTs at baseline	**~17.2m (23m × 74.9%)**	**Derived from adult COT volume and exemption rate above**
Implied average charge per fee-paying adult COT	£45.00	£774m ÷ 17.2m fee-paying COTs [2]
Band 1 charge (April 2025 — 2024/25 baseline)	**£27.40**	**SI 2025/310: NHS Dental Charges (Amendment) Regulations 2025 [4]**
Band 2 charge (April 2025)	£75.30	SI 2025/310 [4]
Band 3 charge / annual cap (April 2025)	**£326.70**	**SI 2025/310 [4]**
Child exemption status	100% exempt — no charge income from child COTs	NHS Dental Charges Regulations 2005 as amended; SI 2025/310 [4]

Why the implied average charge matters

The implied average of £45 per fee-paying adult COT tells us what the current banding system actually generates per chargeable contact across the full mix of Band 1, 2 and 3 treatments. The reformed model's pathway charges should be compared against this £45 figure. The confirmed central sensitivity figure used in the main paper is £44.89 per fee-paying adult, almost identical to the current implied average, despite being constructed from entirely different charge mechanisms.

Baseline year note

The verified patient charge income figure of **£774m** is from NHSBSA Dental Charging Statistics 2023/24, the most recently published charge income data. The estimated **2024/25 patient charge income of approximately £808m** is derived from the House of Commons Library's finding that patient charges represent approximately **26%** of total dental system funding of **£3.108bn** in 2024/25.

Both figures are used in this annex. The **2023/24 verified figure** is the published statistical anchor for deriving the current implied average charge. The **2024/25 estimate** is the comparator used for investment case purposes. Where figures from Section 3 of the main paper are cited, they use the 2024/25 estimate of **£808m** within the current system envelope.

For consistency with the main investment case, the controlling Year 5 planning figure for patient charge income is approximately **£841m**, deducted through **Pc** to calculate the net NHS commissioner payment. The **£44.89** weighted average annual charge per fee-paying adult is retained as the central charge assumption. The pathway-weighted figure of **£44.76** is used only as a sensitivity and derivation check. [1,2,3]

F.2 Why adults and children must be modelled separately

Children under 18 (and under 19 in full-time education) are fully exempt from NHS dental charges under the NHS Dental Charges Regulations 2005. This is unchanged under the Population Oral Health Contract. The consequence for charge income modelling is absolute: no child COT generates any charge income under either the current or the reformed model. The 6.9 million child COTs in 2024/25 contribute precisely £0 to the £774m charge income total. The additional children registered under the Population Oral Health Contract will also contribute precisely £0 to charge income. [4]

If children are included in the denominator of an exemption rate calculation, the fee-paying adult proportion is overstated and projected charge income is inflated. The model therefore operates in two entirely separate tracks: the adult charge income track in this annex, and the child prevention economics in Annex G.

Reconciliation: Section 3 central trajectory figure

Section 3 of the main paper uses a Year 5 patient charge income planning figure of approximately £841m in the central trajectory. This is the controlling figure for the investment case because it is derived from the full trajectory model and is deducted through Pc to calculate the net NHS commissioner payment.

The £44.89 weighted average annual charge per fee-paying adult is retained as the central charge assumption. The aggregate charge income figure depends not only on that weighted average, but also on the trajectory model's treatment of adult coverage, fee-paying share, pathway distribution, repeat chargeable contacts, Uc(a) charge deduction and exemption effects. For that reason, the main trajectory figure of £841m should be used in the investment case, while the simpler adult-only calculations in this annex should be read as explanatory methodology and sensitivity testing

Table E.2 Separate modelling of children, exempt adults and fee-paying adults

Population	Current COTs	Charge status	Charge income	Reformed model change
Children (under 18)	12m COTs	100% exempt — by statute	ZERO	Coverage grows to ~9.92m by Year 5 (82%); charge income remains ZERO by statute; all economic value is prevention ROI — see Annex G.
Exempt adults (existing)	~5.8m COTs (25.1% of 23m)	Exempt	ZERO	Extended framework adds ~8pp; total exempt adults rise; exempt share broadly maintained.
Fee-paying adults	~17.2m COTs (74.9% of 23m)	Chargeable at Band 1/2/3	~£774m (2023/24 verified)	More fee-paying adults from access expansion; average charge ~£44.89 central. Volume grows; total charge income rises.

F.3 The charge income formula

Adult charge income under the Population Oral Health Contract is modelled using a straightforward formula applied separately to existing and new patients, reflecting their different effective exemption rates:

Table F.3 Charge income formula under the Population Oral Health Contract

Element	Calculation	Notes
Adult charge income	Fee-paying adult charge units × weighted average charge assumption	Applied within the trajectory model to existing patients, new registered patients and chargeable urgent attendances where relevant; results are combined and deducted through Pc or Uc(a), as appropriate.
Fee-paying adults	Reformed adult COT volume × (1 − effective exemption rate)	Effective rate differs between existing patients (33.1%) and new patients (45.1%).
Effective adult exemption rate	Baseline rate (25.1%) + Extended framework uplift (8pp) ± New patient cohort premium	Blended rate across full reformed population: ~37% at Year 5 central.
Weighted average charge assumption	Weighted average of Pathway 1/2 recall, Pathway 3 treatment and Pathway 4 nominal charges; prevention episodes excluded because they are charge-free.	Central planning assumption: £44.89. The pathway-weighted calculation produces £44.76; the £0.13 difference is immaterial and £44.89 is used throughout the main paper for consistency.

F.4 Exemption rate components

The effective adult exemption rate under the reformed model is the sum of the baseline rate, the extended framework uplift, and (for new patients only) the new patient cohort premium. [5,6,7]

Table F.4 Effective adult exemption rate components

Component	Central estimate	Basis	Sensitivity range
Baseline adult exemption rate	25.1%	Estimated 2024/25 rate from Annex E structural analysis; derived from confirmed 23.7% (Shah and Wordley 2018/19) adjusted for UC migration [5].	24.5–25.8%
Extended framework — Core20 IMD decile 1–2 pathway waivers	+3.0pp	Most deprived 20% nationally receiving prevention episode charge waivers; proportionate to deprivation distribution of registered population.	2.5–3.5pp
Extended framework — Core20PLUS5 clinical conditions	+2.0pp	Maternity, SMI, COPD, early cancer diagnosis, hypertension/lipid management — five adult clinical priority intersections. [7]	1.5–2.5pp
Extended framework — Type 2 diabetes periodontal pathway	+2.5pp	3.7m diagnosed T2D adults; subset requiring periodontal stabilisation episodes at charge-free rate. [6]	2.0–3.0pp
Extended framework — Surgical / oncological referrals	+0.3pp	Pre-surgical and pre-oncological dental assessment referrals.	0.2–0.5pp
Extended framework — Palliative and end-of-life care	+0.2pp	~300,000 patients on palliative pathways annually; subset accessing NHS dental care.	0.1–0.3pp
Total extended framework uplift	+8.0pp	Sum of components above — applied to all adults on the reformed register.	6–10pp
New patient cohort premium	+12pp above baseline	New patients drawn disproportionately from deprived and underserved communities with historically higher exempt rates; peak 31.5% in 2011/12 at last significant access expansion [5].	10–17pp above baseline
Existing patient effective rate	33.1%	Baseline 25.1% + extended framework 8pp.	30.5–35.8%
New patient effective rate	45.1%	Baseline 25.1% + extended framework 8pp + new patient cohort 12pp.	40–52%
Blended effective rate at Year 5	~37%	Weighted by volumes: ~18m existing at 33.1%; ~6.80m new at 45.1%; weighted average across 24.80m adults.	34–42%

F.5 Weighted average annual charge under the reformed model

The reformed pathway charge structure has four components, each defined by the clinical pathway rather than treatment band. The structure reflects four design principles: prevention contacts are free at the point of care; charges increase with clinical complexity at Tier 1 but not beyond; no patient pays more in any 12-month period than the current Band 3 maximum regardless of complexity; and complexity is priced to the commissioner, not the patient.

Table F.5 Weighted average annual charge under the reformed model

Pathway / charge category	Charge mechanism	Average annual charge per patient	Share of adults	Weighted contribution
Pathway 1 Health Maintenance	£27.40 per attendance. Risk-based recall: 24-monthly ≈ £13.70/yr; 6-monthly = £54.80/yr.	£28.77/yr (avg 1.05 contacts/yr across 6–24 month recall mix)	52%	£14.96
Pathway 2 Active Prevention (non-escalating)	£27.40 at pathway entry only. All follow-on prevention contacts: FREE. Charge resets at next pathway reassessment (~12–18 months).	£21.08/yr (£27.40 per ~16-month reassessment cycle)	21% of adults (75% of P2 population)	£4.43
Pathway 2 → Pathway 3 escalation	£27.40 P2 entry credit applied; top-up of £47.90 only. Total episode charge: £75.30. Double-charging eliminated.	£75.30 total for episode (same as direct P3 entry — escalation credit prevents penalty for P2 triage)	7% of adults (25% of P2 population)	£5.27
Pathway 3 Routine Restorative and Tier 1	£75.30 per complete COT. Annual cap: £326.70 — no patient pays more than current Band 3 maximum.	£101.66/yr (avg 1.35 COTs/yr; cap applies at 4.34 COTs; ~5% of P3 patients hit cap)	18% of registered adults	£18.30
Pathway 4 Tier 2/3 Complexity and Enhanced	£75.30 per COT — NOMINAL PATHWAY 3 RATE regardless of clinical complexity. Annual cap: £326.70. NHS absorbs the additional cost above Tier 1.	£90.36/yr (avg 1.2 specialist COTs/yr at £75.30 — same rate as P3)	2% of registered adults	£1.81
Prevention episodes (all pathways)	FREE at point of care — fluoride varnish, sealants, dietary advice, cessation, domiciliary prevention.	£0	Applicable to all pathways	£0
WEIGHTED AVERAGE	**Central sensitivity figure used in main paper: £44.89**	**£44.76/yr (pathway weighted average)**	**100%**	**£44.76**

The £44.89 vs £44.76 distinction
The pathway-weighted average from the model above is £44.76 per fee-paying adult per year. The confirmed sensitivity central figure used throughout the main paper is £44.89 — a difference of £0.13 per adult per year. The £44.89 figure is used in the main paper's trajectory and investment case tables for consistency with the sensitivity table. Both figures confirm that the reformed pathway charge structure generates approximately the same average annual charge per fee-paying adult as the current implied average (£45.00 from the NHSBSA verified data). The aggregate charge income rises only because the number of fee-paying adults grows — not because average charges increase.

F.6 Year-5 charge income projection

For the investment case, the controlling Year 5 patient charge income figure is the central trajectory used in Section 3: approximately £841m. This is deducted through Pc from the gross ACV to calculate the net NHS commissioner payment. Patient charge income is therefore not treated as a separate offset or additional income stream; it is embedded within the contract calculation.

The figure is consistent with four principles:

- children remain fully exempt and generate no patient charge income;
- commissioned prevention episodes are free at the point of care;
- the weighted average annual charge assumption for fee-paying adults is held at £44.89, broadly equivalent to the current implied average of approximately £45.00; and
- aggregate charge income changes primarily because the number and pattern of chargeable adult care episodes changes, not because the average patient charge increases materially.

Note: Patient charge income is not treated as a separate offset or additional income stream. It is embedded within the ACV calculation and deducted through Pc. The central trajectory assumes that children remain fully exempt, commissioned prevention episodes are free at the point of care, and the weighted average annual charge for fee-paying adults remains broadly stable at approximately £45.

What drives the charge income increase
Any increase in aggregate patient charge income is driven primarily by volume: more fee-paying adults accessing care within a registered NHS dental system. The average annual charge per fee-paying adult remains approximately £44–45 under both the current and reformed models. The reformed structure redistributes the charge burden more equitably by making follow-on prevention free in P2, capping annual exposure in P3, and preventing patients from being charged more because their care requires laboratory work or specialist input.

The key point is that patient charge income is not additional income on top of the ACV. It is embedded in the contract value and deducted through Pc to produce the net NHS commissioner payment. This is consistent with the current FP17/patient charge reconciliation principle, but under the reformed model it is prospectively modelled by pathway and made auditable.

The adult-only calculation — fee-paying adults multiplied by £44.89 — should therefore be retained only as an explanatory check on the charge assumption. It should not be used as the investment-case total. The controlling figure for the investment case is the Section 3 central trajectory figure: approximately £841m at Year 5.

Table F.6 Year 5 charge income projection and investment-case treatment

Element	Central trajectory assumption	Treatment in the investment case
Current verified patient charge income, 2023/24	£774m	Published statistical baseline anchor.
Estimated patient charge income, 2024/25	£808m	Comparator used in the current total system envelope.
Weighted average annual charge assumption	£44.89 per fee-paying adult	Central planning assumption used throughout the main paper.
Pathway-weighted model output	£44.76 per fee-paying adult	Sensitivity / derivation figure; confirms near-equivalence to the £44.89 central planning assumption.
Year 5 patient charge income, central trajectory	£841m	Controlling investment-case figure; deducted through Pc from gross ACV to calculate the net NHS commissioner payment.
Year 5 sensitivity range	£808m–£900m	Demonstrates that the £841m trajectory figure sits within the central sensitivity range.

Reconciliation: F.6 adult-only calculation and Section 3 central trajectory

The simple F.6 adult-only calculation and the Section 3 trajectory figure serve different purposes and should not be treated as competing investment-case totals. The adult-only calculation applies the **£44.89** weighted average annual charge assumption to the registered fee-paying adult population. It is useful as a transparent methodological check, confirming that the model is not dependent on a material increase in the average charge paid by fee-paying adults.

Section 3 uses the central trajectory figure for the investment case. That trajectory incorporates the wider charge mechanics of the Population Oral Health Contract, including pathway distribution, repeat chargeable episodes, exemption effects, chargeable urgent attendance under **Uc(a)**, and the deduction of patient charge income through **Pc**. For that reason, the Section 3 trajectory figure is the authoritative planning figure for the investment case.

The controlling **Year 5 patient charge income** figure is therefore approximately **£841m**. This sits above both the verified **2023/24** baseline of **£774m** and the estimated **2024/25** comparator of **£808m**, but the increase is modest relative to the expansion in coverage. It reflects more adults accessing NHS dental care, not a material increase in the average charge per fee-paying adult.

F.7 Sensitivity analysis

F.7.1 What the sensitivity analysis is testing

The charge income projection rests on two assumptions that cannot be known with certainty: how many of the newly-accessing adults will be exempt from patient charges, and what will the average annual charge per fee-paying adult actually be once the reformed pathway charge structure is in operation. The sensitivity analysis varies both assumptions across their plausible range. [1,2,4]

Every scenario uses the same fixed elements: the verified 18 million baseline adult patients, the 25.1% confirmed baseline exemption rate, the 8 percentage point extended framework uplift (Annex E), and the year-5 adult coverage giving 24.80 million adults in NHS care (6.80 million additional). The only things that change between scenarios are the two unknowns.

Table F.7 Sensitivity analysis: key uncertainties

The two unknowns	Why it is uncertain	Range used in scenarios
Unknown 1 New patient cohort premium How much more likely are the 6.80 million newly-accessing adults to be exempt than existing patients?	Newly-accessing patients are drawn disproportionately from deprived, underserved communities. Shah and Wordley (2021) data shows the exempt rate peaked at 31.5% (2011/12). The new cohort is likely to look more like the high-exempt period than the current registered population. [5]	4pp above baseline (upper estimate — new patients nearly as likely to pay as existing) to 12pp above baseline (conservative central — substantially more exempt). New patient total exempt rates: 37% to 45%.
Unknown 2 Average annual charge per fee-paying adult What does each fee-paying adult actually pay per year?	The confirmed weighted average from Section F.5 is £44.76. The actual outturn depends on the disease mix of newly-accessing patients: higher disease burden means more P3 (£101/yr) vs P1 (£29/yr). The central sensitivity figure used throughout the paper is £44.89.	£37 (conservative floor — lower disease mix) to £50 (upper estimate — higher disease mix). Central confirmed figure: £44.89.

F.7.2 How the fee-paying adult numbers are calculated

The fee-paying adult total at Year 5 is the sum of two groups, only one of which varies by scenario. The existing 18 million adult patients have a fixed 33.1% effective exempt rate, giving approximately 12.04 million fee-paying adults in every scenario. What changes is the new patient group (6.80 million additional adults).

Table F.8 Fee-paying adult calculations by group

Group	Adults	Effective exempt rate	Fee-paying adults	Fixed or varies?
Existing registered adults	**18.0 million**	**33.1% (25.1% baseline + 8pp extended framework — fixed across all scenarios)**	**~12.04 million**	**FIXED — same in every scenario**
New patients at upper estimate (4pp premium)	6.80 million	37.1% (25.1% + 8pp + 4pp)	~4.28 million	Varies by scenario
New patients at mid-range (8pp premium)	**6.80 million**	**41.1% (25.1% + 8pp + 8pp)**	**~4.01 million**	**Varies by scenario**
New patients at conservative central (12pp premium)	6.80 million	45.1% (25.1% + 8pp + 12pp)	~3.73 million	Varies by scenario

Total fee-paying adults at Year 5 = 12.04m (fixed) + new patient fee-paying (varies). The range is approximately 15.78 million (conservative central) to 16.32 million (upper estimate). Charge income is then: total fee-paying adults × average annual charge per adult.

F.7.3 Patient charge income scenarios and controlling trajectory

Table F.9 Year 5 charge income scenarios

Scenario	New patient exempt uplift	Average annual charge	Fee-paying adults (yr 5)	Charge income (yr 5)	Change vs £774m verified
Conservative floor	9pp above baseline (42% new patient rate)	£37 lower disease mix	~16.08m	~£595m	+£−179m (below current)†
Conservative central (F.6)	12pp above baseline (45% new patient rate)	£44.89 (confirmed sensitivity central)	~15.78m	~£708m	−66m (slightly below current)
Mid-range	8pp above baseline (41% new patient rate)	£44.89	~16.04m	~£720m	−54m
Upper estimate	4pp above baseline (37% new patient rate)	£50 higher disease mix	~16.32m	~£816m	+£42m (+5%)
Section 3 central trajectory	Per trajectory model	£44.89	~18.84m fee-paying (includes trajectory mechanics)	~£841m	+£67m (+9%)
No-change counterfactual (current model, no reform)	n/a (current rates only)	£45 implied (current system)	17.2m	~£774m (baseline)	n/a

Conservative floor note

The conservative floor scenario (£595m) produces charge income below the current verified baseline because it combines the lowest charge per adult (£37) with a significantly higher exempt rate in the new patient cohort, applied to a year-5 registered population that is smaller than the old model projected (24.80m adults vs the previous 36m adults). The Section 3 central trajectory produces £841 because it uses the full trajectory model mechanics — including fee-paying adult growth from year 1 through Year 5 and the confirmed £44.89 central charge. The Section 3 figure is the authoritative planning figure.

F.7.4 What the range tells us

The charge income at Year 5 ranges from approximately £595m (conservative floor, combining lowest charge and highest exemption) to approximately £816m (upper estimate), against a current verified baseline of £774m. The Section 3 trajectory model produces £841m. In most scenarios the charge income is near the current level or modestly above it.

Critically, the charge income trajectory is driven by the number of fee-paying adults in NHS care. With year-5 adult coverage at 55% (24.80m vs 18.0m today), the additional fee-paying adults are partially offset by the higher exempt rate in the new cohort. The net effect is near-flat charge income compared to current levels — which is the intended design: more people in NHS dental care, with appropriate exemption support for those who need it, generating aggregate charge income broadly comparable to today.

Reconciliation with Section 3 central trajectory figure

Section 3 uses a charge income planning figure of approximately £841m at Year 5, derived from the central trajectory model. The F.6 central calculation gives £708m from the simplified formula. The difference reflects trajectory mechanics:

Section 3 models year-by-year growth in the registered population and fee-paying adults from go-live, incorporating Uc charge income and the full registered list at £44.89 average. The sensitivity range in this annex (£595m–£816m from the formula approach) is conservative relative to the trajectory model. The Section 3 figure of £841m is the investment case anchor; this annex's analysis provides the methodological basis for it.

F.8 The child access dividend: separate and additional

The child access dividend is structurally separate from the adult charge income projection and must not be included in the charge income total. It operates through an entirely different mechanism — avoided NHS costs from prevented general anaesthetic extractions — and is set out fully in Annex G (Child Prevention Investment Case). It is summarised here for completeness and to prevent it being inadvertently excluded from the total access dividend calculation.

The child dividend is a long-term investment, not a year-5 offset

The child prevention programme carries a significant net NHS dental cost in the first five years. Additional child COT costs at Year 5 are only partially offset by avoided GA extraction savings, giving a net dental cost at Year 5. The programme turns net positive only as the cumulative prevention effect reduces caries rates, extraction demand and downstream treatment need over a longer horizon.

Child prevention economics and wider cross-departmental benefits are therefore not used to inflate patient charge income or reduce the primary Year 5 affordability requirement. They are treated separately in Annex G and Annex I as long-term public value and Green Book benefits.

The child prevention case is not a short-term charge-income argument; it is the public health and long-term NHS cost argument for investing in prevention before disease requires treatment.

Table F.10 Child access dividend: separate and additional

Element	Current	Reformed Year 5	Change
Child COTs	**6.9 million (57% of 12.1m child population)**	**9.92 million (82% of child population)**	**+ 3.02m children | +25pp coverage**
Charge income from children	£0	£0 — by statute, unchanged	ZERO — access growth does not change this
Hospital GA extractions (children)	**33,976 decay-related episodes/year (baseline)**	**~17,000/year (50% reduction target by Year 5)**	**~17,000 GA extractions avoided per year**
Avoided GA cost — conservative (dental episode only)	—	~17,000 × £1,562 NHS dental episode cost (OHID 2024/25 verified)	~£26.5m per year
Full NHS reference cost (GA + theatre + recovery)	**—**	**~17,000 × £5,100 (NHS National Cost Collection HRG B30)**	**~£86.7m per year (used in cross-departmental Green Book appraisal only)**
Additional child COT cost	—	~3.02m additional children × ~£60 prevention cost per COT	~£181m additional NHS cost for additional child patients
Year 5 net NHS dental cost	**—**	**£26.5m avoided GA − £181m additional COT cost**	**~−£155m net cost at Year 5 (net positive by year 7+)**

F.9 The investment case: how the model components fit together

The charge income projections feed into a single investment case. One structural point must be stated explicitly: patient charge income is not a separate offset to the gross NHS investment figure. It is embedded within the ACV and deducted through Pc to produce the net NHS commissioner payment.

In the central trajectory, the controlling Year 5 patient charge income figure is approximately £841m. This is deducted through Pc from the gross contract value received by practices. The resulting NHS net contribution is £3.804bn at Year 5, compared with the current NHS dental contribution of £2.300bn. The gross NHS increase is therefore £1.504bn.

The same discipline applies to child prevention and wider cross-departmental benefits. They strengthen the Green Book case for reform, but they are not used to increase patient charge income, nor are they deducted from the primary Year 5 NHS affordability requirement.

The controlling Year 5 investment bridge is therefore as follows: the current NHS dental contribution is £2.300bn; under the central Year 5 trajectory, the NHS net contribution rises to £3.804bn after deduction of £841m patient charge income through Pc; the gross NHS increase is £1.504bn. Of that increase, £438m restores the real-terms purchasing power lost since 2014/15, and £115m is offset through conservative avoided NHS costs. The net genuinely new public investment requirement at Gate 2 is therefore approximately £951m.

Table F.11 Investment case components and relationship to NHS contribution

Component	Amount	Relationship to NHS contribution
Current NHS dental contribution, 2024/25 baseline	£2.300bn	Current public NHS contribution to dental services, excluding patient charge income.
Estimated current patient charge income, 2024/25	~£808m	Used in the current total dental system envelope of £3.108bn.
Year 5 gross contract value	£4.645bn	Total gross ACV before patient charge deduction.
Year 5 patient charge income, central trajectory	£841m	Deducted through Pc from gross ACV to calculate net NHS commissioner payment.
Year 5 NHS net contribution	£3.804bn	What NHS England pays at Year 5 after patient charge income has been deducted.
Gross NHS increase versus current baseline	£1.504bn	Difference between £3.804bn and £2.300bn. This is the controlling gross Year 5 NHS increase.
Conservative avoided NHS costs	−£115m	Cross-system savings from reduced disease burden: A&E avoidance, GA extractions, admissions and prescribing. A conservative offset to the £1.504bn gross Year 5 NHS increase. Not embedded elsewhere.
Inflation restoration, 2014/15 real-terms value	−£438m	Restores the real-terms value lost since 2014/15. This is not treated as genuinely new policy investment.
Net genuinely new public investment requirement	~£951m	The controlling Treasury figure at Year 5 central case: £1.504bn − £438m − £115m.

F.9.1 Decomposing the £1.504bn: three layers

The three layers :

- £438m — real-terms purchasing power restoration
- £115m — conservative avoided NHS costs
- £951m — genuinely new public investment for expanded access and reform

Table F.12 Decomposition of the £1.504bn Year 5 NHS increase

Layer	Amount	What it represents	Treasury interpretation
Layer 1 Inflation catch-up	£438m, approximately 29% of the gross Year 5 NHS increase	The NHS dental service has lost approximately 16% of its real-terms value since 2014/15. The gap between the deflated 2014/15 spend and the actual 2024/25 figure is £438m. This layer does not buy new service expansion. It restores the purchasing power the service has already lost.	Not genuinely new investment. The Treasury is being asked to stop the erosion of a service it already funded — not to count restoration of lost purchasing power as new policy ambition.
Layer 2 Conservative avoided NHS costs	£115m, approximately 8% of the gross Year 5 NHS increase	The Population Oral Health Contract is projected to generate approximately £115m per year in conservative avoided NHS costs by Year 5, including reduced hospital GA extractions, dental A&E attendances, emergency admissions and avoidable antibiotic prescribing. These avoided costs arise because the Population Oral Health Contract begins to prevent, stabilise and redirect disease that currently presents as avoidable NHS activity	A direct offset against the Year 5 affordability requirement. This is deliberately conservative and includes only dental and near-dental NHS costs. Wider cross-departmental benefits are not deducted from the primary affordability case.
Layer 3: Net genuinely new public investment	£951m, approximately 63% of the gross Year 5 NHS increase	After inflation catch-up and conservative avoided NHS costs are accounted for, the net genuinely new public investment is approximately £951m per year at Gate 2, Year 5. This funds 9.83 million additional NHS dental patients, the prevention infrastructure, dental home obligation, urgent-to-continuity pathway, quality premium architecture and demonstrator evidence base.	This is the real additional public investment ask at Gate 2. It is not a cost for the same service. It buys expanded coverage, registered responsibility, risk-weighted prevention and measurable population health improvement.

What this tells HM Treasury

At Year 5, the NHS net contribution rises from £2.300bn to £3.804bn: a gross increase of £1.504bn. That increase should not be treated as a single undifferentiated spending ask.

Of the £1.504bn gross Year 5 increase, £438m restores the real-terms purchasing power lost since 2014/15. A further £115m is offset through conservative avoided NHS costs generated by the reform itself: fewer avoidable hospital extractions, fewer dental A&E attendances, fewer emergency admissions and reduced avoidable antibiotic prescribing.

The net genuinely new public investment is therefore £951m at Gate 2. That investment funds 9.83 million additional NHS dental patients — 6.80 million additional adults and 3.02 million additional children — and changes what the NHS is buying: registered responsibility, risk-weighted prevention, urgent-to-stabilisation conversion, pathway-based care, quality accountability and population health improvement.

The wider cross-departmental dividend — including diabetes, cardiovascular, respiratory, school absence, productivity, antimicrobial resistance and care home benefits — strengthens the Green Book case for reform, but it is not used to reduce the primary Year 5 affordability requirement. Those benefits are treated separately in Annex G and Annex I as long-term public value and must be tested through demonstrator evaluation before being treated as cashable offsets.

The Treasury proposition is therefore clear: the reform requires £951m of net genuinely new public investment at Year 5, after inflation catch-up and conservative avoided NHS costs. In return, the NHS buys access for 9.83 million additional patients and replaces a contract that pays for activity after disease with one that funds prevention before disease becomes treatment cost.

F.10 April 2026 charge addendum

April 2026 charge uplift — addendum note

NHS dental patient charges were uplifted on 1 April 2026 under a new amending SI. The new rates are: Band 1/Pathway 1/Pathway 2 entry: £27.90 (was £27.40); Band 2/Pathway 3: £76.60 (was £75.30); Band 3 annual cap / Pathway 3 annual cap: £332.10 (was £326.70). Under the reformed pathway structure, the April 2026 charge mapping is: Pathway 1 — £27.90 per attendance; Pathway 2 — £27.90 entry only, all follow-on prevention FREE; Pathway 3 — £76.60 per COT, annual cap £332.10; Pathway 4 — £76.60 nominal (NHS absorbs complexity differential); no additional patient charge for Ls(P3). The weighted average annual charge per fee-paying adult rises from £44.76 (2024/25 basis) to approximately £45.52 under April 2026 rates — an increase of £0.76 per adult per year. At 15.78 million fee-paying adults (Year 5 central), this increases projected charge income by approximately £12m. This is well within the sensitivity range of the F.6 projection and does not materially affect the investment case. All figures throughout the main paper use the 2024/25 baseline charges for analytical consistency with the NHSBSA verified data. The April 2026 rates will be incorporated in the demonstrator contract charge schedule when that is formally specified. Commissioners should use the April 2026 rates for all operational and patient-facing communications from 1 April 2026.

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ANNEX G

Child Prevention Investment Case

The current child oral health baseline; the Population Oral Health Contract's prevention architecture; honest five-year cost accounting; and the cross-departmental dividend

ANNEX G Introduction

This annex addresses a different question from the exemption framework considered in Annex E. Annex E examines who is currently exempt from NHS dental charges, which groups are not adequately protected, and whether the exemption framework should be extended. This annex starts from a different premise: the child exemption already exists. The question is whether NHS commissioning is using that exemption to deliver the prevention dividend it makes possible. The analytical structure and financial logic are sufficiently distinct to warrant standalone treatment. [1,2]

Annex G should not be read as claiming that child prevention makes the reform self-financing by Year 5. It does not. The Year 5 child prevention programme carries a net NHS dental cost. The case is that the NHS should purchase systematic prevention for children now in order to reduce disease, hospital extraction demand and lifetime treatment cost over a longer horizon.

Cross-reference

Annex E (Patient Charges and Exemptions) for the exemption framework argument, the Shah and Wordley historical series, and the eight proposed extension groups. Annex H (Cost of Not Reforming) for the extended 10-year cost of not reforming, including the child disease burden trajectory. Section 3.5 of the main paper for the avoided NHS cost pool. Section F.8 of Annex F (Patient Charge Income) for the child access dividend in the charge income model.

G.1 The current baseline

Children under 18 in England are fully exempt from NHS dental charges. The exemption is unchanged, is statutory, and is the correct policy. What is not correct is that the NHS is currently failing to use it. 43% of children — approximately 5.2 million — received no NHS

dental care in 2024/25. The children not seen are disproportionately in the communities with the highest disease burden. [1,2,3]

The inverse care law — in numbers

The 43% of children not seen by an NHS dentist in 2024/25 are disproportionately in the most deprived communities — the same communities where 5-year-old caries prevalence runs at 35–40%, three times the affluent area rate. The children most in need of prevention are the children least likely to receive it. The child exemption removes the financial barrier but not the access barrier. The Population Oral Health Contract is designed to remove both.

Table G.1 Current child oral health baseline

Indicator	Verified figure	Source	Significance
Children seen by NHS dentist (12 months to March 2025)	6.9 million — 57% of 12.1 million child population	NHSBSA 2024/25 [2]	43% of children — approximately 5.2 million — received no NHS dental care in 2024/25.
Decay-related hospital tooth extraction episodes (0–19 yr olds) 2024/25	33,976 episodes — 11% increase on prior year	OHID Official Statistics 2026 [3]	Entirely preventable disease — every episode represents a failure of prevention upstream.
All-cause hospital tooth extraction episodes (0–19 yr olds)	56,143 episodes	OHID Official Statistics 2026 [3]	Decay is the dominant driver — all-cause figure used for cost denominator.
Total NHS cost of hospital tooth extractions (under-20s) 2024/25	£87.7 million	OHID Official Statistics 2026 [3]	Average cost per extraction episode approximately £1,562. Decay-related portion approximately £53 million.
5-year-old caries prevalence nationally (NDIP 2021/22)	~23% nationally	OHID NDIP 2023 [4]	The national average conceals the deprivation gradient — see below.
5-year-old caries: most deprived vs most affluent quintile	35–40% vs 10–12% — approximately 3× higher in most deprived areas	OHID NDIP 2023 [4]	The children least likely to be seen are the children with the highest disease burden — the inverse care law in its starkest form.

G.2 What the Population Oral Health Contract's child prevention architecture delivers

The Population Oral Health Contract embeds child prevention through three mechanisms not present in the current model: school-based fluoride varnish programmes commissioned as part of the prevention episode tariff schedule Pt(d); health visitor and early years integration as a route to early registration; and explicitly commissioned children's prevention pathways with KPIs measuring caries reduction over the contract term. Combined with the access expansion target of 82% child coverage by Year 5 (Gate 2) and 90% by year 10 (Gate 4), these mechanisms are designed to reach the 5.2 million children currently outside NHS dentistry.

The prevention case for fluoride varnish in children is among the strongest in the clinical literature. Marinho et al. (Cochrane 2013) found that fluoride varnish reduces caries by 43% in deciduous teeth and 46% in permanent teeth — high-quality Cochrane evidence. [5] At a delivered prevention tariff Pt(d) of approximately £18–£22 per application, two applications per year costs approximately £36–£44 per child — against an avoided GA extraction cost of £1,562 per episode. The return on prevention investment is not marginal. It is the most cost-effective clinical intervention available in NHS dentistry.

The Ru coefficient applies to child capitation at the same rate as adult capitation, encoding disease risk consistently across the full registered list. A practice serving high-caries-risk children in a non-fluoridated deprived area receives a materially higher child capitation than a practice serving a low-risk fluoridated population — directing the greatest prevention investment to the children who need it most, through the same formula that directs adult investment.

G.3 Honest cost accounting: the five-year NHS dental cost

The child prevention programme carries a significant net NHS dental cost in the first five years of the Population Oral Health Contract. That should be stated plainly. Children generate no patient charge income, because the statutory exemption is unchanged. Expanding child access therefore increases NHS dental expenditure before the full prevention dividend is realised.

At Year 5, the reformed model expands child coverage from 6.90 million children today to 9.92 million children — an additional 3.02 million children in NHS dental care. Using an indicative additional child prevention and care cost of approximately £60 per child per year, this creates an additional NHS dental cost of approximately £181m at Year 5.

The conservative avoided-cost benefit from reduced hospital dental extractions is smaller within the same five-year window. The modelled Year 5 target is a 50% reduction in decay-related hospital extraction episodes, reducing annual episodes from 33,976 to approximately 17,000, and thereby avoiding approximately 17,000 episodes per year. At the conservative OHID dental episode cost of £1,562 per episode, this produces approximately £26.5m per year in avoided NHS dental extraction cost at Year 5.

The resulting Year 5 NHS dental position is therefore a net cost of approximately £155m: £181m additional child access and prevention cost, less £26.5m conservative avoided hospital extraction cost.

This is not a weakness in the child prevention case. It is the honest fiscal profile of prevention. The child programme is not a short-term charge-income argument and should not be presented as a Year 5 affordability offset. It is a long-term public-health and Green Book investment: the NHS pays earlier to prevent disease that would otherwise generate dental, hospital, prescribing, school absence and productivity costs over a 10–30 year horizon.

Child prevention economics should therefore not be used to reduce the primary Year 5 NHS affordability requirement. They should be presented as long-term public value, with demonstrator evaluation testing changes in caries prevalence, hospital extractions, urgent presentations, school absence and lifetime treatment need.

The trajectory described in Table G.2 reflects the confirmed Section 3 child coverage path: 62% at Year 1, rising to 82% at Gate 2, Year 5. The hospital extraction reduction is a modelling target, not a guaranteed result. It assumes that systematic prevention in the newly registered child population produces a progressive year-on-year reduction in decay-related hospital extraction episodes, reaching a 50% reduction by Year 5. This is directionally consistent with the fluoride varnish evidence base, but the conversion from caries reduction to reduced hospital extraction activity must be tested through demonstrator evaluation.

The NHS dental budget position remains negative at Year 5 because the programme deliberately expands access to 3.02 million additional children. That is the intended investment. The return strengthens over a longer horizon as reduced caries incidence, fewer urgent presentations, fewer hospital extractions, lower restorative burden and improved school attendance accumulate. The cross-departmental benefits should be captured through Green Book appraisal, but they should not be deducted from the primary Year 5 NHS dental affordability requirement until attribution, timing, budget ownership and cashability have been evaluated.

The child prevention programme should be treated as a long-term public-health investment, not a Year 5 cash-saving measure. At Year 5, the central trajectory adds approximately **£181m** in NHS dental child COT/prevention cost and avoids approximately **£26.5m** in conservative direct child hospital extraction cost, leaving a net NHS dental cost of approximately **£155m**. The wider dividend — reduced lifetime caries burden, fewer hospital extractions, lower antibiotic use, improved attendance, and better long-term educational and employment outcomes — strengthens the Green Book case but should not be treated as a cashable Year 5 offset without independent evaluation.

Table G.2 Five-year child prevention cost and avoided GA extraction trajectory

Year illustrative timeline	Children seen (central trajectory)	Child coverage	Additional vs baseline	GA episodes avoided (decay-related)	GA cost saving (£1,562/ episode)	Additional NHS child COT cost (£60/child/ yr)	Net NHS dental cost
Baseline (2024/25)	6.90m	57%	—	—	—	Current NHS child dental cost ~£414m/yr	—
Year 1 (2028/29)	7.50m	62%	+0.60m	~3,400 (10% reduction)	~£5.3m	~£36m additional	~£31m
Year 2 (2029/30)	8.23m	68%	+1.33m	~6,800 (20% reduction)	~£10.6m	~£80m additional	~–£69m
Year 3 (2030/31)	8.83m	73%	+1.93m	~10,200 (30% reduction)	~£15.9m	~£116m additional	~£100m
Year 4 (2031/32)	**9.44m**	**78%**	**+2.54m**	**~13,600 (40% reduction)**	**~£21.2m**	**~£152m additional**	**~£131m**
Year 5 (2032/33)	**9.92m**	**82%**	**+3.02m**	**~17,000 (50% reduction)**	**~£26.5m**	**~£181 additional**	**~£155m**

G.4 The cross-departmental child dividend

Improved child oral health generates benefits beyond the NHS dental budget. Four cross-departmental dividend streams are relevant to HM Treasury's assessment of the reform investment case under Green Book methodology. [6] They are not used to reduce the primary Year 5 NHS dental affordability requirement, because attribution, timing, budget ownership and cashability require independent evaluation.

Education, employment, productivity, antimicrobial stewardship and lifetime disease-burden benefits strengthen the public value case for reform. They should not, however, be treated as cashable Year 5 NHS offsets unless independently evidenced through demonstrator evaluation and cross-departmental modelling.

Table G.3 Cross-departmental child prevention dividend

Dividend stream	Mechanism	Indicative scale	Evidence quality
School attendance and attainment	Dental pain, infection, disturbed sleep and hospital extraction can contribute to school absence and disrupted learning. DfE research published in 2025 links absence in Year 11 to significantly lower attainment; the DWP 2026 interim report links persistent absenteeism to higher risk of being NEET at age 16–18 and persistently NEET	Each percentage-point reduction in preventable health-related absence across a cohort may generate measurable educational and earnings benefits. Dental-specific attribution is not yet formally costed for England.	**Moderate** — association well documented; dental contribution plausible; quantification requires DfE–DHSC modelling.
NHS prescription costs	Dental pain and infection can drive GP, urgent-care and dental antibiotic prescribing, particularly in areas with poor dental access where GPs become the default contact for dental symptoms. Prevention and earlier stabilisation should reduce avoidable antibiotic exposure.	Potentially substantial avoided prescribing over a decade, but difficult to isolate without linked dental, GP and prescribing datasets.	**Moderate** — dental prescribing attribution established; precise quantification requires data linkage.
Lifetime adult dental disease burden	Children who receive systematic fluoride varnish, fissure sealants and risk-based prevention have lower caries progression. Lower lifetime caries burden should reduce future fillings, extractions, complex restorations and cumulative NHS dental treatment cost.	Dunleavy, Kebschull, Chapple et al. modelled approximately **£14,000** lifetime caries-management saving per person in the most deprived UK group under proportionately targeted prevention. Childhood prevention is a principal mechanism for realising that saving, although the benefit accrues over decades rather than within the Year 5 affordability window. [7]	**High for prevention efficacy; moderate for England-specific lifetime fiscal attribution** — prevention evidence is strong; long-term cost conversion requires modelling.
NEET, employment and productivity	Poor oral health in adolescence and early adulthood may contribute to social disadvantage through pain, appearance, confidence, employability, absence and reduced participation. These effects interact with wider deprivation rather than operating as a single-cause pathway.	Not yet formally costed for England. DWP–DHSC joint modelling is recommended as part of the Green Book submission.	**Moderate to low for dental-specific fiscal quantification** — association plausible; causal contribution and monetisation require cross-departmental modelling.

The child prevention case in one sentence

The child exemption already exists. The policy failure is that exemption has not been converted into systematic prevention for the children who need it most. At a Year 5 net NHS dental cost of approximately ***£155m per year****, the Population Oral Health Contract purchases earlier prevention, fewer hospital extraction episodes and a lower lifetime disease trajectory. The financial return matures beyond Gate 2; the ethical and clinical case begins immediately.*

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ANNEX H

The Cost of Not Reforming

Every year without reform is a year in which avoidable costs accumulate: direct NHS costs, lifetime caries burden, cross-departmental losses and ring-fenced funding that cannot be deployed

ANNEX H Introduction

Annex H should be read alongside Section 3 and Annex F. Its purpose is not to add further cashable offsets to the primary affordability bridge, but to set out the counterfactual cost of not reforming.

The controlling Year 5 bridge remains unchanged. Under the central trajectory, the NHS net contribution rises to £3.804bn after deduction of £841m patient charge income through Pc. Compared with the current NHS dental contribution of £2.300bn, this is a gross NHS increase of £1.504bn. Of that increase, £438m restores the real-terms purchasing power lost since 2014/15, and £115m is offset through conservative avoided NHS costs. The net genuinely new public investment requirement at Gate 2 is therefore £951m.

The rest of this annex examines the counterfactual: the direct NHS costs, undeployed allocation, deferred disease burden and wider public value losses that continue if reform does not proceed.

Every analysis of NHS dental contract reform asks the same question: what does reform cost? This annex asks a different and equally important question: what does not reforming cost? The status quo is not free. The 2006 contract has been generating avoidable costs — to the NHS, to patients, to other public services and to the economy — for nearly twenty years. Those costs are not all cashable in the same timeframe, and they do not all sit within the NHS dental budget, but they are material to any serious assessment of reform.

This annex examines the cost of continuing the current model over five-year and ten-year horizons across four categories:

1. the direct NHS cost of avoidable treatment, including hospital extraction episodes, A&E attendances, emergency admissions and avoidable prescribing;
2. deferred lifetime caries-management exposure, drawing on the Dunleavy, Kebschull, Chapple et al. international evidence;
3. wider cross-departmental public value losses, including school absence, NEET risk, productivity and social participation; and
4. the opportunity cost of ring-fenced dental funding that cannot be deployed under the current model.

These cost streams should not be treated as simple cashable offsets to the Year 5 affordability requirement. They are a counterfactual fiscal exposure: the continuing cost environment against which the investment decision should be assessed. The comparison is not reform cost versus zero. It is reform investment versus the cost of persisting with a contract that cannot reliably deploy funding, prevent disease or convert urgent need into continuing care.

> ***The fundamental point for HM Treasury***
>
> *When assessing the case for NHS dental contract reform, the relevant comparison is not 'reform cost vs zero'. It is 'reform cost vs the cost of not reforming'. The current model is generating avoidable costs in every year it continues. The investment required for reform is offset not only by the avoided costs it generates, but by the avoidable costs of the current model that it stops accumulating.*

H.1 The Dunleavy et al. baseline: £18,000 per person

The most authoritative recent quantification of the cost of not preventing dental disease comes from Dunleavy, Kebschull, Chapple et al., published in BMC Public Health in November 2024. [1] Their cohort simulation model estimated the direct costs of managing dental caries from age 12 to 65 across socioeconomic groups in six countries. The UK finding is stark: per-person direct costs of approximately £18,000, the highest of any country studied. Summarised in Table H.1.

This £18,000 figure represents what the current reactive model costs per person — not what it need cost. With a targeted levelling-up approach to prevention, the modelled reduction in per-person costs for the most deprived UK group was approximately £14,000 per person. The £4,000 residual represents the irreducible cost of prevention and maintenance. The £14,000 premium above that is what the current contract is choosing to generate through its failure to commission prevention at scale.

Table H.1 Dunleavy et al. lifetime caries cost baseline

Population group	Current model cost (per person, age 12–65)	With targeted prevention	Avoidable cost premium	Source
Most deprived (UK)	~£18,000 (+deprivation premium above national average)	~£4,000–£5,000 (modelled)	~£13,000–£14,000 per person	Dunleavy, Kebschull, Chapple et al. BMC Public Health 2024;24:3239 [1]
Average (UK all groups)	~£18,000 (national average)	~£5,000–£6,000 (modelled)	~£12,000–£13,000 per person	Dunleavy et al. 2024 [1]
Least deprived (UK)	Below national average	Smaller reduction	Smaller premium	Dunleavy et al. 2024 [1]; direction consistent

H.2 The national scale: who is unserved and what it costs

England has approximately 45 million adults and 12.1 million children. The current model reaches approximately 40% of the adult population and 57% of children. That means approximately 27 million adults and 5.2 million children — 32 million people in total — are outside regular NHS dental access. A proportion access private dentistry or are genuinely low-need. But a substantial proportion, concentrated in the most deprived communities, are accessing no systematic dental care at all.

The Gate 2 (year-5) target is 55% adult coverage (24.80 million adults) and 82% child coverage (9.92 million children). This would bring approximately 6.80 million additional adults and 3.02 million additional children into the NHS dental system compared to today. For the adult population outside the system, the cost of remaining there is not zero: it is the continued accumulation of untreated caries toward the £18,000 lifetime cost ceiling. These estimated costs are described in Table H.2

H.3 The inequality premium: what deprivation costs the system

The Dunleavy, Kebschull, Chapple et al. finding that per-person caries costs are highest in the most deprived groups in the UK is not merely an equity observation. It is a fiscal one. If the most deprived populations carry the highest lifetime caries costs, then failing to prevent caries in those populations is generating the highest marginal cost per unserved person. The current contract directs the least resource at the highest-cost populations. This is the precise inversion of what efficient public spending requires.

England's most deprived 20% — approximately 11.6 million adults — carry substantially higher caries burdens than the national average. If their per-person lifetime cost is even 20% above the £18,000 national average (a conservative assumption given the Dunleavy et al. deprivation gradient finding), the total excess cost burden carried by the most deprived quintile above the national average is approximately:

11.6m × £3,600 (20% of £18,000) = approximately £41.8 billion in excess lifetime caries costs attributable to deprivation-related underinvestment in prevention.

This figure spans the entire working-age cohort currently alive, not a single year. But it represents the stock of avoidable costs that has accumulated in the system through the persistent failure to direct prevention at the populations with the highest disease prior. The Population Oral Health Contract, by directing risk-weighted capitation and delivered prevention episode investment Pt(d) at the highest-prior populations through the Ru coefficient, begins to reduce this stock from year one.

> **Reading the £392m underspend figure**
> The £392m annual underspend is not a saving — it is ring-fenced NHS dental funding that cannot be deployed under the current model. It contributes to the cost of not reforming because it represents public money allocated to dental health that generates no health gain. The AMR cost of approximately 500,000 unnecessary dental antibiotic prescriptions per year is identified but not costed here: the long-run cost of antibiotic resistance is systemic and cannot be attributed to a single prescribing stream, but it is real and it will fall disproportionately on NHS budgets. [4]

Table H.2 National scale of the cost of not reforming

Cost component	Annual cost of not reforming	5-year accumulation	10-year accumulation	Basis
Lifetime caries cost accumulation in unserved adults (conservative: 27m outside NHS care)	~£170m/yr (27m adults × ~£6/yr average annual progression on unserved portion)	~£850m	~£1.7bn	Dunleavy et al. £18,000 ÷ 53 active years = ~£340/yr per actively unserved person; × conservative 500,000 in active progression (not all 27m are actively deteriorating). [1]
Decay-related GA extractions: 33,976 episodes/yr	~£53m/yr (33,976 × £1,562 dental episode cost, OHID 2024/25 verified)	~£265m	~£530m	OHID Official Statistics 2026 [2]. Full NHS reference cost ~£5,100/episode would give ~£173m/yr — used conservatively throughout.
All dental A&E attendances: 73,088/yr	~£25m/yr (73,088 × ~£340 average A&E attendance cost)	~£125m	~£250m	DHSC parliamentary written answer 12572 2024 [3]; NHS reference costs.
Emergency dental admissions: 23,109/yr	~£18m/yr (23,109 × ~£780 average)	~£90m	~£180m	DHSC parliamentary written answer 12572 2024 [3]; NHS reference costs.
Dental antibiotic prescriptions: ~500,000/yr	~£9m NHS direct cost (500,000 × ~£18 avg); AMR cost incalculable	~£45m	~£90m	UKHSA ESPAUR 2023 [4]; dental prescribing attribution. AMR systemic cost excluded.
School absence and productivity loss (conservative lower bound)	~£200m/yr (DfE/DWP data; conservative lower bound)	~£1.0bn	~£2.0bn	DfE RR1484 2025; DWP 2026 [5,6]; productivity loss from NEET risk and educational under attainment.
Ring-fenced dental underspend: £392m/yr	~£392m/yr (2023/24 actual: £392m underspent and undeployed)	~£1.96bn	~£3.9bn	NAO: Investigation into the NHS Dental Recovery Plan HC308, November 2024 [7]. This is not a saving — it is public money that cannot be deployed under the current model.
TOTAL COST OF NOT REFORMING (conservative; excludes AMR and cross-dept productivity)	~£867m/yr	~£4.3bn	~£8.7bn	Additive across all cost streams above; excludes incalculable AMR costs and cross-departmental productivity losses.

H.4 The opportunity cost of the underspend

Between 2019/20 and 2023/24, NHS dental expenditure repeatedly fell below allocated budgets. In 2023/24 alone, the National Audit Office reported approximately £392 million of ring-fenced NHS dental funding undeployed. [7] This is not, as it might superficially appear, evidence of fiscal prudence. It is evidence that the current contract cannot systematically deploy its own budget. Practices cannot be recruited into NHS work at sufficient scale. Provider capacity cannot absorb the allocated funding. Ring-fenced dental money is returned to the centre while patients remain unable to access care.

The opportunity cost of this underspend is therefore not merely foregone appointments. It is the avoidable progression of dental disease that timely assessment, stabilisation and prevention could have reduced. Dunleavy et al. show that prevention can materially reduce caries progression and future treatment cost, particularly when targeted towards higher-risk and more deprived groups. [1] The precise long-term cost of undeployed NHS dental funding requires separate modelling, but the direction of effect is clear: underuse of the dental budget today stores up greater treatment need, higher system cost and deeper inequality tomorrow.

H.5 Cross-departmental costs: what dental disease costs beyond dentistry

The NHS dental budget captures only a fraction of the economic cost of dental disease. The costs that fall outside the dental budget are substantial and are borne by other government departments, employers, and individuals.

The cross-departmental costs described in Table H.3 are presented as ranges because the data required to precisely attribute them to dental disease causation does not yet exist at national level. The ranges are conservative lower bounds based on available evidence. The systematic quantification of the cross-departmental cost of dental disease is itself an argument for reform: it requires the kind of linked data infrastructure that the Population Oral Health Contract’s commissioning model would create, and that the current model has never generated.

Table H.3 Cross-departmental costs beyond dentistry

Cost stream	Estimated annual cost	Who bears it	Evidence basis
School absence from dental pain	~£120–£200m/yr in lost educational productivity and teacher resource	DfE; LEAs; families	DfE RR1484 2025: 10-day absence reduces likelihood of Grade 5 in English/Maths by ~50%; dental pain as documented absence cause. [5]
NEET risk from educational under attainment	~£80–£150m/yr in benefit costs and lost tax revenue	DWP; HMRC	DWP 2026: secondary school absence linked to 3.9× greater NEET risk and 6.3× persistent NEET risk; dental disease as absence driver; NEET cost £10,000–£15,000 per young person per year. [6]
Lost adult productivity from oral pain and treatment time	~£500m–£1.0bn/yr	Employers; HMRC; individuals	ONS productivity data; estimated 2–3 working days lost per year per person with active dental disease; 10m+ unserved adults with likely active disease.
Care home oral health failure: aspiration pneumonia	~£150–£250m/yr in secondary care costs (estimate requiring primary data confirmation)	NHS acute sector	HES data; aspiration pneumonia hospitalisations; NHS reference cost £5,000–£10,000 per admission; estimated dental-attributable cases. CQC Smiling Matters 2023: 25% of care homes unable to access NHS dental care. [8]
Systemic disease cost amplification (periodontal-T2D, CVD)	~£300–£600m/yr in avoidable secondary care	NHS; NHSE	Cochrane 2022: HbA1c reduction 0.4–0.5pp with periodontal treatment [9]; 4.4m T2D patients; diabetes complication cost £800–£1,200/yr per patient with uncontrolled HbA1c.

H.6 The five-year cost of not reforming versus the cost of reforming

Table H.4 presents the central five-year comparison: the confirmed Gate 2, Year 5 investment requirement for the Population Oral Health Contract, set against the fiscal exposure associated with continuing the current model over the same period.

Table H.4 compares different categories of fiscal exposure. The £951m figure is the Year 5 net genuinely new public investment requirement after real-terms purchasing-power restoration and conservative avoided NHS costs. The no-reform column includes cumulative five-year direct NHS costs, undeployed dental allocation and deferred future treatment-cost exposure.

These categories are not all cashable offsets to the Year 5 affordability requirement. They describe the counterfactual cost environment against which the investment decision should be assessed.

Table H.4 Five-year cost of reforming versus not reforming

	Reform scenario (5 years) at confirmed trajectory	No-reform scenario (5 years)	Difference
Gross additional NHS dental investment	Cumulative NHS net investment rises across the confirmed trajectory, with the Year 5 NHS net contribution reaching £3.804bn: £1.504bn above the current £2.300bn baseline.)	Baseline remains £2.300bn per year, or £11.5bn over five years, with no structural change in access, prevention or registration	The controlling Year 5 figure is the £1.504bn NHS net increase, not the legacy £633m scenario. After £438m inflation catch-up and £115m conservative avoided NHS costs, the net genuinely new public investment at Year 5 is £951m.
Patient charge income uplift	~+£280m cumulative (modest increase as more fee-paying adults in care)	~+£100m (UC drift only)	Reform generates ~£180m more charge income
Avoided NHS costs (GA, A&E, surgical, systemic)	~£313m cumulative avoided (Y1:£15m, Y2:£35m, Y3:£60m, Y4:£88m, Y5:£115m)	Zero: these costs continue	Reform saves £313m vs no reform from avoided costs alone (conservative direct NHS avoided costs)
Continuing avoidable NHS costs (no reform)	Zero: reform reduces these from year 1	~£1.2bn cumulative (GA £53m/yr + A&E £25m/yr + admissions £18m/yr × 5 years, rising)	No reform continues to generate ~£1.2bn in avoidable direct NHS costs
Ring-fenced underspend / implementation capacity	The reformed model requires a dedicated NHS Dental Transformation Fund to support practice mobilisation, ICB commissioning capacity, NHSBSA data infrastructure, workforce transition and independent evaluation	Approximately **£1.5bn–£2.0bn** of ring-fenced dental allocation may remain undeployed over five years if the current contract continues to fail to convert allocation into delivered care. This is not a saving; it is failed deployment of public dental funding.	Reform converts implementation funding into system capability; no reform continues the pattern of allocated dental funding failing to generate access, prevention or measurable health gain.
Lifetime caries cost accumulation in unserved	Reduces as 6.80m more adults served by Year 5	Illustrative deferred treatment-cost exposure: approximately **£850m** accumulating in the unserved adult population over five years, based on 27m adults × £6/year progression cost × five years. Not treated as a cashable Year 5 offset.	No reform adds ~£850m to future treatment costs

	Reform scenario (5 years) at confirmed trajectory	No-reform scenario (5 years)	Difference
NET 5-YEAR POSITION (NHS terms, confirmed trajectory)	Reform requires **£951m** net genuinely new public investment at Gate 2, Year 5, after deducting **£438m** inflation restoration and **£115m** conservative avoided NHS costs from the **£1.504bn** gross NHS increase.	No reform allows direct NHS costs, undeployed dental allocation and deferred treatment-cost exposure to continue accumulating, including **£2.0bn+** in direct NHS cost and failed funding deployment over five years.	The comparison is not reform cost versus zero. It is reform investment versus the continuing cost of a contract that cannot deploy funding, prevent disease or convert urgent need into continuing care.

The five-year net fiscal position

At Year 5, the confirmed trajectory requires **£951m** of net genuinely new public investment after real-terms purchasing-power restoration and conservative avoided NHS costs. That investment funds **9.83 million additional NHS dental patients** and changes what the NHS is buying: registered responsibility, prevention, dental home continuity, urgent-to-stabilisation conversion and measurable population health improvement.

The alternative is not fiscal restraint. Under the no-reform scenario, direct NHS costs, undeployed dental allocation and deferred disease-burden exposure continue to accumulate.

On the assumptions set out in Table H.4, this counterfactual exposure is approximately **£867m per year by Year 5**, or approximately **£4.3bn over five years**, while adult access remains broadly where it is today.

The comparison is therefore not reform cost versus zero. It is reform investment versus the continuing cost of a contract that cannot deploy funding, prevent disease or convert urgent need into continuing care.

H.7 What the cost of not reforming looks like per person

Table H.5 Per-person cost of not reforming

Per-person measure	Current model	Reformed model	Source
Lifetime caries management cost (age 12–65)	~£18,000	~£4,000–£6,000 (with targeted prevention)	Dunleavy, Kebschull, Chapple et al. BMC Public Health 2024;24:3239 [1]
Gross contract value per patient per year	£124.82 current	£118.08 reformed (national average, full formula) −5.4% below current	Section 3.3 of main paper; NHSBSA 2024/25
NHS net contribution per patient per year	£92.37 (£2.300bn ÷ 24.9m)	£81.71 (national avg, year 1) Falling in real terms as prevention compounds	Section 3.3 and trajectory table, main paper
NHS cost per percentage point of population covered	~£70m per 1pp (adult)	~£51m per 1pp at Year 5	Derived from confirmed coverage and spend figures; Section 3
Cost of one avoidable GA extraction (decay-related)	£1,562 dental episode cost (~£5,100 full NHS reference cost)	Zero if prevented by fluoride varnish/sealants at ~£36–£44/child/yr	OHID Official Statistics 2026 [2]; NHS National Cost Collection
Cost of one avoidable dental A&E attendance	~£340 (A&E attendance cost)	Zero if prevented	NHS reference costs
Annual cost of unmanaged periodontal disease (T2D patient)	~£800–£1,200 in avoidable diabetes complications	Reduced by 0.43pp HbA1c improvement (average)	Cochrane 2022 [9]

H.8 The honest summary

The cost of not reforming the NHS dental contract over five years is approximately £4.3 billion in avoidable NHS costs and undeployed ring-fenced funding — before any cross-departmental costs are counted. This is not a projection based on optimistic assumptions. It is a conservative compilation of documented, verified costs that will continue to accumulate in every year that the current model persists.

The £18,000 per-person lifetime caries cost from Dunleavy, Kebschull, Chapple et al. places England's dental cost burden in international context: it is the highest of six comparable countries studied. The difference between England and lower-cost comparators is not biological or demographic. It is commissioning. Countries that commission systematic prevention do not accumulate £18,000 per-person lifetime caries costs. England, which does not, does. [1]

The Population Oral Health Contract does not merely avoid the cost of reform. It begins to reverse the cost of not having reformed. Every year of delay is a year in which the £18,000 lifetime cost continues to accrue, in which 33,976 children undergo avoidable GA extractions for tooth decay, in which 73,088 people attend A&E with preventable dental pain, and in which £392 million of ring-fenced dental funding cannot be deployed.

The question before DHSC and HM Treasury is therefore not whether further delay is cost-free. It is not. The question is whether the Population Oral Health Contract offers a sufficiently credible, testable and value-generating route out of a model that continues to accumulate avoidable cost.

The closing argument

At Gate 2, Year 5, the confirmed trajectory requires £951m of net genuinely new public investment after inflation catch-up and conservative avoided NHS costs. That figure is derived from a £1.504bn increase in the NHS net contribution, less £438m to restore real-terms purchasing power lost since 2014/15 and £115m in conservative avoided NHS costs.

Not reforming is not cost-neutral. It allows approximately £867m per year in identified avoidable NHS costs, undeployed ring-fenced funding and continuing disease accumulation to persist — around £4.3bn over five years. Every year of delay widens the gap between what the NHS allocates, what the system can deploy, and what patients actually receive.

The case for reform is therefore not financial optimism. It is financial arithmetic: invest to register, prevent and stabilise, or continue paying for the consequences of a contract that cannot deploy funding, prevent disease or convert urgent need into continuing care.

The cost of reform is visible, staged and testable. The cost of non-reform is dispersed, recurrent and already being paid.

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8. Care Quality Commission. Smiling Matters: oral health in care homes — progress report. Newcastle upon Tyne: CQC; 2023. [Source for 25% of care home providers unable to access NHS dental care for residents.]
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ANNEX I

Oral Health and Systemic Non-Communicable Diseases

The bidirectional evidence base: how periodontal disease connects to diabetes, cardiovascular disease, respiratory illness, adverse pregnancy outcomes, oral cancer and mental health — and how to present the cross-departmental dividend to HM Treasury

ANNEX I Introduction

This annex supports the claim, made at multiple points in the main paper and annex suite, that oral health is not peripheral to wider healthcare. It is a signal of, and contributor to, systemic non-communicable disease. The dental contract reform is therefore not only a commissioning efficiency argument. It is a population health argument: the NHS is currently failing to use the dental examination, periodontal assessment and dental-home relationship as practical opportunities for prevention, early identification and risk management in conditions that impose substantial cost on the wider health system.

The underlying clinical and epidemiological evidence is assessed and graded in Annex L. This annex does not repeat that evidence review. It draws from it to identify the commissioning implications for diabetes, cardiovascular disease, respiratory disease, frailty, maternity, severe mental illness and oral cancer pathways, and to explain how those benefits should be treated in Green Book appraisal.

The evidence base ranges from Cochrane-level randomised trial evidence for periodontal treatment in type 2 diabetes, to well-established associational evidence for periodontal and cardiovascular disease, to biological plausibility supported by epidemiological evidence in respiratory disease, pregnancy and mental health, and to early-detection opportunity in oral cancer. The strength of evidence differs across pathways, and the commissioning response must differ accordingly.

This annex supports the Green Book public value case for reform. It does not add further cashable savings to the primary Year 5 affordability bridge unless those savings are independently evidenced, attributable, timed and owned by a budget holder. The controlling financial bridge remains the Section 3 / Annex F calculation. The systemic NCD benefits described here should therefore be treated as commissioning opportunities and evaluation priorities, not automatic offsets.

Cross-reference

Annex E (Patient Charges and Exemptions) Section E.4.1 for the clinical and fiscal case for extending charge exemptions to T2D periodontal pathway patients and Core20PLUS5 groups. Annex H (Cost of Not Reforming) for the systemic disease cost amplification stream. Section 3.5 of the main paper for the £190m/yr supplementary cross-departmental Green Book estimate and its treatment in the investment case. Section 5.8 for the ICB co-commissioning recommendation.

I.1 Introduction: the mouth as a systemic disease signal

The inflammatory and microbial pathways that drive periodontal disease do not stop at the gumline. Chronic periodontal infection drives systemic inflammatory responses that affect vascular endothelium, impair insulin signalling, alter respiratory tract colonisation and influence pregnancy outcomes. The oral microbiome contributes to the systemic microbiome. The dental examination, properly conducted, offers a window onto systemic health that no other routine clinical contact routinely provides.

England has approximately 3.7 million adults with diagnosed type 2 diabetes, 7.6 million with cardiovascular disease, and 1.2 million living with severe mental illness. The majority of these patients have NHS GP registration and attend primary care regularly. Fewer than 40% have regular NHS dental access. The clinical opportunity to identify systemic disease progression, support long-term condition management and prevent avoidable complications — through the dental examination and through periodontal intervention — is being systematically lost because the dental contract does not create the pathway, the payment or the commissioning infrastructure for cross-disciplinary care.

The Population Oral Health Contract creates that pathway. The dental home model embeds the registered practice as a population health resource, not a treatment facility. The prevention episode tariff Pt(d) funds the clinical time for periodontal intervention. The quality premium KPIs can incorporate systemic disease linkage measures. The ICB co-commissioning framework connects dental commissioning to diabetes, respiratory, maternity, frailty and mental health pathways. This annex provides the evidence base that makes each of those commissioning connections justifiable and auditable.

The key claim

Adults outside regular NHS dental care include many of those with the greatest burden of type 2 diabetes, cardiovascular disease, severe mental illness and respiratory disease. The dental contract reform is therefore not only about teeth. It is about what access to a dental home makes possible for the rest of the NHS: prevention, early identification, risk management and continuity for patients whose oral health is inseparable from wider health need.

I.2 Periodontal disease and type 2 diabetes: the strongest evidence

The bidirectional relationship between periodontal disease and type 2 diabetes is the most thoroughly evidenced of all oral-systemic NCD connections. The evidence operates in both

directions: periodontitis worsens glycaemic control in people with T2D; and T2D is associated with increased severity and progression of periodontitis. The mechanisms are established: chronic periodontal infection drives systemic inflammatory mediators including TNF-α, IL-6 and IL-1β, which impair insulin signalling and peripheral glucose uptake. [1]

I.2.1 The Cochrane evidence

The 2022 Cochrane systematic review and meta-analysis by Simpson, Clarkson, Worthington et al. examined the effect of treating periodontitis on glycaemic control in people with T2D. [1] Across 35 randomised controlled trials with 3,249 participants, the review found:

Table I.1 Cochrane evidence for periodontal treatment and glycaemic control

Finding	Effect estimate	Certainty rating	Clinical significance
HbA1c reduction at 3–6 months following periodontal treatment (subgingival instrumentation)	Mean difference −0.43% HbA1c (95% CI −0.59 to −0.27)	Moderate certainty	A 0.43pp reduction in HbA1c is clinically meaningful: UK prescribing thresholds for intensifying T2D management are set at 58 mmol/mol (7.5%). A 0.43pp reduction from periodontal treatment alone is comparable to the effect of some second-line antidiabetic agents.
Evidence of effect at 12 months	Limited; most trials did not follow up beyond 6 months	Low certainty	Longer-term RCT evidence is the primary evidence gap. Direction of effect consistent.
Whether treatment effects differ by diabetes severity	Insufficient evidence to determine	Low certainty	Subgroup analysis by HbA1c control level or diabetes treatment intensity not consistently reported across included trials.
Adverse effects of periodontal treatment in T2D	No evidence of harm; periodontal treatment is safe	High certainty	Consistent across trials. No safety concerns identified.

I.2.2 Scale in England

Approximately 3.7 million adults in England have diagnosed type 2 diabetes. [2] Of these, epidemiological and clinical data consistently suggest that around half have clinically significant periodontitis. The conservative estimate therefore places approximately 1.85 million adults in England with both diagnosed T2D and significant periodontal disease. Of these, many are unlikely to have regular NHS dental access, meaning a substantial cohort of adults have both conditions but no regular dental home through which the periodontal-diabetes pathway can be activated.

I.2.3 The financial case

NHS England diabetes management costs approximately £10 billion per year, with a substantial proportion relating to the cost of managing complications in patients with suboptimal glycaemic control. At an average management cost of approximately £3,700 per patient per year for those with poorer glycaemic control, a 0.43 percentage point HbA1c reduction from periodontal treatment provides a plausible basis for modelling avoided diabetes complication costs. The main paper uses £370 per patient per year as a conservative central estimate, equivalent to approximately 10% of the average annual management cost for patients with suboptimal glycaemic control. [1–3]

There are approximately 3.7 million adults with diagnosed type 2 diabetes in England. On a conservative assumption that around half also have clinically significant periodontitis, the relevant co-morbid population is approximately 1.85 million adults. If 40% of that group achieved access to structured periodontal care under the Population Oral Health Contract by Year 5, and each responding patient generated an average avoided diabetes-management cost of £370 per year, the upper modelling estimate would approach £274m per year. [1–4]

Table I.2 Periodontal-diabetes pathway: scale and financial case

Variable	Value	Basis
Adults with diagnosed T2D in England	3.7 million	NHS Digital diabetes prevalence data 2024/25 [2]
Estimated with co-existing significant periodontitis	1.85 million	50% conservative estimate
Currently without regular NHS dental access	c. 1.1 million	Illustrative estimate using 60% not regularly accessing NHS dental care [4]
HbA1c reduction from periodontal treatment	−0.43pp	Simpson et al. Cochrane 2022 [1]
Avoided diabetes-management cost per responding patient/year	c. £370	c. £3,700 mean annual cost × 10% attributable improvement [3]
Total potential avoided cost at Year 5 under upper uptake assumption	c. £274m/year	1.85m × 40% × £370
Revised central supplementary Green Book estimate	c. £190m/year at Year 5; c. £350m/year at Year 10	Cross-departmental only; not deducted from primary investment case

The main paper should not use this £274m upper modelling estimate in the primary affordability case. A more cautious central supplementary Green Book estimate would be approximately £190m per year at Year 5, reflecting uncertainty about uptake, treatment response at population scale, persistence of effect and attribution to the periodontal pathway

specifically. By Year 10, the corresponding supplementary estimate would be approximately £350m per year.

These figures are cross-departmental public value estimates. They are not deducted from the primary Year 5 NHS dental affordability requirement. The periodontal-diabetes pathway strengthens the Green Book case for reform because the potential benefits are material, clinically plausible and measurable through linked dental and diabetes data. It should not, however, be used to reduce the £951m net genuinely new public investment requirement at Year 5 unless demonstrator evidence confirms attribution, timing, budget ownership and cashability.

Any national avoided-cost estimate for periodontal-diabetes integration should therefore be presented as a supplementary Green Book sensitivity, not as a cashable offset to the primary Year 5 NHS dental affordability bridge.

I.2.4 The ICB co-commissioning pathway

The practical implication for ICB commissioners is specific. A formally commissioned periodontal-diabetes pathway requires three linked elements.

First, there must be a shared data protocol between the ICB dental commissioning team, primary care diabetes management and participating dental providers to identify registered dental patients with type 2 diabetes and suboptimal glycaemic control, where data sharing is lawful, proportionate and consent or another legal basis has been established.

Second, the dental care pathway must trigger structured periodontal assessment and treatment for identified patients with T2D and active periodontal disease. Patients should be allocated to Pathway 2 or Pathway 3 according to clinical need, with periodontal stabilisation, prevention, oral hygiene support and recall intervals recorded through the dental home.

Third, the Population Oral Health Return should record the relevant pathway fields: T2D status as a clinical flag, periodontal risk and treatment delivery, completion of stabilisation where indicated, and subsequent HbA1c data where linkage is available. These data should support the quality premium KPI, local evaluation and Green Book appraisal.

This pathway does not require primary legislation. It requires an ICB commissioning decision, an information-governance compliant data-sharing agreement with general practice or diabetes services, and a modification to the POHR data specification to include T2D status as a clinical flag.

The charge protection described in Annex E, Group 2, Tier 3 provides the patient-facing commitment. The co-commissioning arrangement makes it operationally deliverable. The commissioning implication is not universal free dentistry for all people with T2D. It is a pathway-defined periodontal assessment and stabilisation offer for people with T2D and active periodontal disease, with charge protection where charges would deter clinically necessary care.

Cross-reference

Annex E (Patient Charges) for the T2D periodontal pathway charge exemption (Group 2, Tier 3). Section 3.5 of the main paper for the £190m/yr cross-departmental avoided cost estimate and its Green Book treatment. Section 5.8 for the ICB co-commissioning recommendation.

I.3 Periodontal disease and cardiovascular disease

Periodontitis and cardiovascular disease — GRADE: Moderate (association); Low–Moderate (causation evidence)

→ **Mechanism** Chronic periodontal infection drives systemic inflammatory mediators (CRP, IL-6, fibrinogen) that contribute to vascular endothelial dysfunction, accelerated atherosclerosis and plaque instability. Periodontal pathogens including Porphyromonas gingivalis have been identified in atherosclerotic plaques. The inflammatory pathway is the primary proposed mechanism; direct bacteraemia is a secondary pathway.

→ **Scale (England)** ~7.6 million adults in England with diagnosed CVD. CVD costs the NHS approximately £9 billion per year. Periodontal disease prevalence in CVD patients substantially exceeds the general population.

→ **Evidence** Sanz et al. (2020) joint EFP/ACC consensus report [5]: periodontal disease is independently associated with CVD after adjusting for shared risk factors. Association is consistent across studies; causation is debated. No large-scale RCT evidence of CVD event reduction from periodontal treatment comparable to the Simpson et al. T2D Cochrane review. GRADE: Moderate (association); Low–Moderate (causation).

→ **Commissioning link** ICBs should include periodontitis assessment in CVD co-commissioning arrangements. Shared risk factors (smoking, diet, exercise, social deprivation) create a natural co-commissioning pathway with primary care prevention programmes. Dental cessation brief interventions (funded through Pt(d)) are directly relevant. Not yet at the level of evidence that would justify a formal exemption pathway, but strongly supports dental integration in CVD prevention programmes.

The Sanz et al. consensus report represents the strongest current statement of the evidence: periodontal disease should be considered an independent risk factor for cardiovascular disease. [5] A 2026 narrative review and policy analysis synthesises this and broader periodontal-systemic NCD evidence within a population health and health-systems framework, arguing that periodontal care should be repositioned as a public health function rather than a treatment-oriented service — the precise paradigm this paper applies to the NHS dental contract. [6] This does not mean that treating periodontitis prevents heart attacks. It means that the co-existence of periodontitis and cardiovascular risk factors should prompt integrated clinical management, and that treating periodontitis in CVD patients is clinically appropriate and may have systemic benefit.

For NHS commissioning purposes, the CVD-periodontitis link justifies inclusion of dental assessment in NHS Health Check pathways where cardiovascular risk is identified; referral protocols between primary care CVD management and NHS dental registration; and use of dental cessation brief intervention tariffs within **Pt(d)** as part of cardiovascular risk reduction programmes. These are commissioning opportunities, not mandates; the evidence does not yet support the stronger claim that periodontal treatment reduces CVD events.

I.4 Oral health and respiratory disease

Oral health and respiratory disease (aspiration pneumonia and COPD) — GRADE: **Moderate (aspiration pneumonia); Low–Moderate (COPD)**

→ **Mechanism** The oral cavity is a reservoir for respiratory pathogens, including *Streptococcus pneumoniae*, *Haemophilus influenzae* and gram-negative anaerobes. Aspiration of oral contents — particularly in frail, dysphagic and care-home residents — can contribute to aspiration pneumonia. Chronic periodontal infection may also contribute to COPD exacerbation through shared inflammatory pathways. Oral hygiene interventions reduce oral pathogen burden.

→ **Scale (England)** Aspiration pneumonia may account for a substantial avoidable admissions burden, but the dental-attributable share is uncertain. A working estimate of 20,000–50,000 admissions per year with possible oral-health contribution should be treated as an attribution hypothesis for evaluation, not as a confirmed dental-attributable admissions count.

COPD affects approximately 1.2 million diagnosed adults in England and is more prevalent in high-deprivation communities, many of which overlap with dental access failure. Care-home residents face a distinct access problem: the CQC reported that 25% of care homes were unable to access NHS dental care. [7]

→ **Evidence** For aspiration pneumonia, the strongest commissioning-relevant evidence is in care-home and frailty settings. Azarpazhooh and Leake's systematic review found fair evidence of an association between pneumonia and oral health, and reported that oral hygiene interventions in institutionalised older adults reduced pneumonia incidence. [8] For COPD-periodontitis, cross-sectional association is established, but RCT evidence that periodontal treatment improves COPD outcomes remains limited.

The evidence grade is therefore **Moderate** for aspiration pneumonia in care-home settings, and **Low–Moderate** for COPD.

→ **Commissioning link** Commissioning domiciliary dental services and structured oral health programmes in care homes directly targets the aspiration pneumonia pathway and is consistent with NHS England's Framework for maintaining the oral health of our ageing population[9]. The framework calls for proactive, sustained oral healthcare across later life; prevention regardless of care setting; integration of oral health into wider health and social care; and flexible dental service provision for older people whose needs change with frailty, dependency or cognitive decline. It also confirms that domiciliary dental care should be factored into commissioning models for both community dental services and general dental services where patients are unable to attend clinic-based care.

NICE NG48 [10] already establishes the expectation that care homes assess and support residents' oral health. The Population Oral Health Contract's frailty and domiciliary pathway provides the delivery mechanism: structured oral health assessment, prevention, care-home support, referral where needed, and continuity through the dental home.

COPD-periodontitis co-commissioning is at an earlier stage of evidence. It should therefore be treated as an ICB pilot and evaluation pathway, not as a nationally cashable avoided-cost assumption.

The aspiration pneumonia evidence is the most immediately actionable element for care-home and frailty commissioning. A quarterly structured oral health assessment for care-home residents, funded through the Population Oral Health Contract's frailty and domiciliary pathway, is clinically justifiable and suitable for evaluation. Even a modest reduction in aspiration-pneumonia admissions could justify structured care-home oral health assessment and prevention, given the high reference cost of admission relative to the cost of dental assessment.

NHS England's ageing-population framework also supports the wider implementation model proposed in this paper: assessment of local need, shared-care pathways across general, community and specialist dental services, workforce training in gerodontology, skill-mix deployment, and standardised quality and outcome measures. These are precisely the capabilities required for a prevention-led dental home model to operate safely for frail, dependent and medically complex older adults.

The CQC finding that **25%** of care-home providers could not access NHS dental care for residents is therefore not only a dignity and quality-of-life concern. It is also a plausible preventable hospital-cost exposure that should be tested through demonstrator-linked evaluation. [7,10]

I.5 Oral health and adverse pregnancy outcomes

Periodontal disease and adverse pregnancy outcomes — GRADE: **Low–Moderate (mixed RCT evidence)**

→ **Mechanism** Periodontal infection may trigger systemic inflammatory and immune responses that affect placental function and contribute to pre-term labour. Periodontal pathogens and their metabolites have been identified in amniotic fluid and placental tissue in women with periodontitis. The proposed mechanism involves PGE2 and TNF-α elevation triggering cervical ripening and uterine contractions.

→ **Scale (England)** Pre-term birth rate in England: approximately 7–8% of all births (~60,000 per year). Periodontal disease prevalence in pregnancy is elevated due to hormonal changes increasing gingival sensitivity. Pre-term birth NHS costs: estimated £3,000–£12,000 per case depending on gestational age and complications.

→ **Evidence** Polyzos et al. (2010) systematic review and meta-analysis [11]: periodontal treatment during pregnancy significantly reduced the rate of pre-term low birth weight (RR 0.65; 95% CI 0.45–0.93) in eligible studies. However, subsequent large RCTs (including OPT trial, US, 2006) showed no significant effect on pre-term birth reduction. Evidence is mixed. GRADE: Low–Moderate (association); Low (RCT evidence of benefit for pre-term reduction).

→ **Commissioning link** Maternity is already a Tier 1 statutory exemption in the current framework and is unchanged in the reformed model. The primary commissioning action is ensuring that the dental home registration pathway captures pregnant women and that maternity services have a referral protocol to NHS dental registration. The periodontal-pregnancy evidence does not support a new exemption but does support oral health assessment as a standard component of antenatal care.

The evidence for periodontal treatment preventing pre-term birth is less conclusive than for the T2D pathway. The association is biologically plausible and epidemiologically consistent, but large RCTs have not confirmed a significant benefit for pre-term birth reduction from periodontal treatment alone. The commissioning implication is therefore more modest: ensure that pregnant women are in registered dental care (the maternity exemption already supports this), that periodontal assessment is part of the antenatal oral health pathway, and that evidence generation continues through the demonstrator programme's POHR data. A formal periodontal-maternity pathway analogous to the periodontal-diabetes pathway is not yet justified by the evidence.

I.6 Oral cancer: the detection dividend

Oral cancer represents the most direct and immediately actionable systemic health opportunity in NHS dentistry. It is not a systemic NCD in the same mechanistic sense as the periodontal-systemic connections — but it belongs in this annex because the dental examination is the primary clinical opportunity for early detection, and because the survival dividend from stage 1 detection is so large that the failure to deploy the dental exam as a screening tool represents a material NHS cost.

I.6.1 Incidence and survival

Table I.3 Oral cancer incidence and survival indicators

Indicator	Figure	Source
New oral cancer cases per year in England	~8,800/yr	Cancer Research UK / NHS cancer registration data 2024 [12]
5-year survival — all stages	~55%	NHS National Cancer Patient Experience; cancer registry data
5-year survival — stage 1 (early detection)	>80%	TNM staging outcomes data; consistent across UK registries[13]
5-year survival — stage 4 (late detection)	~30%	NHS cancer registry data
Proportion diagnosed at stage 1 currently	~30–35% (too low)	NHS cancer registration data
Estimated additional lives if all cases detected at stage 1	~2,000/yr (based on stage-shift survival modelling)	NHS England oral cancer pathway; NICE guidance NG36[14]
NHS cost per oral cancer case (all stages, treatment)	~£15,000–£30,000 per case (treatment episode)	NHS National Cost Collection; head and neck oncology reference costs

I.6.2 The dental exam as screening opportunity

Oral cancer can be visualised by a trained clinician on soft tissue examination. The dental examination is the most regular clinical contact in which the oral mucosa, tongue, floor of mouth, oropharynx and neck lymph nodes are routinely assessed. The NHS dental contract, however, has never explicitly commissioned soft tissue examination and cancer detection as a distinct clinical function. Under the UDA model, Band 1 charges a flat rate whether or not the clinician conducts a thorough soft tissue examination. There is no separate tariff, no KPI and no commissioning requirement for oral cancer screening within the dental exam.

The Population Oral Health Contract changes this. The base capitation funds the full examination, including soft tissue assessment, as part of registered responsibility. The Population Oral Health Return should include a soft tissue examination completion rate as a process KPI. Referral for suspected oral cancer should be tracked through the POHR two-week-wait pathway data. The quality premium should include appropriate referral rate and stage-at-diagnosis data as an outcome KPI over the 10-year contract term.

I.6.3 Risk factor linkage

Tobacco, alcohol and HPV infection are the three primary risk factors for oral cancer. The dental examination is uniquely positioned to identify all three. Dental cessation brief interventions (within Pt(d)) directly target tobacco. Dietary and alcohol brief interventions are within the prevention tariff scope. HPV-related oropharyngeal cancer awareness can be part of the dental home's health promotion function. None of this requires a separate cancer programme — it is what a well-resourced, prevention-oriented dental home naturally does.

> ***The oral cancer detection dividend***
> *Raising the proportion of oral cancers detected at stage 1 from ~32% to ~50% would — based on stage-shift survival modelling — save approximately 800 to 1,000 lives per year. The primary instrument for achieving that shift is the dental examination. The dental examination is conducted by a registered NHS dentist. The registered NHS dentist is currently serving fewer than 40% of English adults. The detection dividend from contract reform is not a side effect. It is a direct consequence of the access expansion.*

I.7 Mental health and oral health

Severe mental illness and oral health — GRADE: **Moderate (observational evidence; consistent)**

→ **Mechanism** SMI antipsychotic medications (particularly typical antipsychotics and clozapine) cause profound xerostomia (dry mouth) through anticholinergic effects. Xerostomia dramatically accelerates caries by reducing salivary buffering, reducing antimicrobial salivary proteins and enabling oral acidification. SMI patients also have elevated rates of sugar consumption (diet-related), reduced motivation for oral hygiene, irregular attendance patterns, high dental anxiety and difficulty navigating appointment booking and charge systems. The result is accelerated tooth decay, pain, tooth loss and associated social isolation.

→ **Scale (England)** ~685,000 adults in England with severe mental illness (NHS England/NHSE SMI register). Substantially higher unmet dental need: Kisely et al. (2015) meta-analysis found significantly increased odds of total tooth loss compared to general population [15]. Dental anxiety prevalence very high in SMI population.

→ **Evidence** Kisely et al. (2015) [16]: systematic review and meta-analysis of oral health outcomes in SMI. Significantly increased odds of caries, tooth loss, dry mouth and oral disease across included studies. Strong and consistent association. GRADE: Moderate (observational; consistent direction). RCT evidence for dental intervention outcomes in SMI limited.

→ **Commissioning link** SMI is a Core20PLUS5 clinical condition. The acclimatisation pathway (Annex C, P2) is specifically designed for patients with dental anxiety and avoidance, including SMI patients. Extended appointment times, carer support and domiciliary access are all within the Population Oral Health Contract's pathway scope. The Tier 3 charge protection proposed in Annex

E (Group 8) addresses the financial barrier. The POHR should include an SMI clinical flag as part of the vulnerability data set.

Dental anxiety is a separate but related issue that affects approximately 25% of the adult population to a clinically significant degree and approximately 10% severely. It is not limited to SMI patients. The acclimatisation pathway (Annex C, P2) funds structured familiarisation for patients who cannot tolerate routine dental care. The commissioning implication of the dental-mental health relationship is broader than SMI alone: the dental home model, with its continuity, trust-building and patient-centred care planning, is inherently better positioned to address dental anxiety than an episodic UDA model that provides no financial reward for the additional time and skill that anxious patients require.

I.8 The Green Book cross-departmental dividend

The systemic NCD evidence base generates a cross-departmental dividend that HM Treasury's Green Book methodology requires to be identified and, where possible, quantified in any appraisal of public sector investment. [16] This section sets out how to present the oral-systemic dividend to Treasury, which figures sit in the primary investment case and which are supplementary, and the limitations of the current evidence for a full QALY-based appraisal.

I.8.1 Primary vs supplementary investment case

The structure of the investment case

The primary NHS dental investment case in this paper (Sections 3.5–3.6 and Annex F) is built entirely on dental-sector costs and benefits: gross ACV, patient charge income, avoided dental NHS costs (GA extractions, A&E attendances, antibiotic prescribing) and the inflation catch-up. Cross-departmental NCD savings are presented as supplementary — not because they are speculative, but because they fall in different departmental budgets and require different attribution methodologies. A Treasury submission that conflates dental-budget costs with cross-departmental savings risks credibility. The correct approach is to present the dental primary case first and then provide the cross-departmental supplementary case separately, with clear methodological notes on attribution, uncertainty and QALY conversion.

I.8.2 The £190m Year 5/yr figure: derivation and limitations

Section 3.5 of the main paper presents a supplementary cross-departmental avoided cost from the periodontal-diabetes pathway of approximately £190m at Year 5, rising to £350m per year at Year 10. These figures are not deducted from the primary NHS dental affordability requirement. They are presented as supplementary Green Book public value estimates, reflecting the potential impact of structured periodontal care on diabetes management costs.

The periodontal-diabetes estimate is derived from five linked assumptions: 3.7 million adults with diagnosed Type 2 diabetes in England; approximately 50% with co-existing significant periodontitis; increased access to structured periodontal care under the Population Oral Health Contract; a clinically meaningful periodontal treatment response in a proportion of those patients; and an avoided diabetes management cost of approximately £370 per

responding patient per year. The estimate is intentionally treated as cross-departmental public value, not as a cashable offset to the dental budget.

The modelling range should be presented transparently. The upper modelling estimate shown in Section I.2.3 approaches £274m per year under fuller uptake assumptions. The £190m Year 5 figure used in Section 3.5 is the central supplementary Green Book estimate, reflecting more cautious assumptions about uptake, treatment response at population scale, persistence of effect and attribution to the periodontal pathway specifically. The true realised value will depend on demonstrator evidence.

The demonstrator evaluation should therefore test the periodontal-diabetes pathway directly: identification of patients with Type 2 diabetes through GP registers; periodontal diagnosis and treatment delivery through the POHR; HbA1c change over time; diabetes medication and complication-cost signals; and whether any observed benefits are attributable, traceable, cashable and owned by an identifiable NHS budget.

Table I.4 Derivation and limitations of the £190m Year 5 cross-departmental estimate

NCD pathway	Annual avoided cost (cross-departmental)	Certainty	QALY basis	Departmental attribution
Periodontal-T2D pathway	£190m/yr at Year 5; £350m/yr at Year 10	Moderate: Cochrane evidence for HbA1c effect; population attribution modelled	Potential QALY gain from improved glycaemic control; formal QALY modelling required	NHS England diabetes management budget; supplementary Green Book benefit only; not deducted from primary NHS dental affordability case
Periodontal-CVD (supplementary only)	Not costed in investment case (insufficient RCT evidence)	Low–Moderate	Not yet quantifiable for primary appraisal	NHS England cardiovascular programme
Aspiration pneumonia prevention (care home pathway)	~£50–£150m/yr (£5,000–10,000/admission avoided; 10,000–30,000 attributable episodes)	Moderate (Cochrane evidence for oral hygiene intervention)	~0.05–0.10 QALY/patient/yr from avoided pneumonia hospitalisation	NHS acute sector (not dental budget)
Oral cancer early detection (stage-shift dividend)	~£10–25m/yr avoided treatment cost plus QALYs from lives saved	High (survival data solid; attribution to dental access is modelled)	~800–1,000 additional lives/yr from stage-shift; ~6–10 QALYs per life saved = 5,000–10,000 QALYs	NHS England cancer budget; NHSE head and neck oncology
TOTAL SUPPLEMENTARY cross-departmental dividend	£300–£600m/yr conservative (Section 3.5 / Annex H figure: same range)	Moderate (composite of above)	Substantive; full QALY appraisal recommended as part of NIHR evaluation framework	Multiple departments; requires cross-departmental Green Book appraisal

I.8.3 Presenting this to HM Treasury

The Green Book framework requires public sector investment appraisals to identify all material costs and benefits, regardless of which departmental budget they fall within. The periodontal-diabetes avoided cost, aspiration pneumonia benefit, oral cancer stage-shift dividend, school absence benefit and productivity effects therefore matter to the public value case for reform. However, they should not be deducted from the primary Year 5 NHS dental affordability requirement unless attribution, timing, budget ownership and cashability have been tested through demonstrator evaluation. The correct Treasury presentation is a two-stage document.

The primary NHS dental affordability case should be presented first. At Year 5, Gate 2, the NHS net contribution rises from £2.300bn to £3.804bn: a gross increase of £1.504bn. Of that increase, £438m restores real-terms purchasing power lost since 2014/15 and £115m is offset through conservative avoided NHS dental and near-dental costs. The net genuinely new public investment is therefore £951m at Year 5. That investment funds 9.83 million additional NHS dental patients — 6.80 million additional adults and 3.02 million additional children — and changes what the NHS is buying: registered responsibility, risk-weighted prevention, urgent-to-stabilisation conversion, pathway-based care, quality accountability and population health improvement.

The supplementary Green Book appraisal should then present the wider cross-departmental dividend. The periodontal-diabetes pathway is the most tractable starting point because the evidence base is strongest, the relevant patient cohort can be identified through GP diabetes registers, HbA1c is routinely recorded, and periodontal treatment delivery can be captured through the POHR. The estimated periodontal-diabetes avoided cost should therefore be presented as a supplementary Green Book benefit: material to the public value case, but not deducted from the primary Year 5 affordability requirement before demonstrator validation.

The same principle applies to aspiration pneumonia prevention, oral cancer stage-shift, school absence, productivity, antimicrobial resistance and care home benefits. These benefits strengthen the strategic case for reform, but they should be evaluated separately through linked data and cross-departmental modelling before being treated as cash-releasing offsets.

The demonstrator evaluation should therefore be designed from the outset to generate the evidence Treasury will need at Gate 2: which benefits are directly attributable, which are traceable but fall outside the dental budget, which are cashable, which are non-cashable public value, and which require longer follow-up before they can be included in national rollout modelling.

The bottom line for Treasury

The dental investment case should stand first on the corrected primary affordability bridge: £1.504bn gross Year 5 NHS increase, less £438m inflation catch-up and £115m conservative avoided NHS costs, leaving £951m net genuinely new public investment at Gate 2.

The cross-departmental dividend is additional. It strengthens the Green Book case for reform because many of the benefits of improved oral health fall outside the dental budget: diabetes management, respiratory admissions, cancer pathways, school attendance, productivity, antimicrobial stewardship and care home resilience. These benefits are real public value, but they should be treated as supplementary until the demonstrator has tested attribution, timing, budget ownership and cashability.

The periodontal-diabetes pathway should be the first formal test case. It has the strongest evidence base, a defined registered population, routinely collected HbA1c outcomes and a plausible co-commissioning route through ICB diabetes pathways. If the demonstrator can show that structured periodontal care improves measurable diabetes outcomes and reduces attributable NHS cost, it creates the strongest case for cross-departmental investment in oral health.

The Treasury proposition is therefore disciplined: do not bank the wider NCD dividend prematurely, but do not ignore it. Build it into the demonstrator evaluation, quantify it through linked data, and use it to inform the Gate 2 national rollout decision.

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ANNEX J

Sustainability, Prevention and Contract Design

Why the greenest dental procedure is the one the patient never needed — the environmental case for a prevention-led NHS dental contract, and why practice-level sustainability cannot succeed without system-level reform

ANNEX J Introduction

This annex argues that the environmental case for NHS dental contract reform is not separate from the clinical and financial case. It is the same argument expressed in a different metric. A contract that rewards treatment volume over prevention not only generates avoidable clinical complexity and avoidable NHS cost; it also generates avoidable carbon, waste, patient journeys and materials consumption. Sustainable dentistry, properly understood, is prevention-led dentistry. Prevention-led dentistry requires commissioning reform. [1–3]

This annex supports the environmental and sustainability case for reform, but it does not create a separate cashable offset in the primary Year 5 affordability bridge. Carbon, waste, travel, antimicrobial stewardship and materials benefits should be treated as public value and implementation benefits unless independently quantified, attributed and tested through demonstrator evaluation.

The British Dental Association's sustainability commentary frames this connection explicitly: one of the most important ways oral healthcare can contribute to sustainability is through disease prevention and improved population oral health, reducing the need for intervention and treatment. The BDA's framing links environmental sustainability to NHS dental contract reform, sugar reduction policy, antimicrobial resistance, and the practical implementation and reward of prevention as the focal point of dentistry. [3] That is also the central argument of this paper.

> **The central argument**
> *The greenest dental procedure is the one the patient never needs. Every avoided GA extraction, every prevented filling, every unnecessary urgent appointment that becomes a prevention contact instead — these are not only NHS cost savings and clinical improvements. They are avoided carbon, avoided waste, avoided materials, avoided journeys, avoided workforce time spent on consequences rather than causes. The environmental case for contract reform is the prevention case.*

Cross-reference

Section 1 of the main paper for the clinical and policy case for contract reform. Section 3 for the investment case and avoided cost analysis. Annex C (Care Pathways) for the Pathway 1 risk-based recall extension and the prevention tariff Pt(d) structure. Annex G (Child Prevention Investment Case) for the GA extraction avoided cost evidence. Annex H (Cost of Not Reforming) for extended quantification of avoidable NHS costs. Annex I (Oral Health and Systemic NCDs) for the AMR and antibiotic stewardship connection. Annex L (Evidence Base) for the clinical evidence base underpinning the prevention case.

J.1 The dental carbon footprint — what the evidence shows

The carbon footprint of NHS dentistry in England has been estimated in a series of studies commissioned by and published with Public Health England and NHS England. Duane et al. (British Dental Journal, 2017) provides the primary estimate, with updated practice-level data from Duane and Steinbach (BDJ, 2024) and clinical guidelines from the Royal College of Surgeons (2023). [1,2,5]

Table J.1 Dental carbon footprint: key evidence and contract reform significance

Finding	Figure	Source	Significance for contract reform argument
Total NHS dentistry carbon footprint	675 kilotonnes CO_2 equivalent per year	Duane et al. Br Dent J 2017 [1]	Not a trivial contribution — 3% of the total NHS carbon footprint at system scale.
NHS dentistry share of NHS carbon	~3% of total NHS carbon	Wilmott et al. Br Dent J 2024 [4]	Dentistry has a material NHS-level sustainability obligation alongside its clinical and financial obligations.
Largest single carbon contributor by activity	Dental examinations — 27.1% of total NHS dental carbon	RCS Clinical Guidelines for Environmental Sustainability in Dentistry 2023 [5]	Volume effect: 35m examination contacts/year generate more total carbon than fewer, higher-carbon treatment contacts — even though per-contact footprint is low.
Carbon from travel (staff and patient combined)	~64.5% of dental emissions	EFP Green Dentistry Review 2023 [6]	Patient and staff travel is the dominant emission source — every unnecessary recall appointment generates unnecessary travel carbon.
Patient travel specifically	~31.1% of total dental carbon (England 2013/14)	RCS Clinical Guidelines 2023 [5]	Recall interval extension for low-risk patients directly reduces the largest avoidable component of the dental carbon footprint.
Carbon footprint of examination vs treatment	Examination per contact is lower; but examination volume is so high that examinations dominate the total	Duane et al. 2017 [1]; RCS 2023 [5]	The current contract risks generating substantial carbon from low-risk recall activity where the interval is driven by habit or activity incentives rather than clinical risk. The sustainability question is not whether examinations matter; it is whether every examination occurs at the right interval, for the right patient, and with the right clinical purpose.

Note: Travel-emissions estimates vary by methodology and denominator. The figures in Table J.1 are used to show the consistent direction of evidence: patient and staff travel are major contributors to dental carbon, making unnecessary recall and repeated urgent attendance material sustainability issues.

The 27.1% examination figure — what it means

That dental examinations account for 27.1% of NHS dental carbon is not an argument against examinations. It is an argument against unnecessary examinations at arbitrary recall intervals for patients whose clinical risk does not warrant them.

NICE CG19 established that recall intervals should be risk-based, ranging from 3 to 24 months. [7] The current contract does not consistently reward implementation of that principle. In many settings, low-risk patients continue to attend at intervals shorter than their clinical risk requires, while higher-risk and unregistered patients remain outside care. Every unnecessary recall generates an unnecessary patient journey — and patient travel is approximately 31% of the dental carbon footprint. At national scale, the avoidable travel carbon is material.

J.2 Prevention versus treatment — the carbon differential

The carbon footprint varies substantially by clinical activity type. Treatment interventions involve more materials, more single-use equipment, more sterilisation cycles, more clinical time and more frequent patient journeys than prevention contacts. A contract that shifts the balance from treatment to prevention reduces carbon intensity per unit of clinical value delivered. [1,5]

The compounding carbon argument

The carbon benefit of prevention is not the single avoided treatment episode. It is the compound effect of disease not progressing. A patient who receives fluoride varnish at age 8 and does not develop a cavity does not need a filling at 14, a crown at 28, a root canal at 40, or an extraction at 55. Each avoided downstream treatment is avoided carbon, avoided materials, avoided journeys and avoided NHS cost — compounding across a lifetime. Prevention is the most carbon-efficient investment available in dentistry.

Table J.2 Prevention versus treatment: relative carbon differential

Activity	Relative carbon per contact	Key carbon drivers	Population Oral Health Contract effect
Pathway 1 / examination only (Health Maintenance)	Low per contact; high total from volume	Patient travel (dominant); staff time; minimal consumables	Extended recall for low-risk patients (Pathway 1, NICE CG19) → fewer contacts/year → direct patient travel carbon reduction. Freed capacity redirected to unregistered high-need patients.
Pathway 2 / active prevention (delivered fluoride varnish, sealants, periodontal intervention)	Very low per contact	Minimal consumables; one patient journey; no laboratory; no complex sterilisation kit	Prevention tariffs Pt(d) create financial incentive for low-carbon activity that currently generates no separate income under UDA model.
Pathway 3 / restorative care (direct and indirect restorations)	Moderate to high; laboratory carbon significant for indirect	Restorative materials; single-use instruments; patient travel for treatment; laboratory processing	Prevention reduces cavity incidence → fewer P3 courses over contract term → materials, sterilisation and travel savings compound. Minimally invasive approach supported by GIRFT.
GA extraction (hospital)	Very high — theatre environment, anaesthetic gases, hospital resources	Theatre energy; nitrous oxide and inhalation agents; surgical waste; multiple family journeys	50% reduction in decay-related GAs targeted by Year 5 — eliminates the highest-carbon episodes in NHS dentistry. Child prevention pathway is primary mechanism (see Annex G).
Urgent A&E dental attendance	High — repeated contacts, prescribing, no definitive care	Emergency department energy; antibiotic prescribing (AMR + pharmaceutical waste); repeat journeys	Dental home obligation and unregistered urgent care pathway (Annex D) convert avoidable A&E dental demand into assessment, definitive care where required, registration offer and prevention-led follow-on care. The Year 5 target is a 50% reduction in the 73,088 attendance avoidable-demand pool.

J.3 The BDA's sustainability framing — and what it implies for commissioning

The BDA's sustainability commentary, circulated among the profession, makes connections that are more structurally significant than the practice-level resources it accompanies. [3] The central claims deserve unpacking carefully, because each one is an implicit critique of the current commissioning model as much as a professional development message.

Table J.3 BDA sustainability framing and commissioning implications

BDA sustainability claim [3]	What it implies for commissioning	How the Population Oral Health Contract responds
Prevention is one of the most important contributions oral healthcare can make to sustainability.	A treatment-volume contract is environmentally inefficient because it rewards repair and replacement rather than disease prevention. Higher-carbon activity is generated when disease is allowed to progress.	Prevention episode tariffs Pt(d) fund delivered prevention separately. Pathway 2 Active Prevention makes prevention the default response for elevated-risk patients. The quality premium rewards prevention delivery and population oral health improvement.
NHS dental contract reform is explicitly linked to sustainability.	Practice-level sustainability action is useful but insufficient without system-level incentive change. The contract determines whether prevention is funded, rewarded and prioritised.	The Population Oral Health Contract changes the incentive from treatment volume to registered responsibility, risk-adjusted prevention and measurable outcomes. Contract reform becomes a structural sustainability intervention, not simply a payment reform.
Prevention must be practically implemented, rewarded and made central to dentistry.	Under the current contract, prevention is too often a professional aspiration rather than a funded contractual obligation.	Pt(d), dental home responsibility, pathway allocation and the quality premium make prevention contractually specified, claimable, auditable and financially rewarded.
Getting It Right First Time connects sustainability to quality.	Failed, repeated or avoidable care generates repeated appointments, journeys, materials use, sterilisation cycles and waste. Poor-quality or poorly timed care is environmentally inefficient care.	Risk-weighted capitation aligns provider incentives with the patient's oral health trajectory. The quality premium rewards durable outcomes. Risk-based recall reduces unnecessary contacts and redirects capacity to higher-need patients.
Antimicrobial stewardship is a sustainability issue.	Access failure can generate avoidable prescribing, repeat urgent attendance and unresolved disease. Sustainability therefore includes reducing avoidable antibiotic use and replacing crisis management with definitive care.	Dental home responsibility and the unregistered urgent-care pathway convert avoidable A&E dental demand into assessment, definitive treatment where required, registration offer and prevention-led follow-on care. The Year 5 target is up to a 50% reduction in the 73,088 A&E dental attendance avoidable-demand pool, subject to demonstrator evaluation. See Annex I for the AMR and systemic disease connection.
Sugar reduction policy is part of sustainability.	Oral health is a diet-related health issue. Prevention requires alignment between dental commissioning, public health, OHID, DHSC and NHS England policy on diet, sugar and inequalities.	The Population Oral Health Contract's prevention architecture supports sugar-reduction goals through funded dietary advice, Core20PLUS5 targeting, child prevention, fluoride varnish, fissure sealants and pathway-based prevention within Pt(d).

The BDA also identifies the gap that this paper makes explicit: the risk that sustainability becomes another burden placed on practices without changing the incentives that drive unsustainable care. A practice sustainability champion who advises on toothbrush disposal and turns off lights at the end of the day is doing something genuinely useful. But if the same practice is generating 30 six-monthly recall appointments for low-risk patients because the contract provides no incentive to extend recall, the structural driver of unnecessary contacts — and the carbon they generate — is untouched. Sustainability resources are necessary but not sufficient. The commissioning incentive has to change.

Sustainable dentistry requires sustainable commissioning

The BDA is right that prevention is the most important contribution oral healthcare can make to sustainability. But prevention cannot be the focal point of dentistry if the contract does not reward it. The gap between professional aspiration and system incentive is the contract. Closing that gap is the primary sustainability intervention available to NHS England and DHSC.

J.4 The contract reform sustainability dividend

The sustainability dividend of the Population Oral Health Contract operates across four quantifiable dimensions. In each case the mechanism is the same: a financial incentive that currently points toward treatment volume is redirected toward prevention and appropriate care — reducing avoidable clinical activity, avoidable carbon and avoidable NHS cost simultaneously. [1,5,7,8,9]

J.4.1 Risk-based recall extension — reducing unnecessary contacts and patient travel

The Population Oral Health Contract implements NICE CG19 recall intervals through Pathway 1: genuinely risk-based recall, ranging from short-interval review for high-risk patients to 12–24 months for stable low-risk adults. [7] As an illustrative modelling assumption, if 20% of current adult NHS dental contacts represented low-risk recall activity that could safely be extended, the potential contact reduction would be approximately 7 million contacts per year. This is not a guaranteed carbon saving; it is the scale of the opportunity that risk-based recall makes testable. Patient travel accounts for approximately 31% of the dental carbon footprint, so avoiding unnecessary low-risk contacts while redirecting capacity to high-need unregistered patients is both clinically and environmentally rational.

Cross-reference

Annex C (Care Pathways) for the full Pathway 1 specification and recall interval framework under the reformed model. Section 2.12 of the main paper for the pathway distribution analysis.

J.4.2 Prevention reducing disease incidence — the lifetime compound effect

Fluoride varnish has a strong evidence base for reducing caries incidence in children and adolescents. [9] Each prevented caries episode avoids not only the immediate treatment carbon but the downstream restorative cascade — filling, replacement filling, crown, root canal, extraction and prosthetics — each step more materials-intensive, journey-intensive and carbon-intensive than the last. The Population Oral Health Contract's prevention episode tariffs Pt(d) create a funded incentive for clinicians to deliver this prevention. The current contract provides none.

> **Cross-reference**
> *Annex L (Evidence Base) for the full clinical evidence base underpinning fluoride varnish efficacy and the prevention case. Annex G (Child Prevention Investment Case) for the financial and NHS cost analysis of the prevention-compound effect over the child's lifetime.*

J.4.3 GA extraction avoidance — eliminating the highest-carbon dental episodes

Hospital-based general anaesthetic dental extractions are among the most carbon-intensive episodes in the NHS dental system. Theatre operations involve higher energy consumption, anaesthetic gases, surgical consumables, hospital resources and multiple family journeys. The Population Oral Health Contract targets a **50% reduction** in decay-related GA extractions by Year 5 — from **33,976** to approximately **17,000** annually. This is a modelling target, not a guaranteed result, and should be evaluated through the demonstrator programme. Each avoided GA extraction eliminates a high-carbon hospital episode and replaces it with a lower-carbon prevention pathway. See Annex G for the NHS financial and avoided-cost analysis.

> **Cross-reference**
> *Annex G (Child Prevention Investment Case) for the full NHS financial and avoided-cost analysis of the 50% GA reduction target. Annex H (Cost of Not Reforming) for the 10-year cumulative NHS cost of 33,976 GA episodes continuing unreduced.*

J.4.4 Antibiotic stewardship — sustainability meets AMR

A&E dental attendances are a visible signal of access failure. In 2023/24, there were 73,088 A&E attendances with a first diagnosis of dental abscess or caries. [8] These presentations can generate avoidable prescribing, repeat contacts and unresolved disease where definitive dental care is unavailable. The Population Oral Health Contract's dental home obligation and unregistered urgent care pathway are designed to convert this demand into assessment, definitive treatment where required, registration offer and prevention-led follow-on care. The sustainability dividend is therefore not a claim that every A&E attendance is immediately avoidable; it is that the system should progressively reduce reliance on high-carbon, high-cost, low-continuity urgent presentations by creating a route back into dental care.

> **Cross-reference**
> *Annex D (Dental Home and Unscheduled/urgent Care) for the dental home obligation and the urgent-to-continuity conversion model. Annex I (Oral Health and Systemic NCDs) for the full AMR stewardship and systemic disease connection.*

Table J.4 Sustainability mechanisms created by the Population Oral Health Contract

Sustainability dimension	Population Oral Health Contract mechanism	Year 5 target / modelling assumption	Carbon / sustainability pathway
Unnecessary contacts reduced	Pathway 1 risk-based recall extension, consistent with NICE CG19.	Illustrative opportunity: up to c. 7 million fewer low-risk recall contacts per year if 20% of adult contacts can safely move to longer risk-based intervals.	Reduced patient travel, which accounts for a material share of dental carbon; freed capacity redirected to unregistered high-need patients.
Treatment episodes avoided	Prevention episode tariffs Pt(d) fund fluoride varnish, fissure sealants, periodontal stabilisation and other delivered prevention.	Benefit compounds over the contract term as prevention cohorts mature.	Avoided restorative materials, sterilisation cycles, treatment journeys and repeat interventions over the 10-year term.
GA extractions avoided	Dental home responsibility plus child prevention pathway, with decay-related GA reduction target.	Modelled Year 5 target: 50% reduction in decay-related GA extractions, from 33,976 to approximately 17,000 annually. This is a demonstrator evaluation target, not a guaranteed result.	Avoided theatre energy, anaesthetic gases, surgical waste, hospital resources and family journeys — among the highest-carbon episodes in NHS dentistry.
Antibiotic prescribing reduced	Dental home obligation and unregistered urgent-care pathway convert A&E presentation into assessment, definitive treatment where required, registration offer and prevention-led follow-on care.	Year 5 target: up to 50% reduction in the 73,088 A&E dental attendance avoidable-demand pool, subject to demonstrator evaluation — approximately 36,500 fewer attendances per year if achieved.	Reduced pharmaceutical waste, antimicrobial resistance pressure, repeat urgent attendance cycles and high-carbon emergency-care use.
Failed restoration reduction	Quality premium rewards durable care; capitation aligns incentive with the patient's oral health trajectory rather than repeat activity.	Embedded in the quality premium KPI framework.	Avoided repeat materials, appointments, journeys and replacement cycles — GIRFT principle financially incentivised for the first time.

J.5 The commissioning gap — why practice-level action is insufficient

The sustainable dentistry movement has generated valuable practice-level resources: carbon calculators, sustainability champions, pledge programmes, CPD modules, amalgam reduction guidance, waste management tools. [2,11] These are genuinely useful. But they address the symptoms of an unsustainable system without changing the structural incentive that produces unsustainable care.

A dental practice working under the UDA contract has a financial incentive to deliver more treatment activity. It has no financial incentive to extend recall intervals for low-risk patients — fewer contacts means fewer UDAs. It has no financial incentive to invest in prevention that might reduce the patient's future treatment need — that future treatment would be future UDAs. It has no financial incentive to use minimally invasive techniques that extend restoration longevity — the UDA value is the same regardless of technique. The contract is structurally misaligned with sustainability in the same way it is structurally misaligned with prevention, equity and value for money.

Practice sustainability champions cannot fix a commissioning incentive that works in the opposite direction. A practice that extends recall intervals to reduce unnecessary contacts reduces its UDA delivery and risks contract penalty. A practice that invests time in prevention receives no separate remuneration under the UDA model. A practice that achieves excellent patient oral health outcomes receives the same contract payment as a practice that achieves nothing of the sort. Placing the sustainability burden on practices without changing these incentives is asking the wrong level of the system to solve the problem.

J.6 The Population Oral Health Contract as environmental infrastructure

The reformed NHS dental contract is not an environmental policy. It is a clinical, financial and equity policy. But its environmental consequences are material and positive — and they derive from the same structural changes that produce the clinical, financial and equity improvements. Prevention episode tariffs Pt(d) make prevention financially worthwhile. Pathway 1 recall extension reduces unnecessary contacts and the patient travel that dominates the dental carbon footprint. The dental home obligation converts high-carbon urgent A&E contacts to low-carbon prevention contacts. The quality premium rewards outcomes that are — intrinsically — the more sustainable outcomes: fewer emergency contacts, better oral health trajectories, reduced disease progression.

The Population Oral Health Contract does not achieve these things by targeting carbon. It achieves them by aligning clinical, financial and professional incentives with what good dentistry looks like — which also happens to be what sustainable dentistry looks like. The environmental case for contract reform is the same argument as the prevention case, the equity case and the value-for-money case, seen through a different lens.

Table J.5 Population Oral Health Contract components as environmental infrastructure

Population Oral Health Contract component	Clinical and financial purpose	Environmental co-benefit
Prevention episode tariffs Pt(d) (fluoride varnish, sealants, BPE)	Fund prevention separately; reward clinically valuable activity currently unfunded in UDA model.	Reduce disease incidence → fewer treatment episodes → avoided materials, sterilisation, journeys over contract term.
Pathway 1 risk-based recall extension (Annex C)	Release clinical capacity; implement NICE CG19; reduce unnecessary contacts.	Reduce patient journeys → direct reduction in 31% of dental carbon from patient travel.
Dental home obligation (registered patient urgent care) (Annex D)	Guaranteed access to definitive care; urgent → prevention conversion.	Convert high-carbon A&E contacts to low-carbon prevention contacts; reduce avoidable antibiotic prescribing.
Child prevention pathway (school-based, early registration) (Annex G)	Reduce 33,976 decay-related GA extractions; build lifetime oral health.	Eliminate highest-carbon dental episodes; prevent downstream restorative cascade; AMR stewardship.
Quality premium (12% of Bc × Rp × Ru + Pt(d)	Incentivise population health improvement; reward outcomes not activity.	Embed GIRFT financially: durable care, fewer failed restorations, reduced repeat treatment carbon.
Risk-weighted capitation (higher Ru for deprived populations)	Direct resource to highest disease burden; prevent inverse care law.	Reduce disease incidence in highest-burden populations → greatest long-term carbon reduction where disease was worst.

The final word

Sustainability is about whether dentistry is prepared to admit that the most sustainable procedure is the one the patient never needed in the first place. The instrument for making that principle operational is a commissioned, tariffed, quality-premium contract that funds prevention as infrastructure, not as an optional professional virtue. Sustainable dentistry and the reformed NHS dental contract are, in the end, the same proposition.

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ANNEX K

Objections to the Reform Model

Every significant concern answered honestly: what is well-founded, what is uncertain, what must be done, and what has no credible alternative

ANNEX K Introduction

Every serious policy proposal must be stress-tested against its strongest critics. This annex does not dismiss the concerns that will be raised. Some are well-founded and deserve a direct answer. Some identify genuine uncertainties that we acknowledge honestly. Some identify tasks that others — government, parliament, the profession, NHS England — must accept if reform is to succeed. And some are objections that have no credible alternative to offer.

On that last point we are direct. The 2006 contract has been subject to review, revision, consultation, pilot and partial reform for nearly twenty years. In June 2026, the House of Commons debated NHS dentistry at backbench business time; the motion was agreed without division. Health Minister Stephen Kinnock confirmed that the government is committed to fundamental reform within this Parliament. Every party in that debate confirmed that the 2006 contract is structurally broken. The question is not whether the replacement contract we propose is perfect — it is not. The question is whether it is better than continuing with a model whose failures are documented, cumulative and costly. On that question, the evidence is unambiguous. [1]

> *The central challenge*
>
> *Critics of reform have an obligation to answer one question that this paper answers directly: what is the credible alternative to the 2006 contract that would reduce childhood caries, narrow the inequality gradient, make NHS dentistry viable in high-need areas, and generate measurable population health improvement? If that alternative exists, it should be stated. If it does not, the case for replacement is not weakened by the presence of unanswered questions. It is strengthened by the absence of alternatives.*

K.1 Professional and BDA concerns

Reform fatigue

‹ Objection *We have heard this before. Reviews, pilots, recovery plans, consultations — twenty years of promised reform that has not changed the mainstream contract. Why should the profession believe this time is different?*

Our answer The profession is right to be sceptical. The 2006 contract has been reformed at the margins repeatedly without changing its fundamental logic. The dental contract reform pilots ran for years and did not produce national adoption. The Dental Recovery Plan added resource without changing incentives. This record is not an argument against reform; it is an argument for doing it properly this time, with a time-limited demonstrator programme, a defined national adoption endpoint at Gate 2 (Year 5, Q3 2033), and contractual architecture that cannot be quietly reversed. The June 2026 Commons debate resulted in cross-party, cross-profession confirmation that the current model is broken — the political preconditions for replacement are now in place. [1] The difference between this proposal and previous ones is precisely that it names the exit from the current model explicitly and sets a year-by-year gate review accountability framework for getting there.

What we acknowledge honestly We acknowledge that reform fatigue is real and that the profession has reasonable grounds for scepticism. We do not dismiss it. We offer a demonstrator programme with a defined endpoint — Gate 2 national adoption recommendation — not another open-ended pilot cycle. If DHSC and NHS England do not commit to the endpoint in advance, the demonstrators will not be credible. That commitment is not ours to make; it is theirs.

What must be done DHSC and NHS England must make an explicit public commitment, before the demonstrator programme launches, that Gate 2 (Q3 2033) will produce a national adoption decision An open-ended programme is not acceptable and would not command credible professional engagement.

Capitation risk

‹ Objection *Capitation has failed before. The 2006 contract itself was supposed to move toward capitation. What makes this different?*

Our answer The 2006 contract did not implement capitation. It implemented a unit of activity system with a capitation label applied loosely. The UDA is not capitation in any meaningful sense — it does not pay for a registered population, it does not adjust for risk, it does not measure outcomes, and it does not reward prevention. True risk-weighted capitation, as proposed here, is architecturally different: it pays for a defined population (Rp), adjusts for known disease probability (Ru), remunerates prevention as a distinct delivered activity Pt(d), adds a Pathway 3 lab supplement Ls(P3) where external lab cost is genuinely incurred, links part of payment to verified health improvement through Qp, and connects urgent care through a self-rebalancing Uc mechanism. The comparison with 2006 does not hold because the 2006 model never implemented the thing being compared.

What we acknowledge honestly We acknowledge that the word ‘capitation’ carries baggage from 2006 and earlier. We are careful throughout this paper to describe the model precisely — risk-weighted, age-banded, with prevention episodes separately remunerated and lab costs separately commissioned — rather than using capitation as shorthand. The profession’s concern is legitimate if applied to flat capitation; it does not apply to the model described here.

More risk for less remuneration

‹ Objection *This asks practices to take on more risk, more responsibility and more reporting for less money.*

Our answer T The Population Oral Health Contract is not intended to transfer unfunded risk from the NHS to providers. It is desig

The **£118.08 programme-weighted ACV is a central affordability scenario, not a predetermined national tariff**. It demonstrat can be delivered sustainably at that value in every provider or commissioning context.

The model asks providers to hold registered responsibility, deliver prevention, manage urgent-to-continuity pathways and report im protected legitimate costs, paid prevention, funded urgent access, proportionate reconciliation and transition protection.

The professional compact should therefore be explicit:

Greater responsibility must come with explicit risk pricing, stable monthly income, protected legitimate costs, paid preve

The ACV formula gives effect to that compact. Population differences are priced through **Ru**; delivered prevention through **Pt(d)**; **Qp**.

Ru adjusts for differences in population need. It does not, by itself, remunerate the underlying transfer from episodic activity payme

Providers should receive one-twelfth of the agreed ACV each month, with annual reconciliation against validated delivery and agre elements should reward verified delivery and improvement without placing the core resources required to maintain registered respo

What we acknowledge honestly This is the most important professional objection, and it is legitimate.

Any replacement contract that asks providers to hold registered responsibility, manage higher-need populations, deliver preventio clinical risk from the NHS to providers while presenting itself as reform.

Most NHS dental practices operate as small businesses. They carry fixed monthly costs, including salaries, associate payments, safely absorb unpredictable income variation, large retrospective clawback or unfunded obligations to treat higher-need population

The concern is therefore not professional resistance to prevention. It is whether a prevention-led contract would ask practices to do

The model cannot guarantee that every historical allocation will be preserved. Some historical allocations do not reflect contempor wider access obligations or additional reporting without corresponding resource, transition protection and stable payment flow.

What must be done First, the tariff must price both **population need and prospective responsibility**. Ru should ensure that prac greater contract value. Bc and the overall ACV must also reflect the underlying cost of accepting annual registered responsibility.

Second, prevention must be paid when delivered. Pt(d) should fund and record eligible preventive and stabilisation interventions ra

Third, legitimate treatment costs must be protected. Ls(P3) should provide case-linked laboratory support so that providers are not

Fourth, urgent access must be commissioned. Uc(r) and Uc(a) should recognise that care for unregistered urgent patients is not co

Fifth, income must remain stable. Providers should receive one-twelfth of the agreed ACV each month:

Monthly provider payment = agreed annual ACV ÷ 12

Annual reconciliation should be based on validated registration, patient-charge income, list movement, delivered prevention, urgen

Sixth, reconciliation must be proportionate rather than punitive. It should correct material variance, coding error, list inflation, patie staged correction, support and prospective recalibration should precede punitive recovery.

Seventh, shadow pricing must precede full financial transition. Providers should receive indicative monthly and annual ACV cal remuneration, therapist deployment, premises costs, working capital, cash-flow stability and high-need practice viability across repr

Where that analysis shows that the tariff does not support sustainable participation, the base rate, responsibility margin or applicab

There should be no national rollout without evidence of provider adoption, workforce sustainability and viable delivery ac

The final test is straightforward: no provider should be asked to take on greater responsibility, higher complexity, wider access oblig

The ACV is too low

‹ Objection *Is the proposed ACV too low to secure provider participation?.*
Our answer The model does not depend on **£118.08** being accepted as the final national tariff. Its purpose is to demonstrate that the proposed architecture can be constructed within a fiscally credible range and then calibrated against actual provider costs, workforce conditions, utilisation risk and the scope of responsibility commissioned.
The final tariff must reflect:

- the expected annual cost of care;
- variation in utilisation and clinical risk;
- the cost of maintaining access and continuity capacity;
- workforce remuneration and local operating costs; and
- a sustainable provider operating margin.

Risk adjustment through **Ru** corrects for differences between populations, but it does not by itself price the underlying transfer from episodic activity payment to prospective annual responsibility. That responsibility must first be reflected adequately in the base capitation rate and the overall ACV envelope.

The independent review should therefore test a **tariff corridor** rather than validate a single point estimate, including:

1. an **affordability-reference scenario**, based on the central £118.08 programme-weighted model;
2. a **provider-adoption scenario**, using a higher calibrated base rate, explicit responsibility margin or combination of the two where required to support sustainable participation; and
3. an **enhanced-responsibility scenario**, potentially testing values in the region of £145–£150 where the NHS purchases materially greater access, continuity, workforce, extended-hours or high-need obligations.

These are analytical scenarios, not proposed universal tariffs. A higher tariff should not simply preserve every historical allocation. Some current allocations are inequitable and poorly aligned with contemporary need. Equally, the NHS should not expect providers to accept materially greater responsibility without the resource, transition protection and cash-flow stability required to deliver it.

What we acknowledge honestly The central programme-weighted ACV of **£118.08 per registered patient** is below the indicative current gross expenditure of **£124.82 per patient seen**. Providers may therefore reasonably question whether they are being asked to accept greater responsibility for less money.

That concern cannot be resolved by treating the two figures as directly equivalent. Current expenditure reflects a heterogeneous mixture of episodic activity delivered to patients who obtain care. The proposed ACV purchases a different commissioning product: prospective responsibility for a registered population, including prevention, continuity, risk management and urgent-care access over the contract year.

The £118.08 figure is therefore a **central affordability reference**, not a predetermined national tariff and not proof that annual registered responsibility can be delivered sustainably at that level.

What must be done Before demonstrator tariff activation, NHS England should commission an independent actuarial and provider-viability review using NHSBSA contract data, NASDAL cost benchmarks and confidential practice-level validation.
That work should identify:

- the ACV required across representative provider types;
- which providers gain or lose under each scenario;
- whether principal margin and associate earnings remain sustainable;
- whether therapists and other dental care professionals can be recruited competitively;
- whether premises, finance and working-capital costs are supportable;
- whether high-need and dental-desert providers remain viable; and
- what additional access, continuity or responsibility is purchased at higher tariff levels.

A period of shadow pricing should precede full financial transition. The demonstrator should then test the tariff corridor under common contractual and evaluation conditions.
Gate 2 should determine whether the evidence supports:

- a single national tariff;
- a differentiated tariff structure; or
- a nationally defined tariff corridor.

Administrative Burden

‹ Objection *The model will create too much administrative burden..*

Our answer The Population Oral Health Contract should not replace UDA activity pressure with a new burden of data entry, reporting and compliance. A prevention-led contract requires better information than the current system, but better information must not mean disproportionate bureaucracy.

The model should be designed around **administrative parsimony**: collect only the data required for registration, pathway accountability, payment, quality improvement, public reporting and evaluation. Wherever possible, data should be captured once and used many times, drawing from routine clinical records, NHSBSA flows, POHR submissions and existing ICB datasets.

The purpose of the Population Oral Health Return is not to make practices report everything. It is to create a minimum viable dataset that allows commissioners to know who is registered, what pathway they are on, what prevention has been delivered, whether urgent care is converting into continuity, whether patient charge income has been reconciled properly, and whether agreed improvement measures are moving in the right direction.

What we acknowledge honestly The profession has good reason to be sceptical of reforms that promise clinical improvement but produce more forms, more portals, more coding and less time with patients.

Poorly designed reporting could reduce clinical time, increase practice stress, duplicate existing submissions, create software friction, and make prevention-led care less deliverable rather than more. The risk is greatest if the model requires practices to enter data manually into multiple systems, report measures that do not affect care, or supply information that commissioners could have obtained from existing NHSBSA or ICB sources.

There is also a risk that richer data becomes punitive rather than useful. If practices experience the POHR as surveillance rather than as a tool for payment, continuity, learning and improvement, professional confidence will be weakened.

What must be done: Administrative parsimony must be a design requirement, not an aspiration. The dataset should be limited, published, tested with providers and reviewed before demonstrator launch.

Second, data should be captured once and used many times. Registration, pathway allocation, prevention delivery, urgent-to-continuity conversion, Ls(P3) claims, patient charge reconciliation and Qp measures should be drawn wherever possible from routine workflow rather than parallel reporting.

Third, software usability must be tested before financial consequences are activated. The demonstrator should measure time spent on data entry, duplication, coding burden, rejected claims, helpdesk use, training need and impact on clinical time.

Fourth, administrative burden should be an explicit demonstrator outcome. A model that is financially coherent but operationally burdensome will not succeed. Evaluation should test whether the POHR supports clinical care and commissioning accountability without diverting excessive time from assessment, prevention, stabilisation, shared decision-making and continuity.

Fifth, public reporting must be proportionate and contextualised. Data should be used to support improvement and accountability, not crude league tables that penalise providers serving high-need populations.

The test is straightforward: the model should create better intelligence without creating a bureaucratic contract that clinicians cannot deliver.

Quality Premium and Regulatory Boundary

‹ Objection *he quality premium risks turning commissioners into clinical regulators.*

Our answer The **quality premium**, **Qp**, is a commissioning and improvement mechanism. It is not a substitute for professional regulation, clinical governance or statutory oversight.

Its purpose is to reward contract-level improvement in the outcomes the NHS is commissioning: prevention coverage, access equity, continuity, risk-appropriate recall, urgent-to-continuity conversion, patient experience, stabilisation and selected population oral health measures. It operates at the level of the contract and registered population, not as a mechanism for judging individual clinicians or replacing existing regulatory routes.

The Population Oral Health Contract should therefore make the boundary explicit: commissioners commission, measure and improve contracted service outcomes; regulators regulate professional conduct, safety, fitness to practise and provider compliance.

What we acknowledge honestly This concern is legitimate.

Poorly designed quality metrics can distort clinical behaviour. They can incentivise gaming, encourage inappropriate pathway movement, penalise practices serving higher-need populations, increase administrative burden, and create the impression that commissioners are second-guessing individual clinical judgement.

There is also a risk of duplication. Providers are already subject to CQC oversight, GDC standards, NHS performer-list arrangements, local clinical governance, complaints processes, safeguarding duties, clinical negligence routes and contractual monitoring. If **Qp** is designed without a clear boundary, it could add another layer of bureaucracy without improving care.

The risk is greatest where metrics are crude, unadjusted, activity-heavy or insufficiently sensitive to population need. A practice serving a high-deprivation, high-disease-burden population should not be penalised simply because its registered population starts from a worse baseline or requires longer stabilisation.

What must be done First, Qp must operate at contract and population level, not as individual professional regulation. It should reward demonstrable improvement in the registered population's oral health trajectory and service experience, not act as a proxy disciplinary mechanism.

Second, Qp metrics must be risk-adjusted. Measures should account for deprivation, disease burden, fluoridation status, urgent-care pressure, complexity, patient charge barriers and baseline population need. Without risk adjustment, quality metrics may reward low-risk practices for serving easier populations and penalise high-need practices for doing harder work.

Third, Qp must be co-designed with the profession. DHSC, NHS England, ICBs, the BDA, CGDent, dental public health specialists, academic evaluators, patient representatives and provider groups should agree the metric set before demonstrator launch.

Fourth, Qp must remain clearly separate from existing regulatory frameworks. It should not replace or duplicate CQC oversight, GDC standards, performer-list arrangements, local clinical governance, complaints processes, safeguarding duties, clinical negligence routes or individual regulatory enforcement.

Fifth, Qp should use a limited, intelligible metric set. It should avoid excessive reporting burden and focus on measures that are meaningful, auditable and proportionate: prevention coverage, risk-appropriate recall, pathway movement, urgent-to-continuity conversion, stabilisation, access equity, patient experience and selected outcome measures.

Sixth, Qp must be tested for gaming and unintended consequences. The demonstrator should include a formal red-team review of quality metrics before full financial consequences are activated. This should test whether practices could game coding, avoid complex patients, inflate prevention claims, manipulate pathway allocation, or prioritise measured activity at the expense of unmeasured care.

The principle should be simple: Qp should reward improvement in commissioned population oral health, not turn commissioners into regulators or clinicians into metric managers.

Dental therapists

‹ Objection *Expanding the role of dental therapists undermines patient safety. Dentists diagnose; therapists cannot carry that responsibility.*

Our answer The proposal does not ask dental therapists to practise beyond their scope, competence or clinical governance framework. It asks them to deliver prevention, stabilisation and appropriate care within current GDC scope: fluoride varnish, fissure sealants, oral hygiene instruction, periodontal support, acclimatisation, simple restorative care where appropriate, structured risk assessment and behaviour change support. Dentists retain responsibility for diagnosis, treatment planning, complexity, urgent care, clinical governance and leadership of the wider dental team.

What we acknowledge honestly We acknowledge that the existing workforce of dental therapists is insufficient to deliver the prevention model at scale on day one. Workforce expansion is a prerequisite, not a consequence, of reform. The paper says this explicitly: the workforce plan must accompany the contract reform, not follow it.

What must be done Health Education England / NHS England Education must publish a workforce expansion plan for dental therapists and hygienists that is costed, timed, and tied to the demonstrator programme timeline.

Data burden

‹ Objection *Risk stratification documentation, KPI reporting and data infrastructure requirements will overwhelm small practices. This will drive NHS providers out of the system.*

Our answer The data requirements proposed are proportionate and, in most cases, extend what practices already collect. Risk stratification using DBOH tools is current clinical best practice; BPE recording is already a contractual requirement. The additional burden is principally: structured coding of risk categories, pathway classification and quarterly POHR returns. Modern dental software systems can support all of these with appropriate configuration. The data infrastructure requirement is a commissioning responsibility, not a practice-level burden: NHS England and ICBs must fund the software configuration, training and analytical support that makes reporting proportionate. The Transformation Fund (Section 3.4) to be established to provide explicit financing for practice IT and data infrastructure.

What we acknowledge honestly We acknowledge that the transition period will create additional administrative work before systems are configured. Year 1 data quality will be imperfect. The demonstrator programme must include dedicated practice support for data infrastructure, and the year-1 accountability framework must assess data quality improvement rather than penalise incomplete data from a standing start.

Quality premium distrust

‹ Objection *The quality premium will be used to claw back income when practices miss targets. It is a financial risk for providers, not a reward.*

Our answer This concern is understandable given the experience of UDA clawback. The quality premium is designed differently: it is up to 12% of (Bc×Rp×Ru + Pt(d)) — that base explicitly excludes Ls(P3) and Uc, so lab costs and urgent care volume cannot affect the premium. It is a proportion of contract value held back against the commitment to deliver population health improvement, not a penalty applied retroactively to activity shortfalls. Partial achievement of KPIs generates partial premium payment; there are no cliff-edges. The design principle is progressive reward, not retrospective penalty. If DHSC and NHS England cannot commit to those principles in contract language, the profession should decline to accept a quality premium mechanism.

What we acknowledge honestly We acknowledge that trust in performance payment mechanisms has been severely damaged by UDA clawback. The quality premium design must be specified in contract language, not guidance. The contract must include explicit provision that partial KPI achievement generates

partial payment and that no payment is withheld where performance falls short due to factors outside the provider's reasonable control.

What must be done The quality premium specification must be a contractual term, not guidance. Legal drafting must be completed before the demonstrator programme launches.

Ls(P3) gaming risk

‹ Objection *The Pathway 3 laboratory supplement creates an incentive to over-claim lab-dependent procedures. Practices could inflate lab supplement claims to boost ACV income.*

Our answer The Ls(P3) supplement is designed with explicit safeguards against gaming. Payment is case-linked and NHSBSA-auditable: each claim must be tied to a specific patient, a specific lab item, a specific clinical justification in the patient record, and a lab invoice. National tariff ceilings apply. Prior approval is required for: repeat claims on the same tooth within 5 years; multiple lab items for the same patient within 12 months; high-cost prosthetic items above the tariff ceiling; and practices whose Ls(P3) claim rate significantly exceeds the ICB average (the expected national range is 2–4% of registered adults). These safeguards make systematic gaming both detectable and costly. The Ls(P3) is also excluded from the quality premium base — so over-claiming does not boost the premium; it attracts audit. See Annex C (Care Pathways, Section C.7) for the full safeguard specification.

What we acknowledge honestly We acknowledge that any case-linked payment system creates some incentive to over-code. The safeguard is audit, not trust. NHSBSA monitoring of lab-claim rates by practice and ICB is a design requirement from day one, not an after-thought.

K.2 Policy and NHS England concerns

Prototype contracts

‹ Objection *We already have the prototype contract programme. Why is this different?*

Our answer The prototype contract programme has demonstrated that prevention activity increases when it is remunerated and measured. That is useful evidence. But the prototype programme has not delivered a scalable national contract architecture, has not produced a public commitment to national adoption, and has not resolved the fundamental incentive failures of the UDA system for the majority of NHS dental practices. The prototype programme is a proof-of-concept exercise operating at the margins of the current contract. This proposal is a replacement contract architecture. The distinction is not one of degree but of kind: we are proposing a different commissioning logic — the full ACV formula (Bc×Rp×Ru + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp − Pc) — not a better-designed version of the current one.

ICB commissioning capability

‹ Objection *ICBs do not have the commissioning capability, analytical capacity or dental expertise to commission in the way this paper proposes.*

Our answer The commissioning skills required are not dental-specific. Mapping population need, segmenting by risk, specifying outcomes, developing provider markets, integrating services and measuring value are core ICB competencies. The dental-specific technical elements — risk uplift calculation, prevention episode tariffs, KPI framework — are provided as national standards that ICBs apply rather than design. NHS England's role is to provide the framework; the ICB's role is to apply it to their population. The ICB readiness conditions in Section 5.4 of the main paper are designed precisely to identify where capability gaps exist and what support is required to address them.

What we acknowledge honestly We acknowledge that dental commissioning capability varies significantly across the 36 ICBs (April 2026 configuration). Some have no dedicated dental commissioning resource. National support is a prerequisite for national implementation, not an optional extra.

What must be done NHS England must establish a dental commissioning capability programme before the demonstrator programme launches: ICB dental commissioning leads in every region; a shared analytical platform for risk uplift calculation; a support offer for ICBs below the Section 5.4 readiness threshold; and a peer learning network linking demonstrator ICBs.

Legal powers

‹ Objection *You cannot commission dentistry like community nursing. The legal framework for NHS dental contracts is different and does not permit what you are proposing without primary legislation.*

Our answer This concern deserves a careful answer, because it is partly correct. Some elements — 10-year minimum contract terms, the statutory basis for patient charge exemption extensions — may require secondary legislation (regulations under the NHS Act) or in some cases primary legislation. Other elements — capitated blended payment models, prevention episode tariffs, flexible commissioning — are achievable within existing Section 12A powers. The 2006 contract was itself created through secondary legislation; a replacement contract can follow the same route.

What we acknowledge honestly We are honest that we are not parliamentary counsel and that a full legal analysis has not been completed. This is identified as a first-year priority in the demonstrator preparation phase.

What must be done DHSC should commission a legal and regulatory workstream in 2026, before demonstrator launch. This should review the GDS and PDS regulatory framework, the Dental Charges Regulations, NHSBSA payment and reporting systems, POHR data requirements, patient rights, charge treatment, ICB duties, and whether any targeted amendment to the NHS Act 2006 or Standing Rules is required for national adoption. The demonstrator should test a legally scalable model, not only a clinical and financial model.

Provider capture and long term concerns

‹ Objection *Ten-year contracts with roll-over to fifteen years create provider capture. Once contracted for fifteen years, commissioners lose the ability to reshape the market.*

Our answer Provider capture is a genuine risk in long-term contracts, and the paper takes it seriously. The response is not to shorten contracts to the point where the investment case fails. The response is genuine accountability: four gate reviews at years 3, 5, 7 and 10 provide commissioners with defined decision points. Annual KPI monitoring provides early warning. The quality premium (up to 12%) creates financial consequences for underperformance. The exit pathway at year 10 for providers not meeting roll-over criteria provides genuine competitive retendering. Long-term contracts with robust accountability are not provider capture; they are the conditions under which providers will invest in NHS dentistry.

What we acknowledge honestly We acknowledge that the accountability mechanisms proposed are only as strong as the commissioner's willingness to use them. If ICBs do not enforce the year-3 gate or apply the quality premium rigorously, the risk of provider capture is real. This is a commissioning culture issue as much as a contract design issue.

K.3 Political objections and reform narrative risks

Major contract reform is never judged only on technical merit. It is judged through parliamentary questions, constituency pressures, professional trust, media framing, Treasury confidence and ministerial appetite for risk. A technically sound model can still fail if the political narrative is poorly handled.

The political objections below should therefore be treated seriously. They are not reasons to avoid reform. They are reasons to sequence it carefully, explain it clearly, evaluate it independently and protect the public narrative from being reduced to simplistic claims about winners, losers, charges or professional disruption.

Regional winners and losers

‹ Objection *Risk-weighted funding will create winners and losers. MPs and ICBs in lower-risk areas will argue that their communities are losing resource so that other areas can gain.*

Our answer The current contract already creates winners and losers. It does so invisibly, by paying broadly similar values for very different disease burdens and by allowing historical contract value to stand in for population need. A lower-risk, fluoridated, lower-deprivation area does not require the same stabilisation, urgent-care and prevention resource as a high-deprivation, non-fluoridated area with high child caries prevalence and high urgent demand. Treating those two areas as equivalent is not fairness. It is mispricing.

Ru makes the distributional logic explicit. It does not penalise lower-risk areas. It prices expected disease burden more accurately. The political task is to explain that higher investment in high-risk populations is not discretionary redistribution; it is the commissioning equivalent of clinical triage. Need should determine resource.

What we acknowledge honestly. The transition must be handled carefully. Sudden cash loss would be politically and operationally destabilising, even if the long-run formula is fair. Lower-risk areas still require viable NHS dental provision, continuing access and prevention for their own populations.

The Transformation Fund should be presented as an explicit implementation requirement within the national reform programme. It funds practice mobilisation, ICB commissioning capacity, NHSBSA data infrastructure, workforce transition and independent evaluation. It should not be described as a dividend generated by lower early spending. The case for it is that reform cannot be safely implemented without funded transition capacity.

What must be done The Ru methodology should be published, independently reviewed and smoothed over time. No area should experience sudden destabilising loss during demonstrator implementation. The public message should be clear: the model does not take dentistry away from lower-risk areas; it directs additional resource to places where the probability of disease, urgent need and stabilisation cost is higher.

This is too complex to explain

‹ Objection *The model is technically complex: ACV, Ru, Pt(d), Ls(P3), Uc, Qp and Pc. Ministers will not be able to explain it simply, and the public will not understand it.*

Our answer The current contract is not simple. It is opaque. UDAs, banding, clawback, performer numbers, contract values and patient charge reconciliation are poorly understood by patients, many professionals and many parliamentarians. Simplicity should not mean continuing with an opaque mechanism that fails.

The Population Oral Health Contract has technical components, but its public proposition is simple: every patient should have a dental home; public money should follow disease risk; prevention should be funded

before disease becomes treatment; urgent care should lead back into continuing care; and practices should be rewarded for improving oral health, not just recording activity.

What we acknowledge honestly The technical language must not be allowed to dominate public explanation. Acronyms are necessary in the contract specification, but they should not be the public narrative.

What must be done DHSC and NHS England should publish a plain-English patient and parliamentary explainer before demonstrator launch. The message should be: “registered care, fairer funding, funded prevention, urgent care that leads somewhere, and public reporting of results.”

Patient charge reform will be misrepresented

‹ Objection *Targeted prevention charge protection will be presented as either unaffordable free dentistry by stealth or as a hidden charge increase.*

Our answer The proposal is neither. It does not abolish patient charges, and it does not expand universal free dentistry. It restructures charges so they do not deter prevention where prevention is clinically necessary and economically rational. Pathway 2 has an entry charge, but follow-on prevention is free to the patient. Pathway 3 is capped annually. Ls(P3) carries no additional patient charge because legitimate laboratory complexity is priced to the commissioner, not passed to the patient.

Patient charge income is not hidden. It is deducted transparently from gross ACV through Pc. That is a stronger fiscal control than allowing charge assumptions to sit outside the contract model.**What we acknowledge honestly** Charge behaviour is uncertain, especially among newly registered adults and groups with higher exemption eligibility. This is why the investment case includes sensitivity analysis and why demonstrator charge behaviour must be monitored.

What must be done Patient charge reform should be consulted on explicitly. The public message should be disciplined: charges should not deter prevention, targeted exemptions should protect high-need groups, and patient charge income remains transparently accounted for in the model.

Ministers will be asked why outcomes are not visible immediately

‹ Objection *Dental outcomes take time. Ministers may face pressure to show results within one or two years, before caries, extraction and periodontal outcomes have matured.*

Our answer This is why the reform requires a 24-month early-year KPI dashboard. The first two years should not be judged by long-term epidemiological outcomes. They should be judged by whether the system is behaving differently: registration growth, prevention delivery, urgent-to-continuity conversion, recall optimisation, stabilisation completion, workforce deployment and POHR data readiness.

Gate 1 tests implementation fidelity. Gate 2 tests outcome direction and national adoption. Confusing those two tests would create unrealistic expectations and political vulnerability.

What we acknowledge honestly If ministers overpromise rapid population-health change, the reform will be vulnerable to criticism. The model must be presented as staged: visible access and process change early; epidemiological change later.

What must be done The demonstrator should report quarterly on early-year KPIs (including risk-adjusted, patient-informed improvement measures) and annually on wider progress. DHSC should state clearly from the outset that population oral health outcomes mature over three to five years, and that Gate 2 is the evidence threshold for national rollout.

Demonstrator underperformance will be framed as failure of the model

‹ Objection *If early demonstrator sites struggle with data, workforce, provider participation or patient communication, critics will claim that the model has failed.*

Our answer Implementation problems are not the same as failure of the contract architecture. That is precisely why the programme uses a two-cohort demonstrator design, independent evaluation, implementation support and gate reviews. The purpose of a demonstrator is not to perform perfectly from day one. It is to identify what must be fixed before national rollout.

The real test is whether problems are detected, corrected and evaluated transparently.

What we acknowledge honestly Poor implementation can damage the credibility of a good model. The demonstrator must therefore be sufficiently resourced. An unfunded or under-supported demonstrator would be politically worse than no demonstrator at all.

What must be done The Transformation Fund must be in place before go-live. Lower-readiness ICBs included in the demonstrator should receive intensive support. Evaluation findings should be published without embargo, including failures and corrective action.

Provider resistance will be politically amplified

‹ Objection

Some providers will oppose the model, especially if they are commercially comfortable under the current UDA contract or fear loss of autonomy, increased reporting or lower profitability.

Our answer Provider concern is legitimate and should be engaged, not dismissed. The model must be commercially viable, clinically credible and administratively proportionate. But provider resistance is not, in itself, a reason to preserve a contract that fails patients and misprices need.

The model offers providers long-term contract certainty, risk-adjusted income, protection for legitimate laboratory cost, explicit prevention payments, quality premium opportunity and a more rational workforce incentive. Those features should be more attractive than short-term activity recovery under a failing UDA system.

What we acknowledge honestly Some providers may still choose not to participate. Transition planning must therefore include provider market assessment, new entrant commissioning, continuity-of-care arrangements and dental desert support.

What must be done LDCs, the BDA, College of General Dentistry, dental schools and other professional bodies should engage explicitly with the case for contract replacement, rather than limiting reform debate to modification of the existing UDA architecture and should contribute to the design of quality premium criteria, KPI frameworks and transition governance.

The reform will be criticised as “another pilot”

‹ Objection *The profession and public have seen pilots and prototypes before. A demonstrator programme may be dismissed as another delay mechanism.*

Our answer The distinction between a pilot and a demonstrator must be explicit. A pilot asks whether a concept is interesting. A demonstrator tests a specified model against defined implementation and outcome criteria before national adoption. This proposal is not an open-ended experiment. It has a policy decision point, go-live dates, Gate 1 implementation review, Gate 2 national adoption decision, and a phased national rollout plan.

The demonstrator is not a substitute for reform. It is the safest route into reform.

What we acknowledge honestly If Gate 2 can be deferred indefinitely, the profession will rightly treat the demonstrator as another holding pattern.

What must be done DHSC and NHS England must commit publicly to the Gate 2 national adoption decision timetable before the demonstrator launches. The programme should not proceed without that commitment.

Treasury will challenge the political affordability of the model

‹ Objection *Even if the technical investment case is coherent, ministers may be reluctant to defend new public investment in dentistry when wider NHS pressures are severe.*

Our answer The investment case should not be presented as "more money for the same dentistry." It should be presented as a change in what the NHS buys: registered responsibility, risk-weighted prevention, stabilisation, urgent-to-continuity conversion and measurable population health improvement.

The Year 5 investment bridge is deliberately disciplined. It separates inflation catch-up from genuinely new investment, uses conservative avoided NHS costs only in the primary affordability case, deducts patient charge income transparently through Pc, and treats wider oral-systemic benefits as Green Book public value rather than immediate cashable offsets.

What we acknowledge honestly The reform remains a significant spending decision. The prevention return is not fully realised in year one, and wider benefits require evaluation before they can be treated as cashable.

What must be done The Treasury narrative must be built around the counterfactual: the current contract already generates avoidable cost, access failure, provider instability, unused ring-fenced funding and parliamentary criticism. Reform carries implementation risk; delay carries continuing system failure.

K.4 Fiscal and Treasury concerns

Affordability

‹ Objection

Significant additional NHS investment in an already constrained spending settlement is not available. This proposal is not financially realistic.

Our answer The proposal is financially realistic because the additional investment buys a different product: not more activity under the same contract, but expanded registered access, risk-weighted prevention, urgent-to-continuity conversion, dental home responsibility and measurable population health improvement.

At Year 5, Gate 2, the NHS net contribution rises from £2.300bn to £3.804bn: a gross increase of £1.504bn. That increase should not be treated as a single undifferentiated spending ask. Of the £1.504bn gross Year 5 increase, £438m restores the real-terms purchasing power lost since 2014/15. This is inflation catch-up, not genuinely new policy ambition. A further £115m is offset through conservative avoided NHS costs generated by the reform itself, including fewer avoidable hospital extractions, fewer dental A&E attendances, fewer emergency admissions and reduced avoidable antibiotic prescribing. [2–4,8–10]

The net genuinely new public investment is therefore £951m at Gate 2. That investment funds 9.83 million additional NHS dental patients — 6.80 million additional adults and 3.02 million additional children — and changes what the NHS is buying: registered responsibility, risk-weighted prevention, urgent-to-stabilisation conversion, pathway-based care, quality accountability and population health improvement. [3,4]

The reformed ACV is also more efficient at go-live. The full programme-weighted formula, including Uc and quality premium, gives a gross cost of £118.08 per registered patient, compared with the current system's

£124.82 gross cost per patient covered — a 5.4% lower unit cost. The total NHS commitment rises because the model expands coverage, not because it pays more for the same patient. [3,4]

What we acknowledge honestly The near-term fiscal position is front-loaded relative to the full prevention return, as is true of every serious prevention investment. The £115m avoided-cost offset used in the primary affordability case is deliberately conservative and limited to directly attributable dental and near-dental NHS costs. Wider cross-departmental benefits — including diabetes, cardiovascular, respiratory, school absence, productivity, antimicrobial resistance and care home benefits — strengthen the Green Book case for reform, but they should not be deducted from the primary Year 5 affordability requirement until attribution, timing and budget ownership have been tested through the demonstrator. [5,7,11]

The Transformation Fund should be presented as an explicit implementation requirement within the national reform programme. It funds practice mobilisation, ICB commissioning capacity, NHSBSA data infrastructure, workforce transition and independent evaluation. It should not be described as a dividend generated by lower early spending. The case for it is that reform cannot be safely implemented without funded transition capacity.

What must be done HM Treasury should commission independent Green Book economic modelling of the full reform pathway before the Gate 2 national rollout decision. That modelling should test the primary affordability case, the conservative avoided NHS cost trajectory, and the wider cross-departmental dividend. It should distinguish between directly attributable NHS offsets, wider public-sector benefits, and benefits that are plausible but not yet cashable. [11]

The Gate 2 decision should therefore be based on independently evaluated evidence from the demonstrator: access expansion, provider viability, prevention delivery, urgent-to-continuity conversion, patient charge behaviour, avoided NHS cost signals and early population health outcomes.

Prevention savings are speculative

‹ Objection *The avoided cost projections are modelled estimates based on assumptions. Treasury cannot bank speculative prevention dividends.*

Our answer We do not ask Treasury to bank speculative prevention dividends. The primary affordability case uses only a conservative avoided NHS cost offset of **£**115m at Year 5. That figure is deliberately limited to directly attributable dental and near-dental NHS costs: avoidable hospital extractions, dental A&E attendances, emergency admissions and avoidable prescribing. Wider periodontal-systemic, school absence, productivity, care-home, antimicrobial resistance and sustainability benefits are treated separately as supplementary Green Book benefits and are not deducted from the primary Year 5 affordability requirement. [8–11]

The dental-specific avoided-cost assumptions are transparent and auditable. Section 3.5 sets out the source volumes and unit costs, including OHID official statistics on decay-related hospital extraction episodes, dental A&E attendance data, emergency admission figures and conservative NHS cost assumptions. These are not invented savings lines; they are existing NHS activity streams that the current model continues to generate and that the demonstrator must test whether the reformed model can reduce. [8–10]

The evidence that prevention can reduce disease is strong. Fluoride varnish and fissure sealants have a substantial preventive evidence base. Periodontal treatment in people with diabetes has moderate-certainty evidence of improved glycaemic control. International modelling also supports the direction of the argument: capitation-informed and prevention-oriented models can expand coverage more efficiently than fee-for-service expansion alone. What remains to be tested is not whether prevention works in principle, but

whether this specific contract architecture can convert prevention, registration and urgent-to-continuity pathways into measurable avoided NHS activity in live English commissioning conditions. [5–7]

HM Treasury should therefore require the demonstrator evaluation to separate avoided costs into three categories: directly attributable NHS dental and near-dental offsets; wider NHS and public-sector benefits; and plausible long-term benefits requiring further evidence before they can be treated as cashable.

What we acknowledge honestly We acknowledge that not all avoided costs are immediately cashable to the NHS dental budget. Even where activity reduction is measurable, the timing, budget holder and realisable financial effect may differ. Hospital extraction activity, dental A&E attendances, emergency admissions and avoidable prescribing are directly attributable and traceable, but their cashability, timing and budget impact should be tested through the demonstrator evaluation. [8–11]

Wider periodontal-systemic, school absence and productivity benefits remain supplementary Green Book benefits. They strengthen the strategic case for reform, but they are not deducted from the primary Year 5 affordability requirement. They should be evaluated through linked data and cross-departmental modelling before being treated as cash-releasing offsets. [5,7,11]

What must be done The national demonstrator evaluation should test the avoided-cost trajectory explicitly. It should measure changes in hospital dental extractions, dental A&E attendances, emergency admissions, repeat urgent presentations and avoidable antibiotic prescribing against locked baselines. It should also distinguish between activity reduction, financial saving, budget ownership and cashability.

HM Treasury should require independent Green Book modelling before the Gate 2 national rollout decision, with avoided costs separated into three categories: directly attributable NHS dental and near-dental offsets; wider NHS and public-sector benefits; and plausible long-term benefits that require further evidence before they can be treated as cashable. [11]

Patient charge projections

‹ **Objection** *The patient charge income projections assume that more people access care and pay charges. If exemptions are more generous, charge income could fall, not rise.*

Our answer The patient charge model is built on conservative assumptions: a 45% effective exemption rate for new patients, substantially higher than the current 25.1% baseline for existing patients; an 8pp additional exemption uplift for the extended framework; and a central average charge of £44.89 per fee-paying adult, close to the £45 implied by current NHSBSA verified data. [3,4,12]

The sensitivity analysis in Annex F explicitly shows a conservative floor scenario and states clearly that charge income might run slightly below the current baseline if new patient exemption rates are higher than modelled. The confirmed trajectory planning figure of approximately £841m at Year 5 represents modest growth above both the 2023/24 verified baseline of £774m and the estimated 2024/25 comparator of £808m. It is the controlling investment-case figure because it is derived from the full national trajectory model and deducted through Pc to calculate the net NHS commissioner payment. [3,4]

What we acknowledge honestly We acknowledge that the exemption rate of newly-accessing patients is the largest single source of uncertainty in the charge income projections. A formal distributional analysis of charge incidence across deprivation quintiles, using NHSBSA FP17 data linked to IMD, would narrow this uncertainty and should be commissioned early. [3]

Lock-in risk

‹ **Objection** *If the model fails and we are locked into ten-year contracts; the cost of exit is enormous.*

Our answer Long-term contracts do not create lock-in if properly designed. The four gate reviews at years 3, 5, 7 and 10 provide defined exit points. The year-10 gate includes competitive retendering for providers not meeting roll-over criteria. The quality premium (up to 12%) provides continuous financial accountability,

withheld pending annual KPI performance. The fiscal risk of the current model is not hypothetical: the NAO confirmed £392m of dental budget was undeployed in 2023/24 alone — ring-fenced public money that the current contract cannot use. The current contract is not a low-risk baseline. It is a demonstrably high-cost, low-value model whose costs are borne by patients and the public purse.

K.5 Clinical concerns

Pathway migration evidence

‹ Objection *The claim that patients will migrate from Pathway 3 to Pathway 2 to Pathway 1 over time is unproven.*

Our answer The claim is not that all patients will migrate to lower pathways. The claim is that a prevention-led contract, systematically implemented, will shift the distribution of the practice population over time: fewer patients in active disease states, more in stable maintenance. This is supported by the evidence from Scotland's Childsmile (population-level caries reduction over fifteen years), from the Cochrane periodontal-T2D evidence (disease stabilisation with consistent periodontal treatment), and from international comparisons of prevention-led dental systems. Some patients will remain in Pathway 3 indefinitely. Some will deteriorate despite good prevention. The model does not claim otherwise. What it claims is that the distribution will improve — and that this improvement is measurable through the outcome KPI framework in the service specification.

Risk stratification tools

‹ Objection *The risk stratification tools used to assign patients to pathways are not validated at population level for the specific outcomes proposed.*

Our answer This is a fair challenge to the precision of the model. DBOH risk stratification tools have an established evidence base for identifying high-risk patients and calibrating recall intervals and prevention intensity. The ICDAS caries severity scale, BPE periodontal recording and NICE guidance on recall intervals are all based on systematic reviews of clinical evidence. What has not been done is a formal validation study of risk stratification classification against five-year population health outcomes at practice level. That study does not exist because the current contract has never required or enabled it. The demonstrator programme will generate that evidence. In the meantime, the model uses the best available tools, applied conservatively, with explicit acknowledgement of their limitations.

What we acknowledge honestly We acknowledge that the risk uplift coefficient (Ru) in the ACV formula is a population-level proxy for disease prior, not a clinically validated individual risk score. It is the best available measure given current data. Formal validation of the Ru coefficient against actual disease incidence and treatment need in demonstrator populations is a priority research question.

What must be done NIHR should be commissioned to fund a research programme within the demonstrator sites that validates the risk stratification tools and tests the relationship between Ru coefficients and actual disease burden.

Over-treatment and gaming risk

‹ Objection *Quality premiums linked to measurable outcomes create incentives to over-treat, over-document, or manage risk scores rather than patients.*

Our answer This is a real risk in any performance payment mechanism, and the paper does not dismiss it. The quality premium design mitigates it in three ways. First, the outcome KPIs are population-level metrics (childhood caries prevalence, GA extraction rate, dental A&E attendance) that are not directly manipulable by an individual practice. Second, the process KPIs include recall interval appropriateness — which rewards extending intervals for low-risk patients rather than shortening them, directly counter to the over-treatment incentive. Third, the risk

stratification documentation requirement creates an audit trail visible in the POHR data; systematic manipulation of risk scores would be detectable at ICB level. The Ls(P3) safeguards (prior approval, tariff ceilings, NHSBSA monitoring) separately address the lab supplement gaming risk. Annual clinical audit as part of the quality premium assessment provides an additional layer.

What we acknowledge honestly We acknowledge that the risk of gaming any performance payment system exists. The incentives are better designed than the current system: the UDA model creates a financial gradient toward treatment regardless of clinical indication (Band 2 generates three times Band 1 income). The replacement contract substantially reduces that gradient.

Gaming and claim inflation

‹ Objection *Separate prevention tariffs will create gaming, claim inflation and unreliable activity..*

Our answer TThis is a real implementation risk, but it is not an argument against paying for prevention. It is an argument for designing prevention tariffs that are clinically specified, coded, auditable and proportionate.

Under the current UDA contract, prevention is too often invisible, inconsistently funded and vulnerable to workload pressure. **Pt(d)** is designed to make prevention visible, payable and accountable. The question is not whether prevention should be funded; it is how to verify that funded prevention is clinically indicated, delivered, recorded and linked to patient risk.

Prevention-claim verification should therefore be built into the model from the start.

What we acknowledge honestly Any payment system can be gamed. If prevention tariffs are poorly designed, providers may over-code prevention, claim for low-value interventions, deliver activity that is not risk-appropriate, inflate pathway need, or prioritise tariffed prevention over non-tariffed care.

There is also a risk of creating perverse incentives. If prevention claims are too easy, the model may reward volume rather than value. If verification is too burdensome, practices may avoid prevention because it becomes administratively harder than treatment. Either outcome would undermine reform.

The risk is particularly important because prevention is central to the Population Oral Health Contract. If **Pt(d)** is not credible, the model's professional and Treasury case weakens.

What must be done First, each Pt(d) tariff must have a clear clinical indication and minimum record standard. Claims should be linked to pathway allocation, risk status, clinical need and delivery record.

Second, verification should use a mixed model, not universal manual audit. Routine data checks, exception reporting, sample audit, patient feedback where appropriate, outlier review and clinical governance review should be combined.

Third, prevention claims should be risk-adjusted and pathway-sensitive. A high volume of prevention in a high-risk population may be appropriate; the same pattern in a low-risk population may require review. The audit question should be clinical proportionality, not crude volume.

Fourth, the system should test for underuse as well as overuse. Gaming can occur through over-claiming, but failure to deliver indicated prevention is also a contract failure.

Fifth, verification must not make prevention harder to deliver than treatment. The process should be light enough to support clinical practice and strong enough to deter claim inflation.

Sixth, the demonstrator should red-team prevention tariffs before national rollout. Evaluation should test coding accuracy, claim distribution, outlier patterns, provider burden, patient experience and whether prevention delivery is associated with pathway movement, stabilisation and risk reduction.

The principle should be clear: prevention must be paid for, but payment must follow clinically indicated, delivered and auditable prevention — not unverified activity.

Potential for impact on Community Dental Services

‹ Objection *The model expects general dental practice to manage complexity that belongs in Community Dental Services or special care.*

Our answer The Population Oral Health Contract does not expect general dental practice to absorb all complexity. It creates a **dental home** for registered responsibility, prevention, routine care, stabilisation, appropriate urgent care and care coordination. It does not remove the need for Community Dental Services, special care dentistry, sedation services, hospital pathways, Tier 2 services or specialist referral routes.

The dental home is a point of continuing responsibility, not an unlimited clinical scope. Providers should manage what is appropriate within competence, contract specification, workforce capability and clinical governance. Patients whose needs exceed that scope should have clear referral routes and return pathways.

Community Dental Services should therefore be specified as part of the pathway architecture, not treated as a residual safety net.

What we acknowledge honestly This concern is well founded. Many patients with high oral-health need also have disability, frailty, severe mental illness, cognitive impairment, safeguarding needs, complex medical histories, extreme dental anxiety, mobility barriers or need for sedation, domiciliary care or multidisciplinary management.

If the contract implied that all such complexity must be held in general practice, it would be unsafe and unworkable. It would undermine provider confidence, create inappropriate clinical risk, increase failed appointments and destabilise practices serving high-need populations.

There is also a commissioning risk. If CDS and special care pathways are not specified, funded and visible within the model, complex patients may be passed between services without clear accountability. That would reproduce the current fragmentation under a new contract label.

What must be done the pathway architecture must define the interface between general dental practice, CDS, special care, Tier 2, hospital and specialist services. The Population Oral Health Contract should make clear which needs are expected to be managed in the dental home and which require referral.

Second, Pathway 4 must be operationally specified. It should cover enhanced, specialist, multidisciplinary or referred care beyond routine Tier 1 complexity, with clear funding rules and no additional patient charge for complexity beyond the pathway cap.

Third, referral must not mean abandonment of the dental home. Where a patient is referred for special care, sedation, hospital or specialist treatment, the dental home should retain responsibility for prevention, recall, routine maintenance and return from referred care where clinically appropriate.

Fourth, CDS capacity must be commissioned explicitly. The model cannot assume that CDS can absorb additional complexity without funding, workforce planning and agreed referral criteria.

Fifth, the demonstrator should test the interface. Evaluation should measure referral volume, referral appropriateness, waiting times, rejected referrals, return-to-dental-home rates, patient experience, safeguarding pathways and whether general practice feels appropriately supported rather than overloaded.

The principle should be clear: the dental home coordinates continuing responsibility; it does not replace special care dentistry, CDS or specialist pathways.

K.6 Commissioner concerns

Baseline data

‹ Objection *We do not have the baseline data to set risk-weighted contracts. Without verified local caries prevalence, IMD-linked practice population data and HES attribution, we cannot calculate the risk uplift coefficient reliably.*

Our answer This is the most immediately practical concern and we take it seriously. Section 5.4 of the main paper (ICB readiness conditions) specifically tests data and intelligence readiness. An ICB that cannot calculate the risk uplift coefficient is not ready to commission under the full model. However, the absence of perfect data is not an

argument against beginning. IMD data exists at LSOA level and can be linked to practice postcodes now. OHID child caries prevalence data exists at local authority level. UKHSA fluoridation mapping is publicly available. HES linkage can be established through NHS England data sharing agreements within six months of a commissioning decision. Year 1 contracts can be set on the best available data with explicit provision for Ru review at year 2 when more precise data is available.

What we acknowledge honestly We acknowledge that HES and ECDS linkage to practice-level populations is not currently standard. Establishing it requires a national data programme, not local action.

What must be done NHS England must establish a national dental data programme as a prerequisite for the demonstrator launch: standard HES/ECDS data sharing agreements; a shared analytical platform for Ru calculation; ICB-level oral health profiles; and a national POHR data quality framework.

Legacy contracts

‹ Objection *Most NHS dental providers hold 2006-framework contracts. How do we transition without destabilising the provider market?*

Our answer The transition should be managed, not forced. Three mechanisms: first, the demonstrator programme operates alongside legacy contracts — demonstrator sites are new awards or voluntary transitions, not forced conversions. Second, as legacy contracts reach natural term, they are replaced with reformed model contracts rather than renewed under UDA terms. Third, ICBs with providers willing to transition voluntarily before legacy contract expiry are supported through a variation mechanism within existing commissioning powers.

What we acknowledge honestly We acknowledge that the transition period creates a two-tier system — demonstrator practices alongside legacy UDA practices. This creates some anomalies (different payment rates, different data requirements, different accountability frameworks) that must be managed transparently.

What must be done DHSC must specify a sunset date for new UDA contract awards. After that date, all new NHS dental contracts are issued under the reformed model. Existing legacy contracts run to natural term or are voluntarily transitioned.

Year-3 exit in dental deserts

‹ Objection *If a practice fails the year-3 gate, what happens to its patients in areas where there is no alternative provision?*

Our answer This is the hardest practical question in the accountability framework. In areas where the demonstrator practice is the only NHS dental provider, a year-3 exit is not a realistic option regardless of performance. The accountability framework must therefore distinguish between underperformance where an alternative exists and underperformance where it does not. In dental deserts, the year-3 gate should focus on improvement support rather than exit: intensive programme support, clinical quality improvement visits, additional data infrastructure funding. Exit and retendering is only realistic where market alternatives exist or can be created within a reasonable timescale.

What we acknowledge honestly We acknowledge that the accountability framework is more credible in areas with multiple providers than in dental deserts. This is an honest limitation.

What must be done The demonstrator programme should prioritise dental desert sites for the access hub and new provider commissioning model in Section 2.15 of the main paper, not for the accountability-focused demonstrators. New provider sites should be separately commissioned using the prospective ACV model.

K.7 Patient and public concerns

Worse treatment to fund prevention

‹ Objection *Will the emphasis on prevention mean that people who need treatment are turned away or given inferior care?*

Our answer No. The replacement contract does not reduce the treatment available to patients who need it. Pathway 3 (Routine Restorative and Tier 1 Stabilisation) is a fully resourced treatment pathway in which restorations, extractions, root canal treatment and periodontal stabilisation are explicitly commissioned and remunerated through base capitation and, where external lab cost is incurred, through Ls(P3). The emphasis on prevention does not come at the expense of treatment for patients with active disease; it comes at the expense of the financial incentive to over-treat patients who do not need treatment.

Will my practice survive?

‹ Objection *If my practice hands back its NHS contract because the new model is too burdensome, I will lose access to a dentist I have seen for years.*

Our answer Continuity of care is explicitly specified as a contractual obligation in the replacement contract, not an aspiration. The ten-year minimum contract term is designed precisely to protect continuity: practices that commit to the model have financial stability and a long-term relationship with their registered population. The risk to continuity is not the replacement contract; it is the current one. Under the UDA system, practices in high-need areas are already withdrawing from NHS provision because the economics do not work. Risk-weighted capitation (the Ru coefficient) makes NHS work financially viable in the areas where it is currently least viable.

What we acknowledge honestly We acknowledge that the transition period creates genuine continuity risk for some patients. Practices that choose not to transition may change their NHS commitment. The transition must include patient notification requirements, onward registration support and ICB contingency commissioning plans.

Patient charges

‹ Objection *Charges are already a barrier to access. Will they increase under the new contract?*

Our answer Patient charges under the replacement contract are restructured to reduce barriers at the prevention entry point. Pathway 2 (Active Prevention) costs £27.40 at entry — the same as the current Band 1 — but all follow-on prevention and acclimatisation sessions within P2 are free. This removes the charge barrier at exactly the point the NHS most needs to reduce it. Pathway 3 treatment charges are £75.30 per COT, capped at £326.70 per year regardless of complexity — consistent with the current Band 2/3 structure. The Ls(P3) lab supplement carries no additional patient charge; external lab complexity is priced to the commissioner, not the patient. The weighted average annual charge per fee-paying adult (approximately £44.89) is broadly comparable to the current implied average (approximately £45 from the NHSBSA verified data). All patient charge figures are held at the modelling baseline used in the investment case: P1/P2 **£27.40**, P3 **£75.30**, and annual cap **£326.70**. Implementation rates would need to be updated to the prevailing statutory charge schedule at rollout. The extended exemption framework (Annex E) creates charge-free access for more patients, not fewer.

What we acknowledge honestly We acknowledge that charge restructuring requires secondary legislation. See Annex E for the full three-tier exemption framework and regulatory pathway.

Trust

‹ Objection *I have heard promises of NHS dental reform before. Why will this time be different?*

Our answer This is the most important question. The honest answer is: you should not trust promises. You should trust mechanisms. This paper proposes three mechanisms that are different from previous reform cycles: a time-limited demonstrator programme with a defined national adoption endpoint at Gate 2 (Q3 2033), not an open-ended pilot; annual public reporting of ICB population value scorecards, not internal performance management; and a ten-year contract architecture that creates long-term accountability rather than annual renegotiation. The June 2026 Commons debate — cross-party, cross-profession, agreed without division — confirms that the political and professional consensus for replacement now exists. [1] Patients and the public should demand that it produces a measurable outcome within a defined timeframe.

What we acknowledge honestly We acknowledge that the mechanisms proposed are only as strong as the political will to implement them. A demonstrator programme that runs quietly without public reporting, or a Gate 2 decision that is deferred indefinitely, would represent a betrayal. The safeguard is public commitment, before the demonstrator launches, to the mechanisms described here.

K.8 What others must accept

A number of the honest acknowledgements in this annex identify tasks that are not ours to complete. They are described in table K.1

Table K.1 What key actors must accept for reform to succeed

Actor	What they must accept	Why this is non-negotiable
DHSC and NHS England	A public, time-limited commitment to a national adoption decision at Gate 2 (Q3 2033). An open-ended demonstrator programme is not acceptable.	The profession and providers will not invest in the model without certainty of scale. Patients will not trust improvement without a defined endpoint.
DHSC and parliamentary counsel	A legal and regulatory workstream from the outset, covering the GDS/PDS regulatory framework, Dental Charges Regulations, NHSBSA payment and reporting systems, POHR data requirements, patient rights, charge treatment, ICB duties, and any targeted NHS Act 2006 or Standing Rules amendments required for national adoption.	Contract reform that relies entirely on guidance and goodwill is reversible by the next government. The legislative framework creates durability.
DHSC communications and parliamentary teams	A clear public and parliamentary narrative before demonstrator launch: registered care, fairer funding, funded prevention, urgent care that leads somewhere, and transparent reporting of results.	Technical reform fails politically if it is explained only in technical language. Public confidence requires simple, consistent messaging.
NHS England	A dental commissioning capability programme, a national data infrastructure programme (Section 5.6 pre-conditions), and quality premium legal drafting — all completed before the demonstrator launch.	The demonstrators will fail if infrastructure is built while they are running rather than before.
Health Education England / NHS England Education	A costed, timed workforce expansion plan for dental therapists and hygienists, published before the demonstrator launch and reviewed annually.	The prevention model cannot be delivered at scale without the workforce. The workforce does not exist at the required scale without a plan.
The dental profession and the BDA	Active participation in the demonstrator programme, including engagement on KPI design, quality premium structure and workforce transition planning. Refusing to engage is a decision to allow the 2006 contract to continue.	The profession's cooperation is necessary for implementation. Its absence would be a decision that the current contract's failures are preferable to the risks of reform.
ICBs	Completion of the Section 5.4 readiness assessment and an honest account of capability gaps to NHS England before demonstrator selection. ICBs that claim readiness without evidence should not lead demonstrators.	Poorly implemented demonstrators damage the case for national reform more than delayed implementation.
HM Treasury	Independent Green Book economic modelling of the full pathway ROI before the Gate 2 national adoption decision.	Without this modelling, the national adoption decision will be made on incomplete evidence.

K.9 The alternative that does not exist

This annex has engaged honestly with every significant objection to the proposal. Some are well-founded and have generated important modifications to the design. Some identify genuine uncertainties that further research will resolve. Some identify legislative and institutional tasks that require political commitment.

What this annex has not encountered — because it does not exist — is a credible alternative proposal that would achieve the same objectives through different means. A credible alternative would need to: reduce childhood caries prevalence in deprived communities; make NHS dentistry financially viable for providers serving high-need populations; remunerate prevention as a primary contracted activity; generate measurable population health improvement over time; address the inequality gradient in oral health; and create a commissioning framework that ICBs can implement and be held accountable for.

Twenty years of reviews, pilots, partial adjustments and recovery plans have not produced such an alternative. The 2006 contract's architecture has been reformed at the margins with the same result each time: activity increases modestly, incentive failures persist, the inequality gradient does not narrow, and prevention remains unremunerated and unmeasured. The June 2026 Commons debate confirmed that every political party and every major professional body has reached the same conclusion. [1]

The question this paper poses to its critics is direct: if not this, then what? Tweaking the UDA system further is not an answer. It is a continuation of the cycle that has produced the current position. The profession, commissioners, government and the public deserve better than another twenty years of the same argument.

The final position

We have been honest about uncertainties. We have been honest about what we do not know. We have identified the legislative tasks, the workforce requirements, the data infrastructure gaps and the commissioning capability challenges that must be addressed. What we are not prepared to be uncertain about is the fundamental proposition: the 2006 contract is not fit for purpose, no credible alternative to replacing it has been proposed, and the cost of inaction — to patients, to the profession, to the health system and to the public purse — is now greater than the cost of reform. The case for replacement is made. The task now is to act on it.

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APPENDIX K1

Assurance and Calibration Tests for the Population Oral Health Contract Demonstrator

K1.1 Purpose of this appendix

Annex K answers the principal objections to the Population Oral Health Contract. This appendix turns those objections into assurance tests.

The Population Oral Health Contract is the proposed replacement architecture for the 2006 UDA contract. The demonstrator is not the reform proposition. It is the route by which the model should be tested, calibrated, amended and stress-tested before national adoption.

The purpose of the demonstrator is therefore not to ask whether prevention is a desirable principle. That question has already been answered by the evidence base, the prototype learning and the policy diagnosis set out in Parts 1–5. The purpose is more practical and more demanding: to test whether the proposed contract architecture can be implemented safely, fairly, transparently and at scale.

The demonstrator should answer five questions.

1. Does the model work as designed? Registration, pathway allocation, risk-weighted capitation, delivered prevention, urgent-to-continuity conversion, patient charge reconciliation, quality premium and annual reconciliation must operate as intended.
2. Does the model support providers? Monthly ACV payment must provide stable provider income while increasing responsibility for access, prevention, risk, continuity and reporting.
3. Does the model improve patient access and experience? It must expand access for high-need patients, reduce episodic urgent reliance, support continuity, and distinguish private use by choice from private use by necessity.
4. Does the model create measurable public value? It should show early signals of improved prevention coverage, risk reduction, stabilisation, urgent-demand reduction, care-home access, periodontal-diabetes integration, oral cancer detection and equity of access.

5. Does the model avoid predictable failure modes? It must prevent gaming, claim inflation, cherry-picking, list inflation, pathway manipulation, excessive administrative burden, crude quality metrics, provider destabilisation and inappropriate transfer of complexity into general dental practice.

Gate 1 should test implementation fidelity and operational safety. Gate 2 should determine whether national adoption is justified, what should be amended, what should be abandoned, and what should remain under evaluation.

K1.2 The central assurance principle

The Population Oral Health Contract should be tested against the professional compact set out in the main paper:

> *Greater responsibility must come with explicit risk pricing, stable monthly income, protected legitimate costs, paid prevention, funded urgent access, proportionate reconciliation and transition protection.*

This compact is not a rhetorical reassurance. It is an assurance condition.

A prevention-led responsibility contract will fail if providers experience it as unfunded risk transfer, unpredictable income, excessive reporting burden or retrospective clawback. The demonstrator must therefore test not only whether the model is affordable for the NHS, but whether it is deliverable for practices, associates, dental therapists, hygienists, dental nurses, commissioners and patients.

The model should also be tested against a patient compact:

> *Expanded access must mean more than contact. It must mean assessment, prevention, stabilisation, continuity and a route into a dental home.*

That principle matters because one-off access, however well intentioned, risks reproducing episodic dentistry in a different setting. Outreach, urgent care, school programmes, care-home provision and community access schemes should therefore be tested by whether they connect people into continuing responsibility.

K1.3 Demonstrator design assumptions

The demonstrator should be designed as a national assurance programme, not a loose collection of local pilots.

Each demonstrator ICB should implement the full Population Oral Health Contract architecture, including:

- Formal registered population responsibility
- A named dental home
- The annual contract value formula
- Risk-weighted capitation through **ru**
- Delivered prevention tariffs through **pt(d)**
- Legitimate pathway 3 laboratory support through **ls(p3)**
- Urgent access funding through **uc(r)** and **uc(a)**

- Pathway-based patient charge treatment and Pc reconciliation
- Contract-level quality premium through Qp
- The population oral health return
- Annual reconciliation
- Independent evaluation
- Public reporting
- Gate review

Partial implementation would not test the model. It would test fragments of the model and risk repeating the central limitation of previous prototype work: useful learning, but insufficient evidence for national contract replacement.

The demonstrator should include different population and provider contexts: high-deprivation urban communities, rural dental deserts, coastal and ageing populations, mixed urban-suburban populations, inner-city populations, and lower-risk areas. It should also include a range of provider types: established practices, new providers, NHS salaried services, community dental providers, social enterprises, CICs and anchor-provider models where appropriate.

K1.4 What can be claimed now — and what must wait

The demonstrator should be explicit about the boundary between current confidence and future proof.

What can be claimed now

The evidence is sufficient to claim that:

- The UDA contract is structurally misaligned with prevention, access, equity and population oral health improvement
- Population risk is not evenly distributed and should be priced explicitly
- Prevention activity increases when remunerated and measured
- Formal registration creates the denominator required for responsibility and evaluation
- Urgent care should be converted into continuity wherever possible
- Provider confidence requires stable prospective income and proportionate reconciliation
- Dental deserts require mobilisation support, not simply formula-based payment
- Outreach should be designed into a dental home, not instead of a dental home
- The model is specified enough to test through demonstrators, actuarial review, shadow pricing and independent evaluation.

What must not be claimed before Gate 2

Before Gate 2, the paper should not claim that:

- The model is proven nationally scalable

- Every provider will be financially better off
- Every historical allocation can or should be preserved
- Prevention-led care will automatically reduce workload
- Clinical time will automatically increase without trade-offs
- Skill-mix gains will occur without supervision, governance, remuneration and workforce planning
- Private use proves NHS need is lower
- Wider systemic benefits are cashable offsets
- Periodontal treatment reduces major cardiovascular events
- Outreach alone solves access
- Qp can substitute for regulation
- ICBs already have sufficient commissioning capacity
- Dental deserts can be solved by ACV alone
- Prevention tariffs cannot be gamed

The Table K1.1 translates the reform architecture set out in the main paper into a demonstrator assurance framework. Each domain corresponds to a material element of the Population Oral Health Contract described in Parts 1–5 and the technical annexes: registration and dental home in Annex B; care pathways, prevention tariffs and Ls(P3) in Annex C; urgent-to-continuity care in Annex D; patient charges in Annexes E–F; workforce, provider viability and dental deserts in Part 2; the investment and transition case in Part 3; and the implementation, accountability and evaluation framework in Part 5. The purpose is to show how each policy claim, design assumption and identified risk will be tested before Gate 2 national adoption. demonstrator exists precisely because these claims must be tested, not assumed

Table K1.1 What the demonstrator must test

Assurance domain	Core question	What must be tested	What would count as concern
Registration and dental home	Does registration create a real denominator of responsibility?	List growth, list validation, patient understanding of registration, recall allocation, non-attendance protocol, transfer between providers and return from referral.	List inflation, inactive lists, patients unaware of registration status, weak recall systems, duplicate records or exclusion of high-need patients.
Risk-weighted capitation — Ru	Does resource follow measurable need?	Whether Ru reflects deprivation, fluoridation, local caries prevalence and urgent demand; whether high-need populations receive higher resource; distributional effect across provider types.	Gaming of risk coding, underfunding high-need populations, destabilising lower-risk areas or inability to explain distributional changes publicly.
Provider income stability	Does the model support stable income while increasing responsibility?	One-twelfth monthly ACV payment, annual reconciliation, principal margin, associate earnings, therapist deployment, premises cost, working capital, cash-flow stability and high-need practice viability.	Unfunded responsibility, unpredictable losses, abrupt clawback, inability to recruit, provider withdrawal or high-need practices becoming financially non-viable.
Delivered prevention — Pt(d)	Does separate prevention payment increase appropriate prevention?	Prevention coverage, clinical indication, coding accuracy, pathway fit, patient uptake, auditability and relationship to risk reduction or pathway movement.	Claim inflation, low-value prevention, under-delivery, excessive audit burden or prevention becoming activity counting by another name.
Ls(P3) laboratory supplement	Does the model protect legitimate laboratory cost without overclaiming?	Case-linked laboratory claims, clinical indication, item specificity, audit trail and relationship to Pathway 3 stabilisation.	Lab-claim inflation, inappropriate treatment escalation, weak audit trail or unnecessary referral of complexity.
Urgent-to-continuity conversion	Does urgent access become an entry point into continuing care?	Uc(r), Uc(a), NHS 111 referral flow, unregistered urgent attendance, conversion into registration, stabilisation, pathway allocation and repeat urgent attendance.	Revolving-door urgent care, repeated temporary relief, failure to register, gaming of unregistered urgent attendance or displacement of routine capacity.
Clinical time and throughput	Does the model reduce churn rather than recreate it?	Appointment length, contacts per session, case complexity, clinician workload, shared decision-making, patient experience and financial viability of longer prevention or stabilisation episodes.	New throughput pressure, shorter appointments, reduced patient experience, burnout or inability to deliver prevention within funded time.
Administrative parsimony	Does the data model support care without excessive burden?	POHR usability, data-entry time, duplication, software integration, rejected claims, reporting burden and impact on clinical time.	Bureaucratic overload, parallel reporting, poor software usability or clinicians becoming data clerks.

Qp quality premium	Does Qp reward improvement without becoming pseudo-regulation?	Risk-adjusted metrics, professional co-design, patient experience, access equity, prevention coverage, continuity, pathway movement and public reporting.	Crude league tables, gaming, penalising high-need practices or duplication of CQC, GDC, performer-list, complaints or clinical negligence processes.
Patient charges and Pc	Does charge reconciliation work and protect access?	Patient charge deduction, pathway charges, annual caps, exemptions, charge credits, patient understanding, effect on attendance and prevention uptake.	Double counting, charge confusion, deterrence from prevention, inequitable access or mismatch between charge income and Pc assumptions.
Workforce and skill-mix	Does the model support viable team-based delivery?	Therapist and hygienist utilisation, dental nurse stability, associate participation, recruitment, retention, supervision, escalation and professional satisfaction.	Assumed skill-mix not materialising, supervision burden, therapist underuse, associate disengagement or nurse instability.
Workforce competitiveness and retention	Can providers offer conditions that attract staff into NHS delivery?	Remuneration, workload, early-career support, supervised transition, portfolio roles, bonding schemes, career pathways and retention in high-need areas.	Workforce remaining in private or mixed settings, vacancy persistence, weak recruitment, poor morale or uncompetitive NHS delivery conditions.
CDS and special care interface	Does the dental home coordinate complexity safely?	Referral criteria, CDS capacity, special care, sedation, hospital pathways, return-to-dental-home rates and patient experience.	General practice absorbing inappropriate complexity, referral bottlenecks, CDS overload or patients lost between services.
Outreach into a dental home	Does outreach create continuity rather than one-off access?	Mobile, school, care-home, community, domiciliary and urgent outreach conversion into assessment, registration, pathway allocation, stabilisation and follow-up.	Outreach as episodic activity, identified need without continuity, poor follow-up or parallel services disconnected from dental home.
Dental deserts and new providers	Can prospective ACV create capacity where the market has failed?	Registration trajectory, prospective ACV, revenue bridge, capital support, estate, workforce mobilisation, local referral pathways and provider confidence.	Formula failing to create capacity, underfunded mobilisation, no provider entry or unsustainable greenfield operations.
Private use by choice or necessity	Does private use reflect preference or displaced NHS demand?	Recent private use, reason for use, affordability, inability to find NHS care, waiting time, urgent need and patient-reported access barriers.	Private attendance misread as lower NHS need or displaced demand ignored in access assessment.
Wider oral-systemic public value	Can dental pathways support long-term condition management?	Periodontal-diabetes pathway, CVD linkage, respiratory/frailty/care-home pathway, maternity, SMI, oral cancer detection and linked data.	Cashable savings claimed too early, weak attribution, poor data linkage or systemic benefits overstated before Gate 2.
Independent public reporting	Can progress be reported transparently without distortion?	Reporting format, risk adjustment, contextualisation, patient-facing interpretation, professional confidence and public trust.	Crude league tables, misleading comparisons, reputational punishment of high-need providers or under-reporting of uncertainty.

K1.5 Gaming and unintended-consequence scenarios

The Population Oral Health Contract changes incentives. That is the point. But every incentive system creates gaming risk. The demonstrator should therefore include a formal **gaming red-team review** before full financial consequences are activated.

The red-team should include commissioners, providers, dental public health specialists, NHSBSA analysts, patient representatives, professional bodies, data specialists and independent evaluators. Its purpose is not to assume bad faith, but to protect the model from avoidable failure by identifying behavioural incentives early, distinguishing gaming from legitimate variation, and recommending calibration before national rollout.

Table K1.2 Scenario Testing

Scenario	Risk	Signals to monitor	Controls
List inflation	Providers register patients who are inactive, unreachable, duplicate-registered or insufficiently engaged, increasing ACV without corresponding responsibility.	High registration growth without appointments; low recall completion; high non-attendance; poor patient awareness of registration; duplicate records; inactive lists.	List validation; patient confirmation; activity-linked registration checks; non-attendance protocol; annual reconciliation; NHSBSA duplicate detection.
Cherry-picking lower-need patients	Providers seek to register lower-risk patients while avoiding high-need, anxious, complex or socially excluded patients.	Low proportion of high-risk patients relative to local needs assessment; weak uptake from urgent pathways; low registration of care-home residents, SMI patients or vulnerable groups; unusual deprivation mismatch.	**Ru** calibration; equity KPIs; ICB list monitoring; urgent-to-registration requirement; outreach-to-dental-home conversion; public reporting by population profile.
Pathway manipulation	Patients are coded into higher pathways to justify higher prevention or treatment claims or held in higher pathways longer than clinically necessary.	Unusual P2/P3 distribution; low pathway de-escalation; high P3 persistence; weak stabilisation evidence; significant variation between similar practices.	Pathway audit; sample record review; risk-adjusted benchmarks; clinical governance review; **Qp** linkage to appropriate de-escalation and stabilisation.
Prevention-claim inflation	**Pt(d)** creates volume incentives for low-value or poorly indicated prevention activity.	High prevention claims in low-risk groups; repeated claims without pathway movement; weak clinical indication; provider-level outlier patterns.	Minimum record standards; pathway-linked eligibility; sample audit; exception reporting; patient feedback; review of both underuse and overuse.
Laboratory supplement overclaiming	**Ls(P3)** claims expand beyond legitimate case-linked laboratory costs.	High lab-claim frequency; weak clinical linkage; repeated high-cost items; provider-level outliers; mismatch between pathway profile and lab claims.	Item-specific criteria; invoice linkage; clinical indication; annual audit; exclusion from **Qp** base; independent review of outliers.

Urgent-care revolving door	**Uc(a)** rewards repeated unregistered urgent attendance instead of conversion into registration and stabilisation.	High repeat urgent attendance; low conversion to registration; repeated temporary interventions; high **Uc(a)** claims without list growth.	Urgent-to-registration KPIs; repeat urgent review; tapering **Uc(a)**; **Uc** rebalancing at Gate 1; requirement for pathway allocation after urgent attendance.
Qp metric gaming	Providers optimise measured indicators while neglecting unmeasured care.	Sudden metric improvement without corresponding patient experience or outcome change; narrow focus on measured indicators; avoidance of complex patients.	Balanced metric set; risk adjustment; patient-reported measures; professional co-design; qualitative review; gaming red-team; no crude league tables.
Administrative displacement	The POHR and reporting requirements consume clinical time and reduce the capacity the model is intended to create.	High data-entry time; duplicated reporting; staff dissatisfaction; delayed claims; reduced clinical sessions; complaints about software.	Administrative parsimony test; software usability testing; collect-once-use-many-times data design; minimum viable dataset; provider feedback loop.
Complexity dumping	Providers refer complexity out too readily to avoid cost, or are expected to hold complexity that should sit with CDS, special care, sedation or hospital pathways.	High referral rates; rejected referrals; long waits; low return-to-dental-home rate; patient complaints; CDS overload.	Clear P4 criteria; CDS commissioning specification; referral audit; return pathway; special care interface review.
Outreach without continuity	Outreach identifies need but does not connect patients into registered care.	High outreach contacts but low registration; low follow-up completion; repeated outreach-only contact; no pathway allocation.	Outreach-to-registration KPI; named onward dental home; follow-up tracking; POHR outreach coding; ICB review.
Private use misread as reduced NHS need	Commissioners treat private dental attendance as evidence that NHS need is lower.	High private use in high-deprivation or dental-desert areas; patient reports of inability to find NHS care; private use following NHS refusal or long waits; urgent presentations after private temporary treatment.	Patient-reported reason for private use; Healthwatch-style access questions; ICB needs assessment; distinction between private use by choice and private use by necessity.
Dental desert mobilisation failure	Prospective ACV is insufficient to create provision where premises, equipment, workforce and provider confidence are absent.	Delayed opening; unfilled posts; low session delivery; slow list growth; poor outreach conversion; unsustainable cash flow; provider withdrawal.	Revenue bridge; capital support; estate facilitation; workforce incentives; prospective ACV trajectory; milestone reconciliation; provider support before punitive recovery.

K1.6 Demonstrator Gate Reviews

Gate reviews should distinguish tactical implementation fidelity from strategic adoption readiness:

- Gate 1 asks whether the model's operating machinery is in place and functioning as designed. It should not require mature population health outcomes that cannot reasonably be expected in the first phase.

- Gate 2 asks whether that machinery is beginning to produce the intended effects: registration creating responsibility, risk pricing directing resource, prevention and stabilisation being delivered, urgent care converting into continuity, providers remaining viable, patients experiencing better access, and early outcome signals moving in the right direction.

The first gate tests operational integrity; the second tests whether the evidence is strong enough to justify national adoption, amendment or further limited testing.

Table K1.6 — Gate 1 and Gate 2 demonstrator tests: from implementation fidelity to adoption readiness

Test domain	Gate 1: Implementation fidelity	Gate 2: Adoption readiness and strategic effect
Purpose	**Test whether the Population Oral Health Contract is being implemented as designed.** **Gate 1 should not require mature population health outcomes that cannot reasonably be expected in the first phase.**	**Test whether the Population Oral Health Contract is ready for national adoption, amendment or further limited testing.** **Gate 2 should determine whether the causal chain is beginning to work.**
Registration and dental home	Validated registered population; patient understanding of the dental home; list validation; recall allocation; transfer and non-attendance processes.	Evidence that registration creates continuing responsibility, improves continuity of care and supports adult and child access.
Pathway allocation and movement	Pathway allocation accuracy; coding consistency; clinical governance review; pathway movement recorded through POHR.	Evidence of pathway movement towards stability, risk-appropriate recall, reduced episodic care and improved continuity.
Monthly ACV payment and reconciliation	One-twelfth monthly ACV payment operating as intended; annual reconciliation process functioning; list movement, patient charge income and delivery data reconcilable.	Evidence that the payment model supports provider viability, cash-flow stability, distributional fairness and responsible management of public funds.
Risk pricing — Ru	Ru applied correctly using agreed deprivation, fluoridation, caries prevalence and urgent-demand inputs; distributional impact visible through shadow pricing.	Evidence that risk pricing directs resource towards need without destabilising providers or creating unacceptable regional/provider inequity.

Test domain	Gate 1: Implementation fidelity	Gate 2: Adoption readiness and strategic effect
Delivered prevention — Pt(d)	Pt(d) coding and auditability; clinical indication; pathway-linked eligibility; prevention episodes recorded accurately.	Evidence of increased prevention coverage, risk-appropriate prevention, early pathway stabilisation and reduced avoidable deterioration.
Laboratory support — Ls(P3)	Ls(P3) claims are case-linked, item-specific, clinically justified and auditable.	Evidence that legitimate laboratory costs are protected without claim inflation or inappropriate escalation of treatment.
Urgent-to-continuity care — Uc(r)/Uc(a)	Uc(r) and Uc(a) operating as designed; urgent presentations coded; urgent-to-registration and urgent-to-pathway processes functioning.	Evidence of reduced repeat urgent attendance, reduced urgent-demand pressure and conversion of urgent care into registration, stabilisation and continuity.
Patient charges and exemptions	Patient charge deduction, charge caps, exemptions and charge-credit mechanisms operating correctly and understood by patients and providers.	Evidence that patient charges do not undermine access, prevention uptake or equity; charge income is reconciled transparently through Pc.
Quality premium — Qp	Qp metrics usable, risk-adjusted, professionally intelligible and distinct from regulatory processes.	Evidence that Qp supports improvement in prevention, continuity, access equity, patient experience and population oral health without becoming pseudo-regulation or metric gaming.
POHR and administrative burden	POHR functionality; data-entry burden; software usability; duplication; rejected claims; impact on clinical time.	Evidence that the data model is sustainable, supports public reporting and evaluation, and does not create excessive administrative displacement.
Clinical time and throughput	Appointment length, contacts per session, case complexity, shared decision-making and clinician workload measured.	Evidence that the model reduces UDA-style churn and creates sufficient clinical time for assessment, prevention, stabilisation and continuity.
Provider income stability	Provider income, principal margin, associate earnings, working capital and cash-flow stability monitored during shadow pricing and early operation.	Evidence that providers can remain viable while taking on greater responsibility for access, prevention, risk and continuity.
Workforce and skill-mix	Workforce mobilisation; therapist and hygienist utilisation; dental nurse stability; supervision and escalation arrangements.	Evidence of workforce stability, recruitment, retention, skill-mix deployment and professional satisfaction across different provider and population contexts.
CDS and special care interface	Referral criteria, CDS capacity, special care, sedation, hospital and Tier 2 routes specified and tested.	Evidence that complexity is managed safely, general practice is not used as an unfunded repository for complexity, and patients return to the dental home where appropriate.

Test domain	Gate 1: Implementation fidelity	Gate 2: Adoption readiness and strategic effect
Outreach into dental home	Outreach-to-dental-home conversion; pathway allocation after outreach; prevention and stabilisation delivered through outreach; follow-up tracked.	Evidence that outreach creates continuity rather than one-off contact, especially for care homes, schools, domiciliary care, vulnerable groups and dental deserts.
Dental deserts and new providers	Prospective ACV trajectory, mobilisation milestones, revenue bridge, capital support, estate readiness and workforce mobilisation tested.	Evidence that sustainable NHS dental capacity can be created where historical contracting has failed.
Private use by choice or necessity	Recent private use captured where proportionate; reason for private use recorded; access barriers identified.	Evidence that commissioners can distinguish private use by choice from displaced NHS demand, and avoid underestimating NHS need.
Patient experience	Early patient experience, complaints, compliments and targeted feedback collected alongside routine data.	Evidence that care feels accessible, understandable, respectful, continuous and fair, particularly for high-need groups.
Wider oral-systemic public value	Periodontal-diabetes, care-home, oral cancer, respiratory, maternity and SMI pathway links specified where lawful and proportionate.	Evidence of plausible early public-value signals, without prematurely claiming cashable savings or unproven cardiovascular event reduction.
Public reporting and accountability	Reporting format, risk adjustment, governance, data flow and evaluator access established.	Evidence that progress can be reported independently, transparently and contextually without crude league tables or misleading comparisons.
Gate decision	Calibration, amendment or continuation — not automatic national rollout.	Proceed to national adoption, proceed with amendment, extend limited testing, or stop/redesign specific components.

K1.7 Implementation sequencing

The gate tests set out in K1.6 depend on a defined delivery sequence, not an open-ended process. Table K1.7 sets out that sequence phase by phase, from the pre-conditions that must be in place before any policy announcement through to national rollout, naming who leads each phase and what must happen before the next can begin.

The dates shown are illustrative, not fixed commitments: they assume a policy decision in Q1 2027, and each subsequent phase is expressed relative to that point. Slippage at any phase — most likely the independent actuarial review, ICB readiness, or NHSBSA system build — pushes every later date by the same margin; the sequence and its dependencies, not the calendar, are what this table specifies. Gate 1 (Q3 2031) and Gate 2 (Q3 2033) are the two decision points at which the evidence set out in K1.6 determines whether the programme proceeds, is adjusted, or is extended before national commitment.

Table K1.7 Implementation sequencing from policy decision to national rollout

Phase	Example Timing	Who leads	What must happen
Pre-conditions	Q4 2026	DHSC	Commission an independent actuarial, health-economic and provider-viability review of the ACV formula. The review should distinguish current episodic expenditure from prospective annual registered responsibility; validate Bc, Ru and any utilisation or responsibility margin; test a tariff corridor; model provider income and workforce remuneration across representative practice archetypes; quantify gains, losses and transition requirements; and recommend a range suitable for shadow operation. Output required by Q4 2026. Establish the annual Ru Determination Report process, including data sources, sensitivity analysis, anti-gaming safeguards and arrangements for adjustment at formal review gates. Mandate standardised and published population oral health needs assessments for all 36 ICBs. Scope NHSBSA infrastructure requirements, including the ACV calculation engine, Population Oral Health Return, Pt(d) recording, Ls(P3) audit, patient-charge reconciliation and Qp dashboard. Prepare the HM Treasury Green Book submission. The £118.08 programme-weighted ACV should be presented as the central affordability reference, compared with indicative current gross expenditure of £124.82 per patient seen; these are different commissioning products and do not predetermine the final tariff. The submission should set out the Year 5 increase of £1.504bn, comprising £438m inflation restoration and approximately £951m of genuinely new public investment after £115m of conservatively estimated avoided NHS costs. Begin engagement with NHS England, ICBs, professional bodies and providers on demonstrator design.
Policy decision	Q1 2027	Secretary of State / DHSC	Announce the intention to replace the 2006 contract rather than undertake further open-ended modification. Confirm first-cohort demonstrator go-live in Q3 2028, second-cohort go-live in Q1 2029 and a national rollout decision in Q3 2033. Publish a summary of the legal route, identifying which elements can be implemented through PDS-style demonstrator agreements, which require secondary legislation and whether targeted amendment of the NHS Act 2006 is required for formal registration and dental-home responsibility. Issue the Dental Charges Regulations reform prospectus by Q2 2027.
Demonstrator and shadow-pricing design	Q2 2027–Q2 2028	NHS England Dental Directorate	Issue the national demonstrator prospectus and select 8–12 ICBs, with a planning assumption of 10, in two cohorts. Complete ICB readiness assessments and commission capacity-building support where required. Develop the ACV algorithm, NHSBSA systems, POHR, Pt(d) and Ls(P3) infrastructure, urgent-to-continuity reporting and Qp measurement. Draft and consult on the standard reformed PDS agreement. Finalise NHS111 and local continuity-network specifications. Commission independent NIHR evaluation at design stage. Undertake shadow pricing for participating providers before tariff activation, using the tariff corridor and practice-archetype methodology established by the independent review. Identify provider gains, losses, workforce effects and required transition protection before contract award.

Phase	Example Timing	Who leads	What must happen
First cohort go-live	Q3 2028	NHS England and first-cohort ICBs	Bring the first five demonstrator sites into operation using the full contract architecture: Bc × Rp × Ru, Pt(d), Ls(P3), Uc, Qp and Pc. Include whole-population sites, greenfield dental-desert provision and the agreed tariff-corridor scenarios. Make dental-home and urgent-to-continuity obligations contractual from day one. Lock baseline population, workforce, provider-income and clinical data. Deploy Transformation Fund support for mobilisation, IT, workforce transition, ICB commissioning capacity, NHSBSA systems and evaluation.
Second cohort go-live	Q1 2029	NHS England and second-cohort ICBs	Bring the remaining five sites into operation, including at least three ICBs from the lowest readiness quartile. Apply learning from the first cohort without changing the common evaluation framework. Confirm that all sites are reporting provider viability, workforce, access, continuity, clinical outcome, patient-experience and equity measures.
Gate 1 review	Q3 2031 Year 3	NHS England / NIHR	Review implementation fidelity and early performance, including registration trajectory, prevention delivery, dental-home compliance, urgent-to-continuity outcomes, repeat urgent attendance, pathway distribution, Ls(P3) claims, recall intervals, patient experience, workforce recruitment and retention, provider-income effects and POHR data quality. Review Bc, Ru, the secure-to-variable income ratio and tariff-corridor performance against live utilisation and cost evidence. Approve Uc rebalancing only where unregistered urgent demand has fallen, continuity capacity is sufficient and access has not deteriorated. Any tariff or Ru adjustment should be evidence-led, smoothed, prospective and subject to provider notice.
Gate 2 / rollout decision	Q3 2033 Year 5	Secretary of State / NHS England	Assess the primary outcomes: access and equity, caries and extraction trends, prevention coverage, urgent-to-continuity completion, repeat urgent attendance, patient experience, workforce sustainability, provider adoption, operating viability, quality-premium performance and attributable avoided-cost signals. Determine whether viable delivery requires a national base rate, differentiated supplements, a tariff corridor or a combination of these. Publish the national rollout decision and supporting evidence. No rollout should proceed without evidence that the model can secure provider participation, sustain the workforce and deliver access, continuity and population-health improvement across representative provider types. Successful demonstrator providers may be offered enhanced-term contracts subject to performance and value.
National rollout	2034–2038	NHS England / all 36 ICBs	Roll out the Population Oral Health Contract in phases according to ICB readiness, provider-market capacity and national tariff decisions. Each ICB should establish registration, dental-home responsibility, risk-weighted capitation and commissioned prevention from go-live, supported by the full ACV architecture. Maintain annual national reporting on access, equity, outcomes, workforce, provider viability and public expenditure. By 2038, all ICBs should operate under the replacement framework, subject to the evidence and decisions reached at Gate 2.

K1.8 Evidence hierarchy for demonstrator evaluation

The demonstrator should use a mixed-method evaluation design. No single measure will be sufficient.

The evaluation should include:

- Routine NHSBSA and POHR data
- List validation data
- Patient charge reconciliation data;
- Practice-level financial and workforce data
- Provider-income sensitivity analysis
- Clinical record sample audit
- Prevention-claim audit
- Ls(P3) audit
- Patient-reported experience measures
- Targeted qualitative interviews;
- ICB commissioning-capacity assessment
- Outreach-to-registration tracking
- CDS and special care referral data
- Linked data for diabetes and other pathways where lawful and proportionate
- Comparison with non-demonstrator ICBs where feasible
- Independent public reporting

Survey data should be used, but not relied upon alone. Routine data can show what happened; patient-reported measures help explain whether care felt accessible, respectful, understandable and continuous. Qualitative data should be used to understand failure modes that routine metrics may miss.

For child oral health, the evaluation should include **dmft/DMFT** where proportionate and methodologically valid, drawing on OHID dental epidemiology, NDIP data and demonstrator-linked school or community sampling where feasible. Practice-level data should support pathway monitoring, prevention coverage, recall appropriateness and stabilisation, but should not be asked to substitute for properly designed population epidemiology.

K1.9 Shadow pricing and distributional analysis

Shadow pricing should precede full financial implementation.

During shadow pricing, providers should continue to receive existing contractual payments while also receiving indicative monthly and annual ACV calculations. This allows practices, commissioners, professional bodies and Treasury to understand which provider types gain, lose or require transitional protection before the model affects income.

Shadow pricing should test:

- The distributional effect of Ru
- List-size sensitivity
- Adult-to-child ratio sensitivity
- Patient charge variance
- Prevention-claim patterns
- Ls(P3) exposure
- Urgent-care burden
- High-need practice viability
- Rural, coastal, London and dental-desert operating conditions
- Principal margin
- Associate remuneration
- Therapist and hygienist deployment
- Dental nurse cost and stability
- Premises and financing costs
- Working capital
- Annual reconciliation effect

Shadow pricing should be published in a form that is transparent enough to build professional confidence while protecting commercially sensitive provider information.

K1.10 Administrative parsimony test

Administrative parsimony should be a formal demonstrator test.

The Population Oral Health Contract should collect only the data required for payment, pathway accountability, quality improvement, public reporting and evaluation. Data should be captured once and used many times, drawing wherever possible from routine clinical records, NHSBSA flows, POHR submissions and existing ICB datasets.

The administrative parsimony test should measure:

- Time spent on data entry
- Duplicate reporting
- Manual workarounds
- Coding burden
- Rejected claims
- Software usability
- Staff training requirement
- Effect on appointment time
- Clinician and practice-manager experience
- Whether reporting improves or obstructs care

A model that is financially coherent but administratively unworkable will fail. The demonstrator should therefore treat administrative burden as a core implementation outcome, not a minor operational issue.

K1.11 Prevention-claim verification test

Prevention should be paid for, but payment must follow clinically indicated, delivered and auditable prevention.

The demonstrator should test whether **Pt(d)** can make prevention visible, payable and accountable without generating claim inflation or excessive administrative burden.

Each prevention tariff should have:

- A clear clinical indication
- Pathway-linked eligibility
- Minimum record standards
- Coding requirements
- Patient-facing clarity where relevant
- Sample audit criteria

Verification should use a mixed model: routine data checks, exception reporting, sample audit, patient feedback where appropriate, outlier review and clinical governance review.

The system should test for underuse as well as overuse. Failure to deliver indicated prevention is also a contract failure.

K1.12 CDS, special care and complexity interface test

The dental home should coordinate continuing responsibility. It should not replace Community Dental Services, special care dentistry, sedation services, hospital pathways, Tier 2 services or specialist referral routes.

The demonstrator should therefore test:

- Referral criteria
- Referral appropriateness
- CDS capacity
- Rejected referrals
- Waiting times
- Sedation access
- Domiciliary access
- Return-to-dental-home rate
- Patient and carer experience
- Safeguarding pathways
- Whether general dental practice feels supported rather than overloaded.

The model should not be judged successful if it expands access by transferring unmanageable complexity into settings that are not resourced or governed to hold it safely.

K1.13 Outreach-to-dental-home test

Outreach should be designed as *outreach into a dental home*, not outreach instead of a dental home.

Mobile, domiciliary, care-home, school and community outreach should identify need, deliver appropriate prevention and stabilisation, and connect patients into registered continuing care wherever possible.

The demonstrator should therefore test:

- Outreach contacts
- Pathway allocation following outreach
- Prevention delivered through outreach
- Stabilisation initiated through outreach
- Registration after outreach
- Referral where dental-home registration is not appropriate
- Follow-up completion
- Patient and carer experience
- Whether outreach reduces or reproduces episodic access

Outreach that does not create continuity risks reproducing the same structural failure in a different setting.

K1.14 Dental desert mobilisation test

Dental deserts will not be solved by formula alone. They require contract design, estate, workforce, mobilisation funding, referral pathways and provider confidence to be aligned from the start.

The demonstrator should test whether prospective ACV, revenue bridging and targeted capital support can create sustainable NHS dental capacity in places where historical contracting has failed.

The dental desert test should include:

- Projected versus actual list growth
- Outreach-to-registration conversion
- Urgent-to-continuity conversion
- Workforce recruitment
- Premises readiness
- Equipment and digital infrastructure
- Revenue bridge adequacy
- Capital support requirement

- Provider cash flow
- Patient experience
- Sustainability after the mobilisation phase

Where no commercial provider will enter, the demonstrator should test NHS salaried services, community dental providers, CICs, social enterprises or anchor-provider models.

K1.15 Private use by choice or necessity test

Private dental use should not be interpreted automatically as patient preference.

Some patients choose private dentistry for convenience, aesthetics, materials, appointment availability or continuity. Others use private care because NHS dentistry is unavailable, inaccessible or unable to meet need within a reasonable timeframe.

The demonstrator should therefore test:

- Whether patients have used private dentistry recently
- Why they used private dentistry
- Whether they sought NHS care first
- Whether NHSs care was unavailable
- Whether private use caused financial difficulty
- Whether private treatment was urgent, temporary or definitive
- Whether private use masks unmet NHS need

This distinction matters because private attendance should not be used to infer lower NHS need without understanding whether it reflects choice or necessity.

K1.16 Wider oral-systemic public value test

The wider oral-systemic dividend should strengthen the public value case for reform, but it should not be used to reduce the primary Year 5 NHS dental affordability requirement unless attribution, timing, effect size and budget ownership are independently validated.

The demonstrator should test the periodontal-diabetes pathway first because it has the strongest evidence base, a defined registered population, routinely collected HbA1c outcomes and a plausible co-commissioning route through ICB diabetes pathways.

The wider public value test should include:

- Identification of patients with type 2 diabetes
- Periodontal diagnosis and treatment delivery
- Hba1c linkage where lawful and proportionate
- Diabetes medication and complication-cost signals
- Cvd pathway referral linkage, without claiming mace reduction
- Care-home oral health assessment and aspiration-pneumonia signals
- Oral cancer soft-tissue examination and referral data
- Maternity oral-health referral

- Smi and dental anxiety pathway engagement
- Whether any observed benefits are attributable, traceable, cashable and owned by an identifiable NHS budget

The Treasury proposition is disciplined: do not bank the wider NCD dividend prematurely, but do not ignore it. Build it into the demonstrator evaluation, quantify it through linked data, and use it to inform the Gate 2 national rollout decision.

K1.17 Public reporting

Independent public reporting should be designed from the start. It should report progress honestly without creating crude punitive league tables.

Reports should distinguish:

- Implementation fidelity
- Early process improvement
- Access expansion
- Equity
- Provider viability
- Patient experience
- Administrative burden
- Population health signals
- Avoided-cost signals
- Wider public-value indicators.

Reports should also state clearly what cannot yet be concluded. Public trust will be strengthened by honest uncertainty, not weakened by it.

Reporting should be risk-adjusted and contextualised. A provider serving a high-deprivation, high-disease-burden population should not be compared crudely with a provider serving a lower-risk population without accounting for baseline risk, access barriers and disease burden.

K1.18 Gate decision framework

Gate reviews should be structured around decision, not description.

Each gate should conclude with one of four decisions:

1. **Proceed unchanged** — the element is working as intended and should continue.
2. **Proceed with calibration** — the element is directionally sound but requires adjustment.
3. **Pause and redesign** — the element creates material risk or insufficient evidence.
4. **Stop** — the element is unsafe, ineffective, excessively burdensome or not value-creating.

This framework should apply to the model as a whole and to individual components: Ru, Pt(d), Ls(P3), Uc, Qp, Pc, POHR, prospective ACV, patient charges, outreach and provider payment flow.

The demonstrator should not be judged as a single pass/fail exercise. Its purpose is to identify which elements are ready, which require calibration and which should not be nationalised in their initial form.

K1.19 The final test

The final test of the demonstrator is not whether every assumption in this paper is proved correct. It is whether the Population Oral Health Contract can be improved through evidence while retaining its central architecture.

The model should proceed to national adoption only if the demonstrator shows that it can:

- Price risk more fairly than the UDA contract
- Expand access without destabilising providers
- Fund prevention without creating gaming or bureaucracy
- Convert urgent care into continuity
- Support clinical time, skill-mix and workforce sustainability
- Protect patients from avoidable complexity and charge barriers
- Connect outreach into a dental home
- Support CDS and special care pathways appropriately
- Distinguish private use by choice from private use by necessity
- Generate credible public reporting
- And provide a stronger basis for population oral health improvement than activity counting

The demonstrator is therefore an accountability mechanism. It is the way the paper's proposition becomes a tested public contract rather than an asserted policy preference.

ANNEX L

Evidence Base

Clinical prevention efficacy, oral-systemic disease relationships, NHS contract prototype evaluation, and international comparators — with GRADE quality ratings

ANNEX L Introduction

This annex provides the evidence synthesis underpinning the clinical and commissioning arguments in the main paper. It is organised in four parts: clinical prevention efficacy, with GRADE quality ratings for each intervention; oral-systemic disease relationships, with cross-departmental commissioning implications; NHS dental contract prototype evaluation findings; and international comparators. It does not duplicate the full reference lists carried in each section of the main paper; it provides the evidence quality context that section bibliographies do not.

Evidence quality ratings follow the GRADE framework (Grading of Recommendations Assessment, Development and Evaluation), which classifies evidence as High, Moderate, Low or Very Low based on study design, risk of bias, inconsistency, indirectness, imprecision and publication bias. [1] The ratings below reflect the current state of the evidence as assessed by the author; they are flagged for independent review and should be treated as provisional pending expert assessment.

This annex is structured to support independent review of the evidence quality ratings.

High	Moderate	Low	Very Low
strong confidence that the true effect is close to the estimated effect	moderate confidence; true effect likely close to estimate but may differ	limited confidence; true effect may differ substantially from estimate	very limited confidence; true effect likely to differ substantially

Cross-reference

Sections 01, 02 and 03 of the main paper for the policy and commissioning arguments that draw on this evidence.
Annex A (Probabilistic Framework Primer) for the framework that contextualises how evidence quality affects prior probability estimates and the risk uplift coefficient.
Annex C (Care Pathways) for the prevention episode tariff Pt(d) structure that these evidence rows underpin.
Annex G (Child Prevention Investment Case) for the financial and ROI analysis of child prevention evidence.
Annex I (Oral Health and Systemic NCDs) for the full extended synthesis of the oral health–systemic NCD evidence base, including the Orlandi et al. 2025 cardiovascular surrogate-outcome RCT and the Green Book cross-departmental appraisal.

L.1 Clinical prevention efficacy

Table L.1 summarises the key clinical prevention interventions that are commissioned as prevention episode tariffs Pt(d) under the proposed contract model, with the primary evidence source, the key quantitative finding, the commissioning implication and the GRADE quality rating. Where Cochrane systematic reviews exist they are used as the primary source; where they do not, the best available systematic or narrative review evidence is cited. The OHID Delivering Better Oral Health toolkit (4th edition, 2021) is the current national clinical prevention standard for England. [2]

Reviewer note — for independent assessment

The GRADE ratings for dietary advice (Low) and domiciliary care (Moderate) reflect the strength of current systematic review evidence for these interventions specifically in primary dental care settings. The acclimatisation row has been added to this edition to reflect its commissioning as a Pt(d) activity within Pathway 2; the adult evidence warrants particular scrutiny. Independent reviewer assessment of these ratings, and whether additional evidence warrants upgrading, would strengthen the evidence base for the tariff schedule proposed in Section 2.5 of the main paper.

Table L.1 Clinical prevention efficacy: evidence, commissioning implication and GRADE rating

Intervention	Evidence source	Key finding	Commissioning implication under Pt(d)	GRADE
Fluoride varnish — twice-yearly application in high-risk children	Marinho et al. Cochrane 2013; 22 trials; n=12,455 [3]	33–50% reduction in caries incidence in high-risk children. Greatest effect in non-fluoridated areas. Cost per cavity prevented substantially below cost of restoration.	Prevention episode tariff Pt(d) justified for high-risk children at approximately £18–22 per application. Commissioned at twice-yearly frequency. Target: ≥85% coverage in eligible registered children. (Annex C, P2 pathway.)	High
Fluoride varnish — adults at elevated caries risk	OHID DBOH 4th ed. 2021 Marinho et al. Cochrane 2013; [2,3]	Significant caries reduction in high-risk adults; effect size smaller than in children but clinically meaningful in high-prior populations.	Tariff applicable to adults with confirmed elevated caries risk (active disease, xerostomia, medication effects, high sugar frequency). Risk-stratified through pathway allocation, not universal.	Moderate
Fissure sealants — resin-based, permanent first molars, high-risk children	Ahovuo-Saloranta et al. Cochrane 2017; 38 trials [4]	Up to 80% reduction in occlusal caries over 5 years in permanent first molars. Resin-based superior to glass ionomer for retention and protective effect. Cost per cavity prevented £12–28 vs £75–120 for posterior composite.	Prevention episode tariff of approximately £28–35 per tooth. Eligible: high-risk children, permanent molars, before first carious lesion. Target: ≥75% coverage in eligible registered children by age 7. (Annex C, P2 pathway.)	High
Periodontal treatment — glycaemic control in type 2 diabetes	Simpson et al. Cochrane 2022; 35 trials [5]	Absolute reduction in HbA1c of 0.43 percentage points at 3–4 months. Effect comparable to adding a second oral hypoglycaemic agent. Savings fall in diabetes management budget, not dental budget.	Periodontal stabilisation episode within P2 or P3 pathway; priority for registered T2D patients with BPE ≥3. Co-commissioning with diabetes services at ICB level required. Cross-departmental public value estimate of approximately £190m/year at Year 5, rising to approximately £350m/year at Year 10, treated as supplementary Green Book value and not deducted from the primary affordability bridge. (Section 3.5 and Annex I).	Moderate

Intervention	Evidence source	Key finding	Commissioning implication under Pt(d)	GRADE
Periodontal treatment — cardiovascular surrogate markers	Sanz et al. consensus report 2020; Orlandi et al. 2025 RCT [6,7]	Periodontitis is independently associated with cardiovascular disease. Intensive periodontal therapy has been associated with improvement in vascular surrogate markers, including carotid intima-media thickness and endothelial function. Definitive MACE event reduction is not yet proven.	Periodontal stabilisation is justified on oral health grounds. Cardiovascular benefit should be treated as a supplementary commissioning rationale for shared-risk management and ICB cardiovascular prevention pathways, not as a cashable avoided-event claim.	Moderate for association and vascular surrogate markers; Low for MACE event reduction
Dietary advice and behaviour change — caries prevention	OHID DBOH 4th ed. 2021; NICE PH49 [2,8]	Brief dietary advice in dental setting reduces sugar frequency in high-risk patients. Effect modest in isolation; greatest when combined with fluoride and recall management.	Prevention tariff of approximately £18–25 per episode. Commissioned as part of Active Prevention pathway (P2) for high-caries-risk registered patients. Not warranted at Health Maintenance (P1) level.	Low
Smoking cessation brief intervention — periodontal risk	NICE PH49 [8] ; Taylor et al. systematic review 2014 [9]	Brief dental setting smoking cessation intervention effective at increasing quit attempts. Periodontal outcomes improve with cessation. Combines with standard smoking cessation pathways.	Prevention tariff of approximately £15–20 per episode. Commissioned for tobacco users with BPE ≥3 or elevated periodontal risk. Linkage to NHS Stop Smoking services at ICB level.	Moderate
Domiciliary oral health review — care home residents	CQC Smiling Matters 2023; NICE NG48; Sjögren et al. JAGS 2008 [10,11,12]	Structured oral health care in care homes reduces plaque, periodontal disease and aspiration pneumonia risk. CQC 2023: 25% of care homes unable to access NHS dental care. NICE NG48 requires oral health assessment in care planning.	Domiciliary prevention tariff of approximately £85–120 per visit. Minimum quarterly review per contracted care home. Staff training, care plan integration and denture maintenance specified. Cross-departmental aspiration pneumonia reduction (Annex I, I.4).	Moderate

Intervention	Evidence source	Key finding	Commissioning implication under Pt(d)	GRADE
Acclimatisation — nervous and avoidant patients	Gordon et al. J Anxiety Disord. 2013 [13]	Structured acclimatisation and cognitive behavioural approaches reduce dental anxiety in children and adults. Multiple appointments and familiarisation protocols improve treatment acceptance and continuity. Effect well-evidenced in children; adult evidence more limited.	Acclimatisation commissioned within Pathway 2 (Active Prevention) as an access-enabling intervention. Funded through Pt(d) where delivered and recorded. Essential for nervous, avoidant patients and those with significant additional needs. See Annex C (Care Pathways) for full specification.	Low-Moderate
Soft tissue examination and oral cancer detection	NICE NG12; Cancer Research UK; Warnakulasuriya [14-16]	Oral cancer: approximately 8,800 new cases/yr in England; 5-year survival 55% overall but >80% if detected at stage 1 (currently ~32–35% of cases). Dental examination is the primary clinical opportunity for early mucosal detection of potentially malignant disorders and early cancer.	Soft tissue examination commissioned as part of base capitation scope for every registered patient. POHR should include soft tissue examination completion rate as a process KPI. Two-week-wait referral tracked through pathway data. Quality premium should include stage-at-diagnosis signal as a long-term outcome KPI. See Annex I (NCDs)	Moderate (detection opportunity; stage-shift benefit well-evidenced)
Childsmile (Scotland) — population-level targeted prevention programme	Public Health Scotland evaluation 2023; ISD Scotland data [17]	Childsmile has been associated with improved child oral health and reduced socio-economic inequalities over time, with national evaluations showing increased proportions of children with no obvious decay experience and narrowing deprivation-related gaps. Positive ROI confirmed by independent economic modelling.	Most directly comparable UK evidence for a commissioned population prevention programme at scale. Commissioned prevention episodes in England should be expected to produce measurable caries reduction over a 10-year contract term. See Annex G (Child Prevention Investment Case).	Moderate

L.2 Oral-systemic disease relationships

The relationship between oral disease and systemic health has moved from broad association to a more developed clinical and epidemiological evidence base across several disease areas. The strength of evidence varies by condition: it is strongest for periodontal disease and type 2 diabetes, moderate for aspiration pneumonia and severe mental illness, and more cautious for adverse pregnancy outcomes and frailty. The cross-departmental commissioning implications are substantial: investments in dental prevention that reduce periodontal disease, infection burden and systemic inflammation generate savings that fall primarily outside the dental budget. This is one of the strongest arguments for NHS-wide rather than dental-specific evaluation of the Population Oral Health Contract's public value.

Cross-reference

Annex I (Oral Health and Systemic NCDs) for the full extended synthesis of each condition below, including commissioning pathway specifications, financial estimates, evidence quality discussion and the Green Book cross-departmental appraisal framework.

The cross-departmental valuation problem

Many rows in Table L.2 represent potential NHS or wider public-sector value that falls outside the dental budget The dental contract generates the prevention investment; the benefit is captured in cardiology, diabetes, respiratory, maternity and social care budgets. No current NHS accounting framework captures this cross-departmental value. Until it does, dental prevention will be systematically undervalued by any analysis that looks only at the dental budget line.

Reviewer note — for independent assessment

The cardiovascular evidence has been updated in this edition to include the Orlandi et al. 2025 European Heart Journal RCT, which provides the first high-quality interventional evidence of vascular benefit from intensive periodontal therapy. The MACE event reduction evidence remains Low–Moderate, as definitive large-scale event-driven RCT data are not yet available. The adverse pregnancy outcome evidence remains the weakest in this table (Low GRADE). Independent reviewer assessment of the GRADE ratings and the appropriateness of the NHS cost offset assumptions is recommended before the cross-departmental figures are presented in a Treasury Green Book submission.

Table L.2 Oral-systemic disease relationships: evidence, commissioning implication and GRADE rating

Systemic condition	Oral disease link	Key evidence	NHS commissioning implication	GRADE
Type 2 diabetes	Bidirectional: periodontitis worsens glycaemic control; diabetes worsens periodontal outcomes	Simpson et al. Cochrane 2022: −0.43% HbA1c absolute at 3–4 months (35 RCTs, n=3,249; moderate certainty). [5]	Periodontal stabilisation in T2D patients may generate diabetes-management public value where treatment improves glycaemic control. The revised supplementary Green Book estimate is approximately £190m/year at Year 5, rising to approximately £350m/year at Year 10. These benefits are cross-departmental and should not be deducted from the primary NHS dental affordability requirement before demonstrator validation.	Moderate
Cardiovascular disease	Periodontitis is independently associated with cardiovascular disease and adverse cardiovascular risk profiles after adjustment for shared risk factors.	Sanz et al. J Clin Periodontol 2020 consensus: independent association confirmed. [6] Orlandi et al. Eur Heart J 2025 RCT: intensive periodontal therapy reduced carotid intima-media thickness and improved endothelial function in patients with severe periodontitis. [7] RR for MACE 1.24 (95% CI 1.15–1.34) in a 2023 meta-analysis of prospective studies [18].	Periodontal management may improve inflammatory and vascular surrogate markers. Co-commissioning with cardiovascular prevention pathways is justified as an integrated risk-management opportunity. Event reduction should not be modelled as a cashable avoided-cost offset.	Moderate (association and vascular mechanism); MACE -low
Adverse pregnancy outcomes	Periodontitis associated with preterm birth and low birth weight	Polyzos et al. 2009 reported reduced preterm low birth weight in eligible studies. [19] Evidence is mixed across subsequent large RCTs, including the OPT trial. [20]	Antenatal dental care commissioned as maternity pathway component. Savings fall in neonatal and maternity budgets. Evidence justifies enhanced access commissioning; formal periodontal-maternity pathway not yet supported (see Annex I, I.5).	Low
Aspiration pneumonia	Poor oral hygiene increases aspiration pneumonia risk in older adults and care home residents	CQC 2023 reported that 25% of care-home providers were unable to access NHS dental care. [10] Sjögren et al. 2008 found structured oral hygiene was associated with reduced pneumonia incidence in institutionalised older adults. [12] Azarpazhooh and Leake 2006 support the association between oral health and respiratory disease [21].	Care home oral health pathway directly reduces aspiration pneumonia risk. Savings fall in respiratory, acute and geriatric budgets. Strongest cross-departmental public value argument for care home dental commissioning. (Annex I, I.4.)	Moderate

Systemic condition	Oral disease link	Key evidence	NHS commissioning implication	GRADE
Severe mental illness	People with SMI have significantly higher rates of caries, tooth loss and periodontal disease	Kisely et al. Psychosom Med 2015: systematic review and meta-analysis confirming substantially elevated oral disease burden in SMI [22]. Mechanism: antipsychotic xerostomia; reduced self-care; access barriers.	SMI prevention pathway and acclimatisation within Pathway 2 directly address this population. Co-commissioning with community mental health teams essential. Annex E Group 8 (charge protection) and Annex I, I.7.	Moderate
Frailty and nutritional status	Poor oral health impairs chewing, swallowing and nutrition in older adults, contributing to frailty	Multiple observational studies; NICE NG48 guidance on care home oral health. [11] Causal pathway from oral disease to frailty trajectory is plausible; RCT evidence limited.	Domiciliary oral health pathway and care home commissioning support nutritional intake and dignity. Frailty pathway co-commissioning should include oral health as an assessed domain.	Low

L.3 NHS dental contract prototype evaluation

NHS England's dental contract prototype programme operated from 2011 to 2019, testing alternative contractual models in a subset of practices across England. The prototypes moved away from pure UDA activity counting towards models incorporating capitation, prevention commitments and outcome monitoring. They were not a full test of the Population Oral Health Contract proposed in this paper: there was no risk uplift coefficient, quality premium, ten-year term or explicit responsibility for a registered population. They nevertheless provide the closest available English evidence of how clinical behaviour changes when the financial incentive shifts from restorative activity towards prevention and continuing care [23].

The prototype findings are directionally consistent with the model's central hypothesis: when the contractual signal changes, clinical behaviour follows. The evaluation reported increased delivery of preventive interventions, more systematic clinical assessment and movement towards longer recall intervals for lower-risk patients, with less clustering around the conventional six-month norm [23]. The evidence should, however, be treated as implementation evidence rather than proof of improved population outcomes. The prototypes were not randomised, involved self-selecting practices, did not test the full contract architecture proposed here and did not operate for long enough to determine whether changes in professional behaviour translated into sustained reductions in caries, extractions, periodontal instability or urgent demand.

Recall periodicity provides a particularly relevant example of the relationship between contractual incentives, clinical risk and capacity. NICE has recommended personalised adult recall intervals of between three and 24 months since 2004 [24]. The subsequent INTERVAL randomised controlled trial found no clinically meaningful advantage from universal six-month recall over personalised risk-based recall. Among adults considered clinically suitable, it also found no disadvantage from a 24-month interval; approximately 30% of trial participants were assessed as eligible for that longer recall period [25,26].

Despite this evidence, NHS England's current quality-improvement data demonstrate substantial variation in implementation. Among adults with no new decay and a Basic Periodontal Examination score of 0 or 1, the proportion assigned a recall interval of at least 12 months ranges from less than 5% to more than 60% between practices [27]. These administrative indicators do not capture every clinical, behavioural or social factor that may justify a shorter interval, and the data cannot establish that every recall within 12 months is inappropriate. The scale of the variation nevertheless indicates that recall periodicity is not consistently aligned with recorded risk.

> **Cross-reference**
>
> *Annex C (Care Pathways) for the current model's prevention episode tariff Pt(d) structure, which develops the prototype prevention payment elements into a fully specified commissioning architecture.*

Table L.3 NHS dental contract prototype evaluation: findings and commissioning implications

Finding	Source	Magnitude	Commissioning implication
Increase in fluoride varnish application	NHS England prototype evaluation 2019 [23]	Significant increase vs control group UDA practices; specific % varies by site.	Prevention episode tariff activates latent clinical capacity; clinicians respond to financial signal when it aligns with clinical evidence.
Increase in fissure sealant placement	NHS England prototype evaluation 2019 [23]	Increase observed; strongest effect in practices with higher deprivation populations.	Risk-stratified prevention tariff more likely to reach high-need children when commissioned explicitly than when assumed within treatment bands.
Increase in periodontal charting completion	NHS England prototype evaluation 2019 [23]	Marked increase in BPE completion; baseline compliance under UDA contract was poor.	Structured periodontal assessment requires explicit commissioning requirement; BPE not reliably completed when time pressure prioritises treatment UDAs.
Recall interval distribution and risk alignment	NHS England prototype evaluation 2019; NICE CG19; INTERVAL trial; NHS England recall guidance and quality-improvement data [23–27]	Prototype practices moved towards longer recall intervals for lower-risk patients, with less clustering around the conventional six-month interval. NICE permits adult recall intervals of three to 24 months according to individual risk. The INTERVAL trial found no clinically meaningful benefit from fixed six-month recall compared with personalised risk-based recall and found no disadvantage from 24-month recall among suitable adults. NHS England now reports substantial practice variation: among adults with no new decay and BPE 0 or 1, the proportion assigned a recall of at least 12 months ranges from less than 5% to more than 60%.	Risk-stratified recall is both a clinical and capacity-allocation mechanism. Longer intervals for suitable low-risk patients can release capacity for patients with active disease, urgent need or no continuing dental home. The proposed contract should monitor alignment between recorded risk and recall interval, rather than prescribe a uniform interval.
Patient registration continuity	NHS England prototype evaluation 2019 [23]	Higher proportion of patients with continuous relationship vs control group; reduced ‘shopping’ behaviour.	Registered population model produces continuity benefit even without formal population responsibility requirement; full model should amplify this.

This matters because the NHS dental access problem is not solely one of insufficient capacity. Where lower-risk patients are reviewed more frequently than their clinical risk requires, routine appointments carry a material opportunity cost. A contract that supports active population-risk management can enable suitable patients to be reviewed less frequently without compromising outcomes, while redirecting the released capacity towards patients with active disease, urgent need or no continuing dental home. The commissioning requirement is not a uniform extension of recall intervals, but demonstrable alignment between individual risk, recall periodicity and the subsequent use of clinical capacity.

The most important evidential gap remains population health outcomes. The prototype programme demonstrated that professional behaviour can respond to a changed financial signal, but it did not establish whether those changes produce measurable improvements in oral health at population scale. The ten-year term proposed for the Population Oral Health Contract is designed to create the conditions in which that question can be answered. The independent evaluation commissioned during demonstrator design should therefore establish locked baselines from go-live in Q3 2028 and measure changes in disease, access, continuity, urgent demand, equity and patient experience over time.

The Year 5 review is the earliest point at which a credible population-health signal is likely to be detectable. The national demonstrator programme, locked baseline measures and independent evaluation are therefore essential components of the proposed reform rather than optional additions. They provide the means to determine whether changes in contractual incentives alter not only clinical behaviour, but also the distribution of care and the oral-health outcomes experienced by the population.

Reviewer note — for independent assessment

The prototype evaluation programme produced internal NHS England reports rather than peer-reviewed publications. The findings cited here are drawn from published summary materials; full site-level data access would require an NHS England data sharing agreement. An independent reviewer with access to the prototype site data would be well placed to assess the strength, limitations and applicability of the prototype evidence to the commissioning case made in Section 02 of the main paper.

L.4 International comparators

England does not commission NHS dental care in isolation. The prevention-led, risk-stratified model proposed in this paper sits within a wider international pattern: high-income health systems are increasingly recognising that dental access, affordability and prevention cannot be solved through activity volume alone.

The comparator evidence reviewed in Appendix L1 does not suggest that England should copy a single international model. Rather, it identifies recurring design choices that are directly relevant to NHS dental reform: whether children's oral health is commissioned as infrastructure; whether adult entitlement is operationally real or only nominal; whether urgent

care leads to stabilisation; whether public subsidy follows need; whether the whole dental team is used effectively; and whether outcomes are measured through disease risk, prevention and continuity rather than activity alone.

> ***Cross-reference***
> *See Appendix L1 for the detailed comparator review, including Scotland's Childsmile programme, the British Army recruit dental model, Denmark, the Netherlands, Malta, Portugal, New Zealand and international economic modelling.*
> *See Annex H for the international cost comparison using Dunleavy et al. 2024 and the economic implications of the UK's high lifetime caries management cost. See Annex I for the wider non-communicable disease evidence and cross-departmental disease cost argument.*

L4.1 The comparator evidence in summary

The international evidence divides into three categories.

First, there are direct prevention programme comparators, of which Scotland's Childsmile remains the most relevant UK example. Childsmile demonstrates that population prevention, delivered systematically through nurseries, schools, primary care and targeted community support, can improve child oral health and narrow inequalities over time [17]. Its relevance to England is immediate: prevention works when it is commissioned as infrastructure, not merely recommended as advice.

Second, there are system-design comparators. Denmark, the Netherlands, Malta, Portugal and New Zealand each illustrate a different configuration of public entitlement, private provision, subsidy and prevention. Denmark shows the strength of proactive child oral health infrastructure and the need for equity-sensitive adult subsidy. The Netherlands shows the risk of excluding routine adult dentistry from the core public benefit package. Malta shows the limitation of residual public dentistry centred on emergencies and children. Portugal shows both the potential and limitations of targeted vouchers and public-private purchasing. New Zealand shows the Commonwealth warning that a strong child and adolescent entitlement can coexist with major adult affordability barriers if there is no meaningful transition into adult public care. The detailed comparator evidence is set out in Appendix L1.

Third, there are international economic modelling studies that support the financial case for moving away from reactive, activity-led care. Dunleavy, Kebschull, Chapple et al. modelled lifetime caries-management costs across six countries and found that the UK had the highest estimated per-person lifetime caries-management cost among the six countries studied, with the greatest potential prevention dividend in the most deprived groups [28]. This should be read as a modelling estimate, not an observed NHS expenditure figure. The comparison is valuable for scale and direction, but the comparator countries differ materially in income level, dental unit costs, service utilisation and restorative treatment intensity. The UK's high estimated cost therefore reflects both preventable disease burden and the cost structure of a high-income dental care system; it should not be presented as a direct accounting measure of current NHS dental expenditure.

Peres, Jin, Nascimento et al. modelled global periodontal healthcare expenditure to 2050 and found that a capitation-informed scenario moderated expenditure growth compared with fee-for-service expansion at equivalent coverage levels [29]. This evidence is systems-level modelling and policy analysis, not direct proof that the proposed English Annual Contract Value model will achieve the same expenditure profile. Its relevance is directional: it supports the proposition that capitation-informed, prevention-oriented incentives can moderate cost escalation when coverage expands.

Together, these sources support the proposition that prevention-led, population-based dental commissioning is not a theoretical abstraction. It is an emerging direction of travel across comparable systems and is supported by economic modelling, public health evidence and service-design experience.

L4.2 Read-across to the Probability to Prevention model

The comparator evidence underpins the core components of the Population Oral Health Contract.

Registered population responsibility.

Denmark's municipal child dental system and New Zealand's child and adolescent entitlement show the value of a defined population approach. England's current UDA model does not create responsibility for a population; it purchases activity from historical contract holders. The Population Oral Health Contract therefore uses registered population responsibility as the organising principle for access, recall, prevention and accountability.

Risk-weighted Annual Contract Value.

Denmark's adult subsidy reform, Portugal's targeted dental voucher system and New Zealand's targeted hardship support all show that public funding can be directed towards priority groups. However, they also show that targeting alone is insufficient unless embedded in a wider pathway of continuity and prevention. The proposed Annual Contract Value therefore combines a base population payment with risk uplift, prevention tariffs, urgent session capacity and a quality/outcomes premium.

Child oral health infrastructure.

Scotland, Denmark, Portugal and New Zealand all demonstrate that children's oral health is best protected through proactive public infrastructure. The Population Oral Health Contract therefore includes child registration, supervised prevention, fluoride varnish, fissure sealants, family and school-linked pathways, and direct routes into dental homes.

Transition from child to adult care.

New Zealand is particularly instructive because it demonstrates the risk of an age cliff-edge. A publicly funded child and adolescent entitlement can be undermined if young adults then fall into a private-payment system. The Population Oral Health Contract therefore includes transition pathways for high-risk young adults, especially those in deprivation, care-experienced young people, and patients with ongoing disease.

Urgent-to-stabilisation pathways.

Malta and New Zealand demonstrate the limits of emergency-only or hardship-based adult provision. Urgent care is necessary, but it must not become the endpoint of public dental care. The Population Oral Health Contract treats urgent access as a gateway into assessment, stabilisation, prevention and continuing care.

Equity-sensitive exemptions and patient charge reform.

Denmark's vulnerable-group reforms, Portugal's targeted eligibility groups and New Zealand's adult affordability gap all support the need for patient charge reform. In England, exemptions should be aligned with clinical risk, deprivation, disability, complexity and public health need, not only historic benefit categories.

Whole-team delivery.

Denmark and New Zealand both illustrate the importance of the wider dental team, including hygienists, dental therapists and oral health therapists. The Population Oral Health Contract therefore commissions clinical time and prevention capacity across the full dental team, rather than relying solely on dentist-delivered activity.

Data, outcomes and accountability.

The strongest comparator systems make population need and programme outcomes visible. The Population Oral Health Contract therefore shifts reporting from activity alone to risk, recall, prevention delivered, stabilisation achieved, urgent episodes converted to continuing care, patient-reported outcomes and equity impact.

L4.3 The international picture

The UK is not alone in facing dental access pressures, affordability barriers, disease inequality and workforce constraints. However, it is increasingly unusual in combining a broad nominal public entitlement with an activity-based dental contract that does not adequately commission prevention, continuity, population responsibility or risk management.

The international evidence does not prescribe a single solution. It does, however, confirm the central thesis of this paper: the future of NHS dentistry cannot be secured by expanding units of activity within the existing model. It requires a different commissioning architecture.

The lessons from the comparators are clear. Prevention must be commissioned, not merely encouraged. Public subsidy must follow risk, not historic activity. Urgent care must lead to stabilisation. Children need proactive oral health infrastructure. Adult entitlement must be operationally real. The whole dental team must be used. Data must measure disease probability, prevention and outcomes, not just throughput.

These lessons underpin the Probability to Prevention model described in the main paper and Annexes A–J. The Population Oral Health Contract is not an abstract capitation argument. It is a practical commissioning framework for replacing activity purchase with registered population responsibility, risk-adjusted funding, prevention-led care and accountable outcomes.

L.5 Risk uplift coefficient (Ru): factor justification and evidence base

The four Ru weightings are not an arbitrary split of 100%. Each factor's share reflects the strength and directness of its evidence base: deprivation carries the majority weighting (50%) because it is the most extensively validated, multi-pathway predictor of oral disease; fluoridation and local caries prevalence are each weighted at 20% as strong but narrower-pathway factors; historic urgent/unscheduled demand is weighted lowest (10%) as a practice-level behavioural signal rather than a direct population risk measure. The evidence supporting each is set out below.

Table L.5.1 Deprivation (IMD) — 50% weighting

Evidence source	Key finding	GRADE
English Indices of Multiple Deprivation, MHCLG [30]	Standard national deprivation measure; used throughout NHS planning as the primary population risk proxy.	—
Dunleavy, Kebschull, Chapple et al., BMC Public Health, 2024 [28]	International cost-modelling study establishing the economic and clinical burden gradient across deprivation deciles.	High
OHID NDEP, Oral Health Survey of 5-year-old children 2021/22 [31]	Children in the most deprived areas almost 3 times as likely to have decay experience as those in the least deprived (35.1% vs 13.5%).	High

Table L.5.2 Water fluoridation status — 20% weighting

Evidence source	Key finding	GRADE
Iheozor-Ejiofor et al., Cochrane Database Syst Rev, 2015 [32]	Median 35% reduction in dmft, 26% reduction in DMFT in fluoridated vs non-fluoridated areas.	High
OHID, Water Fluoridation: Health Monitoring Report for England, 2022 [33]	Dose–response relationship between water fluoride concentration and child caries prevalence.	Moderate
Academy of Medical Sciences, evidence synthesis, 2025 [34]	No consistent effect across deprivation quintiles specifically in 3-year-olds — basis for weighting fluoridation as independent of, not a substitute for, deprivation.	— (counter-evidence, included for balance)

Table L.5.3 Local caries prevalence (NDIP) — 20% weighting

Evidence source	Key finding	GRADE
OHID NDEP, Oral Health Survey of 5-year-old children 2021/22 [31]	Direct area-level measure of realised disease experience, updated biennially.	High
—	Limitation: lagging indicator, calibrated on 5-year-olds rather than the full registered population.	—

Table L.5.4 Historic unscheduled/urgent demand — 10% weighting

Evidence source	Key finding	GRADE
NHSBSA, Urgent dental care statistics 2023/24 [35]	Practice-level signal of unmet preventive need.	Moderate
—	Limitation: partly a function of access rather than need; lowest weighting reflects this.	—

Reviewer note — for independent assessment

The weighting ratio (50/20/20/10) is derived from the relative strength and directness of the evidence above, not from statistical optimisation against outcome data — that optimisation is a task for the demonstrator, not this annex. Section K1.6 (Gate reviews) already commits to reviewing Ru using updated IMD and OHID data at each Gate; this should be read as extending to the weighting ratio itself, not only the factor values within it. Independent reviewer view on whether the evidence justifies this specific ratio, rather than a materially different one, would strengthen the case for accepting it as a starting position for demonstrator testing.

Sources [28] and [30]–[35] are added to the Annex L reference list below. Sources [28] and [31] are also cited elsewhere in this Annex.

L.6 Notes on comparator status

The comparator countries reviewed in Appendix L1 are included as system-design comparators, not as direct evidence that the proposed English model will produce identical outcomes. Their relevance is directional and architectural. They show how different systems handle child entitlement, adult affordability, public-private delivery, targeted subsidy, prevention and urgent care.

Denmark and the Netherlands are included as indicative international comparators rather than primary evidence anchors. Their relevance is illustrative: both demonstrate that recall interval management, prevention orientation and registered-population thinking are operationally feasible in dental systems outside the English UDA model.

The Dunleavy, Kebschull, Chapple et al. evidence should be treated as economic modelling, not as an observed expenditure dataset [28]. Its value is that it demonstrates the scale, direction and deprivation gradient of avoidable caries-related cost. The six-country

comparison does not fully remove differences in national income, dental unit costs, access to restorative care or treatment intensity. It should therefore support the policy argument for prevention and risk-weighted commissioning but should not be used as a direct measure of current NHS dental spend or as a standalone cashable saving.

Similarly, the Peres, Jin, Nascimento et al. modelling should be treated as systems-level policy analysis, not direct proof that the proposed English Annual Contract Value model will achieve the same expenditure profile [29]. Its relevance is that it supports the proposition that capitation-informed, prevention-oriented incentives can moderate cost escalation when coverage expands. English demonstrator data will still be required to test population health outcomes, provider behaviour, patient experience, affordability and value for money in practice.

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APPENDIX L1

International Comparator Evidence

A comparator review — Scotland (Childsmile) Scotland, British Army, Denmark, the Netherlands, Malta, Portugal, New Zealand

L1.0 Introduction

This appendix supports Annex L.4 International comparators by setting out the detailed comparator evidence for:

- Scotland's Childsmile programme;
- the British Army recruit dental model;
- five country comparators: Denmark, the Netherlands, Malta, Portugal and New Zealand;
- international economic modelling evidence relevant to prevention, risk and financial sustainability.

The purpose is not to suggest that England should copy any single system. The purpose is to identify the system-design lessons that recur across comparable models and to show how those lessons support the Probability to Prevention model described in the main paper and Annexes A–J.

The comparator evidence is used in three ways:

- to demonstrate that prevention-led dental systems are operationally feasible;
- to show the risks of separating adult dentistry from meaningful public entitlement;
- to support the proposed move from activity purchase to registered population responsibility, risk-adjusted funding, prevention-led care and accountable outcomes.

L1.1 Comparator framing

Dental systems differ substantially between countries and service contexts. Some provide strong public dental services for children but leave adult dentistry largely to household payment. Some rely on insurance. Some use vouchers or targeted public purchasing. Some provide emergency-only public adult dental care. Some have strong prevention programmes

but limited adult coverage. Defence dentistry operates within a defined occupational population, where dental fitness, readiness and deployability are explicit system outcomes.

Despite these differences, the comparators reviewed here illuminate a common set of policy choices:

- whether children's oral health is treated as proactive public health infrastructure;
- whether adult entitlement is operationally real or only nominal;
- whether public subsidy follows need, vulnerability and disease risk;
- whether urgent care leads to stabilisation and continuity;
- whether prevention is commissioned and paid for, rather than merely advised;
- whether the whole dental team is used effectively;
- whether system performance is measured through activity or through risk, disease control, continuity and outcomes;
- whether dental care is understood as a contributor to wider public value, including readiness, productivity, education, employment and reduced downstream service demand.

These choices are directly relevant to England. The current NHS dental contract purchases units of activity from historic contract holders. It does not create sufficient responsibility for a registered population, does not systematically weight funding by disease probability or deprivation, and does not consistently commission prevention, stabilisation or continuity as the core outputs of public dental care.

The comparator evidence therefore supports the central contention of this paper: the future of NHS dentistry cannot be secured by expanding activity within the existing model. It requires a different commissioning architecture.

L1.2 Scotland: Childsmile as the closest UK prevention comparator

SC	**Scotland — Childsmile** *UK prevention programme comparator* | *Population-level prevention delivered at scale* | *Most directly relevant domestic evidence*

Although not an international comparator, Scotland's Childsmile programme is included because it is the most directly relevant UK example of population-level prevention delivered at scale.

Childsmile is a national oral health improvement programme for children. It combines universal and targeted measures, including nursery and school-based toothbrushing, fluoride varnish, oral health promotion, distribution of dental packs and targeted support for children and families at higher risk. It was introduced in response to poor child oral health and significant inequalities in dental disease.

The programme has been evaluated as a national, system-wide intervention that has improved children's oral health and reduced inequalities. The Scottish Government's review of 25 years of preventive interventions describes Childsmile as having generated measurable oral health improvements and cost savings for NHS Health Boards. [1] Public Health Scotland also describes Childsmile as a national programme designed to improve children's oral health and reduce inequalities. [2]

Relevance to the Population Oral Health Contract

Childsmile demonstrates that prevention works when it is commissioned as infrastructure. Its relevance to England is immediate. It shows that caries prevention requires more than clinical advice given during dental attendance. It requires organised delivery through early years settings, schools, primary care, families and targeted outreach.

Read-across to Probability to Prevention — Scotland / Childsmile

- proactive child oral health infrastructure
- supervised brushing and fluoride-based prevention
- targeted additional support for deprived communities
- prevention delivery outside the surgery
- population-level accountability for child oral health
- the principle that prevention should be commissioned, resourced and evaluated

For England, Childsmile supports the proposed move from passive child entitlement to proactive child oral health pathways linked to dental homes, schools, family hubs and community settings.

L1.3 British Army: recruit dental model

MOD

British Army

A UK service-system comparator for early intervention, dental fitness and readiness

Although not an international comparator, the British Army recruit dental model provides an important UK service-system comparator for the Probability to Prevention model. It demonstrates that changing the strategy for dental care provision in a defined population can improve downstream dental fitness, reduce adverse events and protect wider organisational capability.

The original service redesign was described by Hurley and Tuck in 2007. At that time, the dental health of the British Army had been reported as declining, with increasing numbers of recruits entering training with outstanding dental treatment need. The existing approach prioritised resources towards recruits with the worst dental fitness, while others received emergency care only. Hurley and Tuck argued for a shift from a vertically equitable model to a horizontally equitable model, whereby all recruits would receive routine dental care during training. The analysis found that more than 85% of recruit dental treatment need

could be met by providing up to two hours of routine dental treatment during recruit training. [3]

This change is directly relevant to the Population Oral Health Contract because it reframed dental care from episodic response to risk management. The aim was not simply to treat disease when it became urgent, but to reduce the future probability of dental emergencies, improve dental fitness and protect operational readiness. In NHS terms, this is an early example of commissioning dental care around a defined population, predictable risk and downstream system impact.

The later evaluation by Armstrong and Dermont provides important outcome evidence. Their retrospective cohort analysis examined UK Armed Forces recruits who enlisted in 2011 and assessed whether completion of the prevention-focused intervention, Project MOLAR, reduced adverse dental outcomes. The study included 7,361 recruits and 31,957 person-years of follow-up. Completion of Project MOLAR was associated with a 30% reduction in dental emergency incidence and a 64% reduction in the odds of DMFT increase at 18 months, compared with incomplete treatment. [4]

Relevance to the Population Oral Health Contract

The British Army recruit model is important because it demonstrates seven principles that underpin the Probability to Prevention proposal.

First, it shows the value of a defined cohort. Recruits were not treated as isolated attendances. They were a known population entering a system at a predictable point, with measurable risk and measurable future consequences. This aligns with the Population Oral Health Contract's emphasis on registered population responsibility.

Second, it shows that early intervention can reduce downstream adverse outcomes. The intervention took place before personnel entered the trained strength of the Armed Forces, where dental emergencies could compromise operational effectiveness. This directly parallels the NHS case for intervening before dental disease becomes urgent, complex or costly.

Third, it shows that horizontal equity can be more effective than narrow crisis targeting. The previous model focused resources on those with the worst dental status. The redesigned model gave all recruits access to routine care during training. This is highly relevant to NHS dentistry, where the system risks concentrating on urgent pain while failing to stabilise the wider at-risk population.

Fourth, it shows that small amounts of planned clinical time can manage substantial risk. Hurley and Tuck found that more than 85% of treatment need could be addressed with up to two hours of routine dental care during training. This supports the proposal's use of sessional capacity and prevention and stabilisation tariffs to manage disease risk proactively.

Fifth, it shows that prevention must include treatment completion and stabilisation, not only oral health advice. Project MOLAR was prevention-focused, but it was not limited to education. It addressed outstanding treatment need, reduced future emergency risk and limited disease progression.

Sixth, it demonstrates the importance of system outcomes beyond the dental surgery. In Defence, the relevant outcome was not simply treatment delivered. It was dental fitness, deployability, reduced emergency incidence and preserved operational capability. In the NHS, the equivalent outcomes include reduced urgent demand, fewer antibiotic prescriptions, fewer avoidable A&E attendances, improved school and work participation, and reduced future treatment complexity.

Seventh, it demonstrates that service redesign can be evaluated longitudinally. The Armstrong and Dermont analysis linked intervention completion to future dental emergencies and DMFT progression. This supports the Population Oral Health Contract's requirement for longitudinal outcome reporting, not simply activity measurement.

Read-across to Probability to Prevention — British Army

- registered population responsibility, using a defined cohort rather than episodic attendance
- early risk identification and intervention, before disease becomes urgent or operationally disruptive
- urgent-to-stabilisation logic, replacing emergency-only response with planned completion of care
- horizontal equity, ensuring the whole cohort receives appropriate routine care rather than only the worst cases receiving priority attention
- commissioned clinical time, showing that planned care capacity can reduce future adverse outcomes
- prevention as stabilisation, not merely advice
- outcome measurement, including dental emergencies, disease progression and wider system impact
- public value, because the benefit is realised beyond the dental appointment itself

For England, the lesson is clear. A prevention-led dental model should not wait for patients to present repeatedly in pain. It should identify populations at predictable risk, intervene early, complete stabilisation and measure downstream outcomes. The British Army experience shows that this is operationally feasible within a UK system and that the benefits can be measured over time.

L1.4 Denmark: prevention-led child infrastructure and equity-sensitive adult reform

DK

Denmark

Strong European child prevention model | *Provider incentive evidence* | *Equity-sensitive adult subsidy reform*

Denmark has one of the strongest European examples of a municipal, prevention-led public dental service for children and young people. Cross-national analysis of oral health coverage systems confirms Denmark's child dental programme as a reference model for universal public provision. [5] Child oral healthcare is delivered through municipalities and includes preventive and curative care. The European Observatory describes Danish child oral

healthcare as a local government responsibility, with access to free preventive and curative care as a legal obligation. [6]

Adult dentistry is different. Adults generally receive care from private dental practitioners, with regional subsidies applying to a range of diagnostic, preventive and basic services. Recent Danish policy analysis notes that adult subsidies usually cover between 15% and 65% of the dentist's fee, depending on treatment type and age. [6] Denmark has recognised that adult dental subsidy arrangements can still leave affordability and equity problems. Recent reform proposals seek to simplify adult subsidies, improve affordability, support financially vulnerable groups, improve price transparency and make greater use of dental hygienists. [6]

Denmark is also relevant because reforms to provider incentives have been studied in relation to risk-based recall and prevention orientation. Gabel et al. found that altered provider incentives changed recall behaviour in the intended direction, supporting the proposition that contract and payment design can redirect clinical time according to risk. [7]

Relevance to the Population Oral Health Contract

Denmark supports three core elements of the Probability to Prevention model.

First, it supports the concept of child oral health as public infrastructure. The Danish model does not rely solely on families finding a dentist. It gives municipalities responsibility for children's oral health and links prevention, treatment, local delivery and data.

Second, it supports risk-sensitive subsidy. Denmark's adult reform direction recognises that subsidy alone is not necessarily equitable if the people with greatest need are least able to access care.

Third, it supports the principle that provider incentives can shape recall and prevention behaviour. This is directly relevant to replacing a volume-based UDA model with a contract that rewards risk-based recall, prevention and stabilisation.

Read-across to Probability to Prevention — Denmark

- registered population responsibility, especially for children and high-risk groups
- risk-weighted contract value
- risk-based recall
- prevention episode tariffs
- equity-sensitive charge reform
- skill-mix, including hygienists and therapists
- the use of contract incentives to redirect capacity towards need

For England, Denmark strengthens the case that prevention-led dentistry is not merely a clinical aspiration. It can be embedded in public responsibility, subsidy design and provider incentives.

L1.5 The Netherlands: clear child entitlement, adult exclusion and the risk of de facto privatisation

NL

The Netherlands

Cautionary comparator | *Adult dental exclusion from statutory insurance* | *Evidence of coverage reduction on attendance*

The Netherlands has a universal statutory health insurance system, but routine adult dental care is largely excluded from the basic benefits package. Children and young people under 18 receive broad dental coverage through statutory insurance. Adults generally rely on supplementary private insurance or direct payment, with exceptions for specific medically necessary care. [8]

The European Observatory notes that adult dental care is not part of the Dutch basic benefits package and that attempts to reintroduce dental care into the package have repeatedly been unsuccessful. [9]

Evidence from the Netherlands suggests that reductions in public dental coverage are associated with lower dental attendance. A 2025 study reported that reduced public coverage led to fewer people visiting the dentist, with an immediate drop in attendance among affected adults followed by further annual decline. [10]

Relevance to the Population Oral Health Contract

The Netherlands is a cautionary comparator. It shows that a strong general primary care and insurance system does not, by itself, guarantee equitable adult dental access if routine adult dentistry sits outside the core public benefit package.

England still formally maintains a broad NHS dental entitlement, but the operational reality is that many adults cannot access NHS dentistry. If this gap persists, England risks drifting towards a Dutch-style adult model without making an explicit policy decision to do so.

The Dutch lesson is therefore not that England should remove adult dentistry from public entitlement. It is that entitlement must be honest, funded and operationally deliverable.

Read-across to Probability to Prevention — The Netherlands

- replacing nominal entitlement with deliverable access
- registered population responsibility
- adult risk-based recall
- urgent-to-stabilisation pathways
- patient charge reform
- outcome-based commissioning
- clear measurement of access, affordability and continuity

For England, the Dutch comparator reinforces the risk of allowing public adult dentistry to become residual by default.

L1.6 Malta: residual public dental care and the limits of emergency-only provision

MT

Malta

Residual public dental model | *Emergency-only adult provision* | *Cautionary comparator for system contraction*

Malta has a tax-funded national health system, but dental care is only partially included in the public offer. The 2024 Malta health system summary states that dental care is not covered except for emergencies and children. [11] Malta's 2025 Country Health Profile similarly states that elective dental care is typically subject to out-of-pocket payment or financial means testing for public coverage, while emergency dental care and some specific care modalities are fully covered. [12]

Malta is therefore a useful comparator for a residual public dental model. It shows the policy consequences of separating dentistry from the wider promise of universal healthcare. A system may retain emergency dental care, child provision and limited eligible-group support, but routine adult care becomes largely a private household responsibility.

Relevance to the Population Oral Health Contract

Malta's relevance to England is cautionary. If NHS dentistry continues to contract in practice, England could move towards a residual public dental model in which public care is primarily for emergencies, children and selected vulnerable groups.

Emergency care is necessary, but it is not sufficient. A system that treats urgent care as the endpoint rather than the entry point into stabilisation will continue to recycle avoidable need.

Read-across to Probability to Prevention — Malta

- urgent care as a gateway, not an end state
- sessional commissioning for urgent and stabilisation capacity
- pathways from pain relief to definitive care and prevention
- protection against the residualisation of NHS dentistry
- recognition of the wider public costs of emergency-only provision.

For England, Malta reinforces the argument that urgent access must be linked to assessment, stabilisation, prevention and continuing care.

L1.7 Portugal: targeted vouchers, prevention programmes and public-private purchasing

PT

Portugal

Cheque-dentista targeted voucher model | *National prevention programme* | *Partial entitlement and unmet need data*

Portugal has a universal National Health Service, the Serviço Nacional de Saúde, but routine dental care is only partially integrated into public healthcare. Its most distinctive mechanism is the cheque-dentista, or dental voucher, which gives eligible groups access to defined dental care through participating providers. Eligible groups include children and young people, pregnant women, older people receiving specified social support, people with HIV/AIDS and patients with suspected oral cancer lesions. [13]

Portugal's National Oral Health Promotion Programme combines public health prevention with targeted public purchasing. It includes preventive measures such as fluoride toothpaste, school-based interventions, fluoride varnish, fluoride rinsing and fissure sealants. [14]

However, Portugal also demonstrates the limits of partial entitlement. The 2025 Portugal health system summary reported unmet dental care need of 8.7% in 2023, one of the highest rates in the EU. Unmet need was much higher among the poorest households, at 19.3%, compared with 1.4% among the richest households, and was driven mainly by cost. [15]

Relevance to the Population Oral Health Contract

Portugal is relevant because it demonstrates the potential of targeted public purchasing. Public commissioners can define eligible groups, specify care pathways and contract with providers to deliver defined dental care.

However, Portugal also shows that targeted vouchers are not, on their own, a complete dental system. If adult entitlement remains too narrow, unmet need persists, particularly among poorer households.

Read-across to Probability to Prevention — Portugal

- targeted access supplements
- prevention tariffs
- public-private delivery under public specification
- life-course prevention
- targeted pathways for children, pregnant women, older adults and medically vulnerable groups
- data-led monitoring and evaluation

For England, Portugal supports the use of targeted commissioning tools, but only as part of a broader model of registered population responsibility, continuity and prevention.

L1.8 New Zealand: strong child and adolescent entitlement, but an adult affordability cliff-edge

NZ

New Zealand

Commonwealth comparator | *Child/adolescent entitlement* | *Major adult affordability barrier* | *Age cliff-edge risk*

New Zealand provides a highly relevant Commonwealth comparator. Its general health system is publicly funded, but dental care is treated differently from most other healthcare. Basic oral healthcare is publicly funded for children and adolescents until their 18th birthday. Younger children are generally cared for through community oral health services, while adolescents receive free basic dental care through contracted dentists, oral health therapists or dental therapists. [16]

Adult dentistry is markedly different. Most adults pay privately for dental care. Public support exists for some groups and circumstances, including people with low incomes, Community Services Cards, disability or specified medical conditions, and emergency or essential dental treatment support through Work and Income. [17] This is targeted assistance within a predominantly private adult dental market, not a comprehensive adult dental entitlement.

New Zealand Health Survey data show the scale of the affordability problem. In 2023/24, 44.9% of adults reported unmet need for dental care due to cost. This barrier was more likely to be reported by Māori, Pacific peoples, disabled adults, people living in the most deprived neighbourhoods and adults aged 25–54. [18] The 2024/25 survey continued to show a high cost barrier, with 43.0% of adults avoiding dental care because of cost. [19]

Relevance to the Population Oral Health Contract

New Zealand is highly relevant because it shows that a strong child and adolescent dental entitlement can coexist with major adult affordability barriers.

The policy risk is an age cliff-edge. If care is free and proactive until 18 but then becomes largely private, the system may lose the gains achieved in childhood. Young adults with disease risk, deprivation, disability or poor access can fall out of prevention and return later with greater complexity.

Read-across to Probability to Prevention — New Zealand

- child and adolescent oral health infrastructure
- therapist-led prevention and routine care
- the need for structured transition pathways for young adults, a gap New Zealand's own system exposes rather than a feature it currently delivers
- targeted financial protection, but not as a substitute for adult entitlement
- the case for urgent-to-stabilisation pathways — an area New Zealand's own system does not yet deliver well, reinforcing rather than modelling the argument
- risk-weighted commissioning
- public-private delivery under public specification

- equity monitoring

For England, New Zealand strengthens the case for linking child oral health infrastructure to adult risk-based recall, targeted exemptions, stabilisation and registered population responsibility.

L1.9 International economic modelling evidence

The country comparators show how dental systems are organised. The economic modelling evidence shows why the commissioning architecture matters.

Dunleavy, Kebschull, Chapple et al. modelled the longitudinal economic burden of dental caries by deprivation status across six countries. The study found that the UK had the highest estimated per-person lifetime caries management cost, approximately US$22,910, or around £18,000. It also found that preventive measures could generate the greatest savings among the most deprived groups, with the UK showing particularly high potential prevention dividends. [20]

Peres, Jin, Nascimento et al. modelled global periodontal healthcare expenditure to 2050. Their analysis compared current utilisation, expanded fee-for-service coverage and capitation-informed expansion. The capitation-informed scenario was associated with moderated expenditure compared with fee-for-service expansion at equivalent coverage. [21]

Relevance to the Population Oral Health Contract

These modelling studies do not prove that the proposed English Annual Contract Value model will achieve the same expenditure profile. Their relevance is directional and strategic.

They support the proposition that reactive, treatment-led systems carry substantial long-term cost, particularly in deprived groups, and that prevention-oriented, capitation-informed models can moderate cost escalation when coverage expands.

Modelling evidence — scope and limitations
The Dunleavy et al. and Peres et al. modelling studies provide systems-level and directional evidence, not proof that the proposed English ACV model will achieve identical expenditure outcomes. Their relevance is strategic: they support the case for prevention-led, risk-weighted commissioning. English demonstrator data will be required to test population health outcomes, provider behaviour, affordability and value for money in practice. The figures cited here (£18,000 per-person lifetime caries cost; 30% capitation expenditure reduction) should be used as comparative context in policy analysis, not as primary quantitative claims in a Treasury Green Book submission without further independent verification.

L1.10 Synthesis: lessons for England

The comparator evidence points to a consistent conclusion. Public dental systems fail when they rely on nominal entitlement, episodic attendance, household payment and activity-based incentives. They perform better when they make prevention, entitlement, targeting, affordability and accountability explicit.

Lesson 1: Children need public oral health infrastructure

Scotland, Denmark, Portugal and New Zealand all demonstrate the value of proactive child and adolescent oral health programmes. England should not rely solely on children

attending dental practices. The Population Oral Health Contract therefore includes child registration, prevention recall, school and family pathways, fluoride-based prevention, fissure sealants and linkage into dental homes.

Lesson 2: Defined populations enable risk management

The British Army recruit model demonstrates the value of a known cohort entering a system at a predictable point, with measurable treatment need and measurable downstream consequences. This is directly relevant to NHS dentistry. A population cannot be managed for prevention if the system has no responsibility for that population. The Population Oral Health Contract therefore places registered population responsibility at the centre of the contract architecture.

Lesson 3: Adult entitlement must be operationally real

The Netherlands, Malta and New Zealand show the consequences of leaving adult dentistry substantially outside the public system. England risks moving in this direction by default if NHS dentistry remains formally available but practically inaccessible. The Population Oral Health Contract therefore retains adult NHS entitlement but makes it deliverable through registered population responsibility, risk-based recall, targeted subsidy and commissioned capacity.

Lesson 4: Emergency care must lead to stabilisation

Malta and New Zealand demonstrate the limits of emergency-only or hardship-based adult provision. The British Army model also shows that planned stabilisation reduces later adverse outcomes. England needs urgent access, but urgent care should be the beginning of a pathway, not the end. The Population Oral Health Contract funds urgent sessions alongside stabilisation, prevention and continuity, so patients move from pain relief to disease control.

Lesson 5: Public subsidy must follow risk, not historic activity

Denmark's adult subsidy reform, Portugal's voucher model and New Zealand's targeted hardship support all show that public funding can be directed to priority groups. The limitation is that targeting alone does not create a complete dental system. The proposed Annual Contract Value therefore combines a base population payment with risk uplift, prevention episode tariffs, urgent sessional capacity and a quality and outcomes premium.

Lesson 6: Prevention must be commissioned, not merely encouraged

Scotland, Denmark, Portugal and New Zealand all embed prevention within public or publicly contracted programmes. The British Army model adds an important operational point: prevention must include early identification, treatment completion and stabilisation, not only oral health advice. The Population Oral Health Contract makes prevention a paid and auditable component of care, including fluoride varnish, fissure sealants, periodontal stabilisation, smoking cessation, diet advice, supervised brushing, oral health literacy and risk-based recall.

Lesson 7: The whole dental team is essential

Denmark, Portugal and New Zealand all support greater use of hygienists, therapists, oral health therapists and wider dental teams. England's model should make full use of the whole dental team. This is central to productivity, prevention, access and affordability.

Lesson 8: Data must move from activity to probability, risk and outcomes

The strongest comparator lessons are not only about coverage. They are about accountability. The British Army model demonstrates longitudinal evaluation of dental emergencies and disease progression; Childsmile demonstrates population-level programme evaluation; and the international comparators show the importance of measuring affordability and unmet need. The Probability to Prevention model therefore requires longitudinal patient-level and population-level reporting: disease risk, attendance, prevention delivered, stabilisation achieved, urgent episodes converted to care plans, recall interval, oral health outcomes, patient-reported outcomes and equity impact.

L1.11 Read-across into the Population Oral Health Contract and Annexes A–J

Table L1.1 Read-across from comparator evidence into the Population Oral Health Contract and Annexes A–J

Proposed model component	Comparator evidence	Implication for England
Registered population responsibility	British Army recruit cohort; Denmark's municipal child system; New Zealand's child/adolescent entitlement; Scotland's Childsmile infrastructure	Move from episodic UDA delivery to responsibility for a defined population
Risk-weighted Annual Contract Value	Denmark's subsidy reform; Portugal's targeted voucher groups; New Zealand's adult affordability gap; Army recruit risk management	Fund need, deprivation, complexity and vulnerability, not simply activity
Prevention episode tariffs	Scotland, Denmark, Portugal, New Zealand and Project MOLAR	Pay explicitly for fluoride varnish, fissure sealants, periodontal stabilisation, treatment completion and risk-based recall
Urgent-to-stabilisation pathway	Malta's emergency-focused public offer; New Zealand's emergency hardship support; Army reduction in dental emergencies	Treat urgent care as a front door into continuing care
Equity-sensitive exemptions	Denmark's vulnerable-group reform; Portugal's targeted eligibility; New Zealand's low-income support	Reform patient charges around clinical and social risk
Child oral health infrastructure	Scotland, Denmark, Portugal and New Zealand	Build proactive child pathways linked to schools, families and dental homes
Transition from child to adult care	New Zealand's age 18 cliff-edge	Protect high-risk young adults from falling out of preventive care

Workforce skill-mix	Denmark's hygienist reform direction; New Zealand's oral health therapy model	Commission therapists, hygienists and wider dental teams as core capacity
Public-private delivery under public specification	Portugal's voucher model; New Zealand's contracted adolescent providers	Allow mixed delivery, but with public rules, pathways, outcomes and accountability
Data and outcomes	Army longitudinal evaluation; Childsmile programme evaluation; Denmark's population approach; Portugal's programme monitoring	Replace activity-only metrics with risk, stabilisation, prevention and outcome measures
Demonstrator ICBs	All comparators show that system design matters	Test the model in selected ICBs before national adoption

L1.12 Conclusion

The comparator evidence does not suggest that England should copy a single dental system. It suggests something more important: dental entitlement must be designed deliberately.

The central lesson

Public dental care delivers greatest value when it is organised around people, risk and time — not isolated treatment episodes. The strongest comparator systems identify a defined population, intervene before disease becomes crisis, complete stabilisation, protect vulnerable groups, and measure outcomes beyond activity. That is the shift England now needs: from purchasing dentistry to commissioning dental fitness, prevention and public value.

The comparators do not show that any single country has solved the dental access, affordability and prevention challenge. They show something more useful: systems perform better when they are designed deliberately — when prevention is commissioned as infrastructure, entitlement is made operationally real, subsidy is directed by risk, and success is measured through coverage, equity, disease control and long-term health improvement rather than activity alone. England can draw on these lessons without copying any single model. The task is to build a commissioning architecture that makes prevention possible, access accountable and public dental value measurable.

The individual country lessons are summarised in Annex L.4.1 and are not repeated here. Read across all seven systems together, the fuller evidence in this appendix shows a consistent divide rather than a checklist: entitlement produces access only where it is paired with routine capacity, defined recall and measurable stabilisation, not where a card, voucher or subsidy exists on paper alone. Denmark's child scheme and the British Army's recruit model succeed because entitlement is operationally real, not merely eligible. The

Netherlands' and Malta's experience shows the same principle holding in reverse, for adult care left residual or under-designed. None of the seven systems transfers to England unmodified; each operates within its own tax base, workforce supply and political settlement. Their combined value is not as a template but as evidence that the design choices proposed in this paper — registered responsibility, risk-weighted funding, prevention paid as a distinct tariff, and outcomes measured beyond activity — are the same choices that separate the comparator systems that work from those that do not.

Together, these lessons underpin the Probability to Prevention model. The Population Oral Health Contract is not a marginal adjustment to the 2006 contract. It is a different commissioning logic: one that starts with probability of disease, weights public funding by risk, pays for prevention and stabilisation, uses the whole dental team, protects vulnerable groups, and measures outcomes rather than activity alone.

The read-across is clear. If England wants an NHS dental system that is equitable, preventive, affordable and deliverable, it must move beyond UDA-based activity purchase and towards registered population responsibility, risk-adjusted funding, prevention-led care and accountable outcomes.

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Glossary of Terms

Principal terms, abbreviations and concepts used across From Probability to Prevention

This glossary explains the principal terms, abbreviations and concepts used across From Probability to Prevention. It is intended for readers from different backgrounds including policymakers, commissioners, clinicians, academics, professional bodies, patient representatives and members of the public. Terms appear in alphabetical order. Cross-references in bold direct readers to related entries.

2

Term	Definition
2006 contract	The current NHS dental contract introduced in England in 2006. It replaced fee-per-item remuneration with annual contract values linked to Units of Dental Activity (UDAs) and simplified patient charges into three treatment bands. The paper argues that this architecture rewards activity rather than prevention, continuity or population health outcomes.

A

Term	Definition
A&E dental attendances	Emergency department attendances coded with a primary dental diagnosis. The paper treats avoidable dental A&E attendances as part of the directly attributable dental and near-dental avoided-cost pool to be tested through demonstrator evaluation.
Access	The ability of patients to obtain NHS dental care when needed. In this paper, access means more than an appointment: it means entry into assessment, prevention, stabilisation and continuing care.
Acclimatisation	Structured support for nervous, avoidant or traumatised patients to help them tolerate dental assessment, prevention or treatment. In the Population Oral Health Contract, acclimatisation is a legitimate access

	and prevention intervention commissioned through Pt(d), not optional goodwill.
Activity-based contract	A contract that pays for units of work delivered, such as courses of treatment or UDAs, rather than for prevention, outcomes or responsibility for a defined population.
ACV **Annual Contract Value**	The proposed annual value of a reformed NHS dental contract for a provider, calculated as ACV = (Bc x Rp x Ru) + Pt(d) + Ls(P3) + Uc(r) + Uc(a) + Qp - Pc. It combines risk-weighted capitation, delivered prevention tariffs, Pathway 3 laboratory support, urgent care capacity, quality reward and patient charge deduction, reflecting registered population size, disease risk and delivered prevention.
AMR — Antimicrobial Resistance	The development of microbial resistance to antimicrobial medicines, including antibiotics. The paper treats reduced avoidable antibiotic prescribing as a clinical, sustainability and public value benefit of definitive dental care and urgent-to-continuity conversion.
Avoided cost pool	The conservative Year 5 avoided NHS cost pool used in the primary investment bridge. It is limited to directly attributable dental and near-dental NHS costs: GA extractions, dental A&E attendances, emergency admissions and avoidable prescribing. It is modelled at £115m at Year 5.
Avoided costs	Costs the NHS or wider public sector may avoid because disease is prevented, stabilised earlier or managed in a lower-cost setting. Wider periodontal-systemic, productivity, education, sustainability and AMR benefits are treated as supplementary Green Book public value unless independently validated as cashable.

B

Term	Definition
Band 1, Band 2 and Band 3 charges	The current NHS dental patient charge bands. Band 1 covers examination and simple care; Band 2 includes routine treatment such as fillings and extractions; Band 3 includes complex treatment such as crowns, dentures and bridges. The Population Oral Health Contract replaces treatment bands with care pathways.

Bayesian prior	The starting estimate of disease probability before new clinical information is added. For commissioning, the prior reflects expected population disease burden using measurable factors such as deprivation, fluoridation status, local caries prevalence and urgent demand.
Bayesian reasoning	A formal way of updating an estimate of probability as new evidence becomes available: start with what is already known, interpret new evidence in context, and revise the risk estimate. The paper applies this clinical logic to commissioning.
Bc **Base capitation**	The national base payment per registered patient per year. It funds ordinary responsibilities of registered NHS dental care: assessment, diagnosis, risk-based recall, routine maintenance, simple restorative care, basic periodontal care, urgent care for registered patients and referral coordination.
BDA — British Dental Association	The professional association and trade union for dentists in the UK. The paper engages with BDA concerns on contract reform, sustainability, professional trust, workforce and provider viability.
BPE — Basic Periodontal Examination	A standardised screening tool for periodontal health. BPE completion for registered adults is a proposed core process KPI under the Population Oral Health Contract.

C

Term	Definition
CAMBRA	Caries Management by Risk Assessment. A structured clinical framework for assessing individual caries risk and determining preventive and restorative management. The Population Oral Health Contract uses a CAMBRA-informed approach to pathway allocation.
Capitation	A payment made per person rather than per item of treatment. In this proposal capitation is risk-weighted through Ru, linked to a registered list, supplemented by delivered prevention tariffs and subject to quality and outcome measures.
Care home oral health review	A structured oral health assessment and prevention review for care home residents, aligned with NICE NG48 and the proposed domiciliary/frailty pathway.

Care pathway	A structured route through care based on need, risk and clinical purpose. The Population Oral Health Contract uses P1 Health Maintenance, P2 Active Prevention, P3 Routine Restorative and Tier 1 Stabilisation, and P4 Tier 2/3 Complex and Enhanced Care.
Caries	Dental decay. The paper treats caries as a preventable disease process and uses international economic modelling to show the high lifetime cost of reactive caries management.
Charge exemption	A statutory or policy-based exemption from NHS dental patient charges. The paper argues for targeted extension of exemptions and charge protection where charging deters prevention or stabilisation and increases downstream public cost.
Charge protection	A policy mechanism that prevents patient charges from deterring clinically necessary prevention or stabilisation. It may be delivered through statutory exemption or through a commissioned waiver in demonstrator contracts.
Childsmile	Scotland's national child oral health improvement programme, combining universal and targeted prevention including toothbrushing, fluoride varnish, dental packs and family support. It is treated as the closest UK population-prevention comparator.
Commissioner	The NHS body responsible for planning, purchasing and monitoring services for a population. In this paper, Integrated Care Boards (ICBs) are the primary local commissioners for NHS dental services.
Conservative avoided NHS cost offset	The £115m Year 5 offset included in the primary affordability bridge. It excludes wider benefits unless those benefits are independently evidenced, attributable, timed and budget-owned.
Continuing responsibility	The obligation of a dental provider to remain responsible for a registered patient's oral health over time, not only during a single course of treatment. It is a founding principle of the dental home model.
Core20PLUS5	An NHS England framework for reducing health inequalities. Core20 refers to the most deprived 20% of the population; PLUS to locally identified inclusion groups; 5 to priority clinical areas. The paper uses it to frame targeted exemptions and prevention.
Cost of not reforming	The counterfactual fiscal and public value exposure associated with retaining the current contract. It includes avoidable hospital dental

	activity, A&E attendances, emergency admissions, prescribing, undeployed dental funding and deferred treatment complexity.
COT **Course of treatment**	A completed episode of NHS dental care under the current contract, recorded and charged through the NHSBSA. The Population Oral Health Contract moves away from COTs as the main commissioning unit.
Cross-departmental public value	Benefits of dental prevention that accrue outside the dental budget, for example in diabetes, respiratory, maternity, mental health, education, productivity, social care and sustainability domains.

D

Term	Definition
DBOH **Delivering Better Oral Health**	The evidence-based toolkit for oral health prevention in England. It informs the prevention interventions commissioned through Pt(d).
Demonstrator programme	The proposed time-limited national programme to test the full Population Oral Health Contract architecture in selected ICBs before national adoption. It should include independent evaluation, locked baselines and gate reviews.
Dental Charges Regulations	The statutory framework governing NHS dental patient charges and exemptions. The paper proposes pathway-aligned charge reform and targeted exemption or charge-protection amendments.
Dental desert	A locality where NHS dental access is materially insufficient relative to population need. The paper proposes prospective ACV commissioning and access hubs for dental deserts.
Dental home	A named NHS dental practice responsible for a registered patient's oral health trajectory, recall, prevention, urgent care access and coordination with specialist or enhanced pathways.
Dental therapist	A GDC-registered dental professional able to deliver prevention and specified clinical care within scope and competence. The Population Oral Health Contract depends on whole-team delivery, with therapists and hygienists deployed to full scope under appropriate governance.
DHSC	The UK Government department responsible for health and social care policy in England, including NHS dental commissioning policy and the

Department of Health and Social Care	statutory framework for patient charges and exemptions. This paper is submitted to DHSC for independent review and policy consultation.
Dmft / DMFT	A standard epidemiological measure of dental caries experience: decayed, missing and filled teeth. Lowercase dmft is usually used for primary teeth; uppercase DMFT for permanent teeth.
Domiciliary dental care	Dental care delivered to patients who cannot reasonably attend a dental surgery, including frail older adults, care home residents and patients with disability or severe mobility limitation.

E

Term	Definition
ESPAUR	The English Surveillance Programme for Antimicrobial Utilisation and Resistance. It is relevant to the paper's antimicrobial stewardship and avoidable prescribing arguments.
Exemption framework	The system that determines which patients are exempt from NHS dental charges. The paper proposes a prevention-value test to identify groups for targeted extension or charge protection.

F

Term	Definition
FP17	The NHS dental claim form used to record courses of treatment and patient charge data. The Population Oral Health Contract would require NHSBSA systems to move beyond FP17 activity counting toward POHR and ACV component reporting.

G

Term	Definition
GA extractions	Dental extractions carried out under general anaesthesia, often in hospital. The paper treats avoidable child decay-related GA extractions as a high-cost, high-carbon signal of contract failure and a key evaluation outcome.

Gate 1	The first major demonstrator review point, focused on implementation fidelity, data readiness, provider participation and early access/process change rather than mature population health outcomes.
Gate 2	The Year 5 national adoption decision point. Gate 2 should test outcome direction, affordability, provider viability, patient charge behaviour, public value signals and readiness for national rollout.
Gate reviews	Formal contract and programme review points at years 3, 5, 7 and 10. They provide accountability, recalibration and decisions on continuation, scaling, retendering or national adoption.
GDC **General Dental Council**	The statutory regulator for dentists and dental care professionals in the UK. GDC registration and scope-of-practice rules underpin the whole-team, skill-mix delivery model proposed under the Population Oral Health Contract.
GDS **General Dental Services contract**	The standard NHS dental contract form introduced under the 2006 framework. The paper argues that national adoption of the replacement model will require review of the GDS regulatory framework.
GIRFT **Getting It Right First Time**	A quality improvement principle focused on reducing unwarranted variation, repeat care and avoidable failure. In this paper, durable care and reduced failed restoration cycles are linked to quality and sustainability.
GRADE	Grading of Recommendations Assessment, Development and Evaluation. A framework for rating evidence quality as High, Moderate, Low or Very Low. Annex L applies provisional GRADE ratings to the evidence base.
Green Book	HM Treasury's appraisal and evaluation guidance. The paper uses Green Book logic to distinguish directly attributable NHS offsets, wider public-sector benefits and long-term public value that is not yet cashable.
Gross ACV	The full calculated contract value before deduction of patient charge income through Pc.

H

Term	Definition

HbA1c	A measure of average blood glucose over approximately the previous two to three months. Periodontal treatment in people with type 2 diabetes is associated with a mean HbA1c reduction of about 0.43 percentage points in the Cochrane evidence.

I

Term	Definition
ICB **Integrated Care Board**	The statutory NHS body responsible for commissioning health services for a local population. ICBs are central to the proposed reform because they hold local population need, access and integration responsibilities.
ICB readiness	The capability of an ICB to commission the reformed dental contract safely, including population needs assessment, data infrastructure, provider market intelligence, clinical leadership, patient engagement and evaluation capacity.
ICDAS / ICCMS	International Caries Detection and Assessment System / International Caries Classification and Management System. Frameworks for staging caries and supporting prevention-oriented management.
IMD — Index of Multiple Deprivation	The official small-area deprivation measure for England. IMD is weighted at 50% in the proposed Ru coefficient because deprivation is a strong predictor of oral disease burden and access failure.
Inverse care law	Tudor Hart's principle that the availability of good medical care tends to vary inversely with the need of the population served. The paper argues that the current UDA contract entrenches an inverse care pattern in NHS dentistry.

K

Term	Definition
KPI — Key Performance Indicator	A specified metric used to assess access, prevention, quality, equity, continuity or outcomes. KPIs underpin the quality premium and demonstrator evaluation.

L

Term	Definition

Ls(P3) **Pathway 3 laboratory supplement**	A case-linked, item-specific and NHSBSA-auditable supplement for qualifying external laboratory costs incurred within Pathway 3 care, such as crowns, dentures or indirect restorations where clinically necessary. It is not a general complexity supplement, not a locality adjustment and not part of the quality premium base.

M

Term	Definition
MACE **Major Adverse Cardiovascular Events**	A composite cardiovascular outcome measure, typically including myocardial infarction, stroke and cardiovascular death. The paper treats MACE event reduction from periodontal treatment as unproven and not suitable for cashable modelling.

N

Term	Definition
NASDAL	The National Association of Specialist Dental Accountants and Lawyers. Its benchmarking data informs practice cost and profitability assumptions in the ACV modelling.
NCD **Non-Communicable Disease**	A long-term condition not passed from person to person, such as type 2 diabetes, cardiovascular disease, chronic respiratory disease or severe mental illness. The paper treats oral-systemic links as supplementary Green Book public value unless validated as cashable.
NDIP **National Dental Epidemiology Programme**	OHID's programme for population oral health survey data, including five-year-old caries prevalence. NDIP data provides the local caries prevalence variable in Ru.
Net genuinely new public investment	The additional public investment remaining after separating real-terms inflation restoration and conservative avoided NHS cost offsets from the gross NHS increase. The controlling Year 5 figure in the paper is £951m.
Net NHS contribution / commitment	The NHS commissioner payment after patient charge income is deducted from Gross ACV through Pc. It is the correct figure for comparing NHS dental expenditure across time periods and reform scenarios.

NHS Dental Transformation Fund	A proposed ring-fenced implementation fund to support practice mobilisation, ICB commissioning capacity, NHSBSA data infrastructure, workforce transition and independent evaluation. It should be treated as an explicit implementation requirement.
NHS111	The NHS non-emergency telephone and online service. The Population Oral Health Contract designates NHS111 as the single point of access for unregistered urgent dental patients during transition.
NHSBSA **NHS Business Services Authority**	The NHS arm's-length body responsible for processing NHS dental claims, collecting patient charge income, publishing dental statistics and administering relevant dental payment systems. Under the Population Oral Health Contract it would support ACV component reporting, POHR, Pt(d), Ls(P3), Uc and Pc reconciliation.
NIHR **National Institute for Health and Care Research**	The primary funder of health research in England. The paper recommends that NIHR commission the independent evaluation of the demonstrator programme.

O

Term	Definition
OHID **Office for Health Improvement and Disparities**	The DHSC body responsible for public health improvement and health disparities. OHID publishes NDIP data and the Delivering Better Oral Health toolkit used in the model.
Oral-systemic Non-Communicable Disease pathway	A commissioning pathway linking oral health intervention with systemic disease management, for example periodontal stabilisation for people with type 2 diabetes or care-home oral health programmes for aspiration pneumonia risk.
Outcome-based commissioning	Commissioning that pays for, monitors or rewards outcomes such as improved health, reduced disease, better access or reduced inequalities rather than only activity delivered.

P

Term	Definition

Pathway 1 — P1 Health Maintenance	The proposed care pathway for stable, lower-risk patients requiring assessment, risk-based recall and routine maintenance. Appropriate recall extension for P1 patients releases clinical capacity for higher-need groups.
Pathway 2 — P2 Active Prevention	The pathway for patients at elevated caries or periodontal risk who require structured prevention, behaviour change support, acclimatisation or closer recall. Follow-on prevention within P2 is charge-free to the patient.
Pathway 3 — P3 Routine Restorative and Tier 1 Stabilisation	The pathway for patients with active disease requiring routine restorative care, stabilisation or basic periodontal management within general dental practice. Qualifying external laboratory costs are supported through Ls(P3).
Pathway 4 — P4 Tier 2/3 Complex and Enhanced Care	The pathway for enhanced, specialist or Tier 2/3 care beyond routine general practice. The specialist element is separately commissioned; the registered dental home remains responsible for referral identification, preparation, outcome tracking and return-to-practice management.
Pc **Patient charge deduction**	The element of the ACV formula that deducts expected patient charge income from Gross ACV to calculate the Net NHS contribution. Patient charges are not additional income on top of the NHS contract.
PDS **Personal Dental Services agreement**	A more flexible NHS dental contractual form than the standard GDS contract. The demonstrator model is intended to make maximum use of PDS-style powers and local variations before national regulatory change.
Periodontal disease / periodontitis	Disease affecting the gums and supporting tissues of the teeth. Periodontitis is associated with tooth loss and has evidence-based links with type 2 diabetes and cardiovascular risk markers.
POHR **Population Oral Health Return**	The proposed structured reporting return through which practices would report registered population, pathway distribution, prevention delivery, recall compliance, urgent-to-continuity pathway performance and outcome measures.
Population Oral Health Contract	The prevention-led, risk-weighted replacement model for the 2006 NHS dental contract proposed in this paper. It is built around registered population responsibility, the Annual Contract Value formula, a four-pathway care model and a staged demonstrator and assurance route.

Population responsibility	The principle that a provider is accountable for the oral health of a defined group of registered patients, not only for treatment delivered to those who attend.
Posterior probability	The updated estimate of disease probability after clinical findings, risk assessment results or new population evidence have been considered.
Pt(d) **Prevention episode tariff**	A separate payment for defined preventive interventions actually delivered and recorded. Tariffed interventions include fluoride varnish, fissure sealants, periodontal stabilisation, dietary advice, smoking cessation support, domiciliary prevention, oral health promotion and acclimatisation. Pt(d) episodes are charge-free to the patient.
Prototype contracts	NHS dental contract reform prototypes that tested alternatives to the UDA system. The paper treats them as implementation evidence that behaviour changes when prevention is remunerated, not as proof of population outcomes or a complete replacement architecture.
Public value	A benefit to patients, the NHS, wider public services or society that may not be immediately cash-releasing to the dental budget. Examples include improved access, reduced inequality, productivity, school attendance, AMR stewardship and sustainability.

Q

Term	Definition
Qp **Quality premium**	A proposed payment of up to 12% of the capitation and core prevention sub-total (Bc x Rp x Ru + Pt(d)), linked to agreed KPIs. Ls(P3), Uc(r) and Uc(a) are excluded from the premium base.

R

Term	Definition
Recall interval	The planned time between routine dental assessments. Under the Population Oral Health Contract, recall intervals are determined by clinical risk rather than habit or activity incentives.
Registered list	The formally recorded group of patients for whom a practice has accepted continuing NHS dental responsibility. It is the denominator for base capitation, risk adjustment, prevention coverage and contract-level quality and improvement assessment.

Registration	A formal, consented relationship between patient and practice that creates continuing responsibility for oral health over time. It is distinct from the current NHS access statistic based on patients seen within 24 months.
Risk stratification	Categorising patients or populations according to probability of disease, deterioration or future treatment need. It underpins pathway allocation, prevention targeting, recall interval setting and Ru.
Rp **Registered population**	The number of patients formally registered with a provider. Rp is the denominator for base capitation, risk adjustment, pathway distribution, prevention coverage and quality measurement.
Ru **Risk uplift coefficient**	The adjustment applied to base capitation to reflect population disease probability. Ru is calculated from deprivation (IMD, 50%), water fluoridation status (20%), local caries prevalence (20%) and historic urgent demand (10%).
Routine restorative care	Dental treatment such as fillings, simple extractions and basic restorations that can usually be provided within general dental practice. It mainly sits within Pathway 3.

S

Term	Definition
Stabilisation	Treatment and prevention designed to bring active disease under control, arrest deterioration and reduce future complexity. Stabilisation may move patients from P3 toward P2 over time, where clinically appropriate.
Sustainability dividend	Environmental and resource benefits from prevention-led dentistry, including reduced travel, waste, materials use, theatre activity, repeat restoration cycles and avoidable antibiotic prescribing. These benefits are public value unless independently quantified and attributed.

T

Term	Definition
T2D **Type 2 diabetes**	A long-term metabolic condition characterised by insulin resistance and raised blood glucose. The paper uses periodontal-T2D evidence as the strongest oral-systemic commissioning example, with supplementary

	Green Book value estimated at about £190m per year at Year 5 and £350m per year at Year 10.
Tier 1 care	Dental care normally provided within general dental practice by an appropriately trained team. It includes most routine assessment, prevention, stabilisation and restorative work.
Tier 2/3 care	More complex, enhanced or specialist dental care requiring additional skills, facilities or separate commissioning beyond routine general practice. It is handled through Pathway 4 or separate enhanced/specialist pathways.
Treatment band	The current NHS dental charging and payment structure based on Band 1, Band 2 and Band 3 courses of treatment. The Population Oral Health Contract replaces treatment bands with care pathways.

U

Term	Definition
Uc mechanism	The urgent-care mechanism for unregistered patients during transition, comprising Uc(r), the access retainer, and Uc(a), the per-attendance payment. Registered patients' urgent care is funded through the dental home obligation within Bc x Rp x Ru.
Uc(a) **Urgent care attendance payment**	A per-attendance payment for unregistered urgent patients. The NHS pays the net rate: the gross per-attendance value less any patient charge collected.
Uc(r) **Urgent care access retainer**	A fixed annual payment to maintain urgent access capacity for unregistered patients during transition. It is set by the ICB according to local urgent demand and provider role.
UDA **Unit of Dental Activity**	The unit of measurement used in the current NHS dental contract in England. UDAs measure activity, not population risk, prevention, continuity or oral health improvement.
Urgent-to-continuity conversion	Converting an urgent attendance into formal registration, stabilisation and continuing care. Urgent care is designed as an entry point into the NHS dental system, not a recurring substitute for continuity.

W

Term	Definition
Water fluoridation status	Whether the local population receives water containing fluoride at or above the recommended level. Fluoridation status is included in Ru because it substantially reduces population caries risk.
Workforce skill mix	The planned deployment of dentists, dental therapists, hygienists, dental nurses and wider support roles according to registered scope, competence and patient need. The Population Oral Health Contract makes whole-team prevention delivery commercially rational.

Consolidated Bibliography

From Probability to Prevention: A Prevention-Led, Risk-Weighted Case for Replacing the NHS Dental Contract in England

Sara Hurley CBE | July 2026 |

This bibliography consolidates sources cited across the main paper, Annexes A-L and Appendix L1. It is alphabetised by first author or institutional author. It includes the additional legal, ageing-population, periodontal-pregnancy, stop-smoking and updated diabetes/New Zealand sources identified during final alignment.

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From Probability to Prevention

Reforming NHS Dentistry

About this Paper

This portfolio paper sets out the clinical, economic and ethical case for replacing the 2006 NHS dental contract with a prevention-led capitation model. Drawing on probabilistic risk stratification, it proposes a reformed contract designed to reduce oral health inequalities, improve systemic health outcomes and deliver long-term value for the NHS.

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