Towards paying for health in dentistry

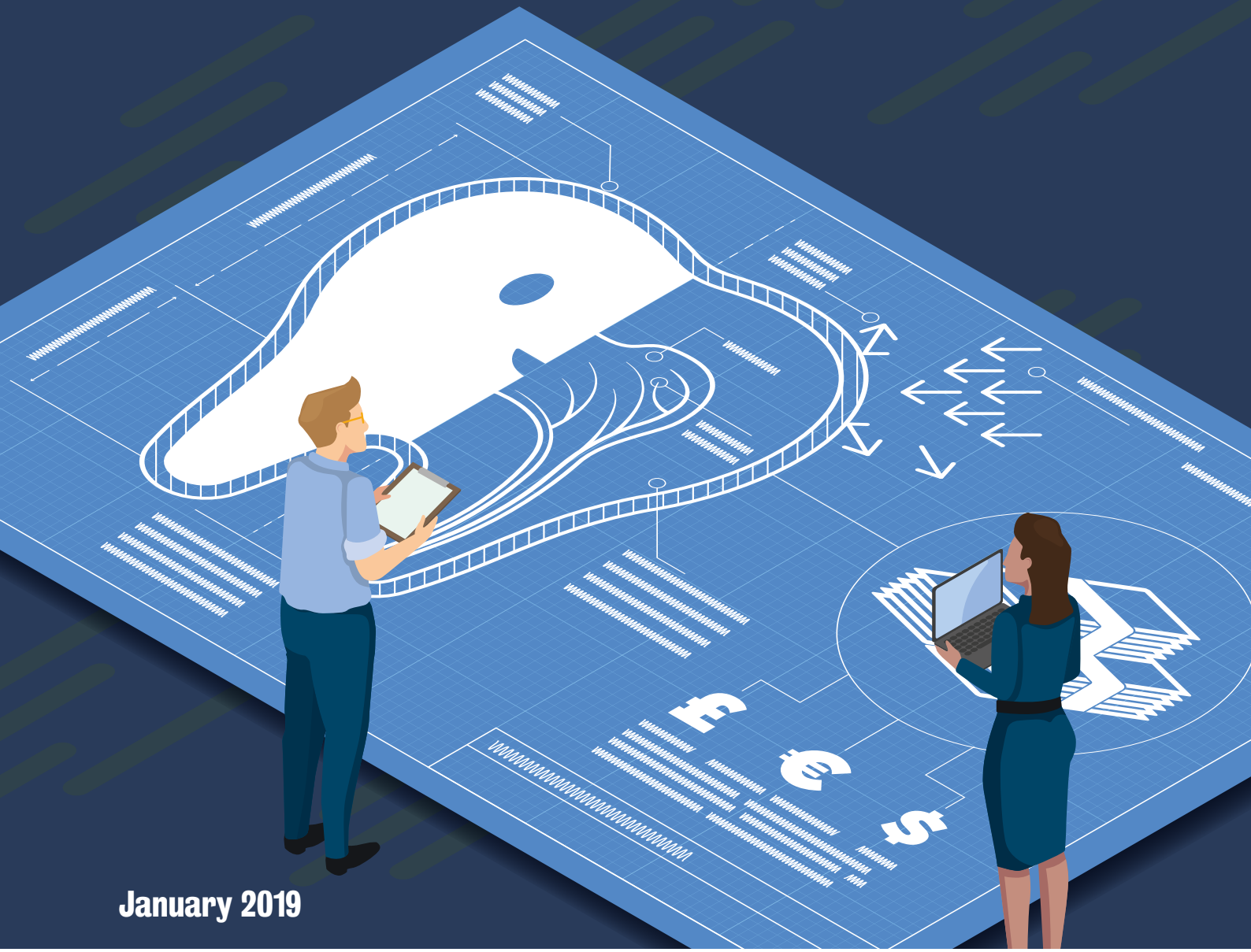
How can we create and implement acceptable prevention-based dental payment systems to achieve and maintain health outcomes?

The Alliance for a Cavity-Free Future
Professor Nigel Pitts, Dr Marco Mazevet and Catherine Mayne

The Innovation and Translation Hub,
King's College London Faculty of Dentistry, Oral & Craniofacial Sciences

The Policy Institute at King's
Dr Harriet Boulding

Power of Numbers Ltd.
Ross Pow



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The Policy Institute at King's

The Alliance for a Cavity-Free Future (ACFF)
The ACFF is a global not-for-profit organisation which seeks to promote integrated clinical and public health action to confront the burden of tooth decay, fight dental caries initiation and progression, and, along with a global community of supporters, progress towards a Cavity-Free Future for all age groups. The ACFF was established in collaboration with a worldwide panel of experts in dentistry and public health who share a fervent belief in joining together across professional, geographic, and stakeholder lines, to create a unified global movement committed to combating caries in communities around the world.

For more information, please visit www.acffglobal.org

Dental Innovation and Translation Hub, King's College London Faculty of Dentistry, Oral & Craniofacial Sciences
The Dental Innovation and Translation Hub hosts the global office of the ACFF. The Hub is part of the Centre for Oral, Clinical and Translational Sciences at King's College London. Their aim is to collaborate to secure viable innovation and sustainable impacts for the future. The King's Strategic Vision 2029 guides the focus in collaborating to 'make the world a better place'.

For more information, please visit: https://www.kcl.ac.uk/dentistry/

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Foreword

Stop Caries NOW for a Cavity-Free Future

For years, many people in dentistry have been trying to move towards a more effective way of preventing and controlling tooth decay (dental caries). Despite recent advancements in caries detection, assessment and monitoring, relatively little progress has been seen in terms of translating these into daily practice. The second Dental Policy Lab was designed to address this issue and to engineer more rapid progress towards achieving the translation of evidence into practice and has proved to be a fascinatingly effective tool in accelerating that change.

The Alliance for a Cavity-Free Future is delighted to be playing a key role in facilitating these discussions, which draw together a range of participants from around the world who are committed to translating the outcomes of the Policy Lab into tangible policy change. The following report offers an overview of the discussions held and the outcomes reached. It is intended to inform and inspire others to join with us on this journey towards Paying for Health in Dentistry.

Professor Nigel Pitts
Global Chairman, Alliance for a Cavity-Free Future

> The ACFF Policy Lab is helping to accelerate reform in the dental care sector in many countries aimed at improving population oral health. This unique partnership is not only inspiring, but it will have a lasting impact on dental care systems around the globe.
>
> **— Dr Marko Vujicic, Chief Economist & Vice President, Health Policy Institute, American Dental Association**

> It really brings an important extra dimension and... brings in a real international and different focus.
>
> **— Helen Miscampbell, Head of Dental and Eyecare Section, UK Department of Health**

> This has been an opportunity for people from different walks of life to have actually had the opportunity of coming together and discussing how can this really be achieved for better health outcomes of citizens.
>
> **— Dr Paula Vassallo, Director of Oral Health Promotion and Disease Prevention, Malta**

> A meeting like this is important because it really brings in all these fresh, new ideas and it opens up our eyes to possible solutions that we may not have thought of previously.
>
> **— Dr Chng Chai Kiat, Chief Dental Officer, Singapore**

How Can I Use This Document?

The thoughts and actions outlined here are intended to help all those who are interested in working towards a Cavity-Free world, particularly those focusing on dental payment systems and health outcomes. Users might include practitioners, health economists and policymakers, amongst others. This document can be used in a number of ways, of which we highlight three here:

Inform

While the evidence and information needed to address a complex policy issue often already exists, we rarely have all the relevant data synthesised in a way which helps us to make sense of the problem. The infographic (found on the back of this document) and additional data provided within this report is intended to be a resource for advocates to inform both themselves and other stakeholders.

Share and network

This document also invites readers to contribute towards facilitating a cavity-free world in several ways. It contains details of the concepts developed by our broad range of expert participants, and invites readers to contribute their time, expertise and advocacy skills to share and network the existing initiatives worldwide.

Act

Finally, this document is intended to act as a springboard as we invite you as readers of this report to link to existing and proposed projects and to join the network of likeminded professionals around the world seeking to implement prevention-based dental payment systems. A key message which emerged from Dental Policy Lab 2 was that while we already have the evidence, tools and resources we need to reach this goal, it will only be achieved through innovation and commitment from a broad range of stakeholders to:

- **Continue** to build the collaborative network driving this change
- **Expand** and share the knowledge base
- **Refine** the design of the generic payment model
- **Test** the model in different systems
- **Develop** implementation guides for a “Glocal” approach

Contents

Introduction

We already have the knowledge of how to use effective prevention to reduce the unacceptable burden of tooth decay around the world

2.4 billion people, amounting to one third of the worlds population, have untreated dental caries (tooth decay). Untreated caries in permanent teeth was the most prevalent condition among all those evaluated in the Global Burden of Disease 2010 study. Untreated caries in children's teeth (primary) was the 10th most prevalent condition, affecting over 621 million children worldwide.[1] Caries shares risk factors with obesity and associated non-communicable diseases (NCDs) such as diabetes and cardiovascular disease, so by decreasing the prevalence of caries and its associated common risk factors, we can also move towards improving general as well as oral health.[2]

There is widespread acceptance that we already have the science to be able to maintain teeth at a good level of health, either with sound surfaces, or with caries that is contained at stages before the disease progresses to a cavitated decay requiring restoration. We therefore do not need more evidence to show that preventing caries is possible, we need to align existing knowledge and translate it into action.[3]

Where available, community-based strategies for caries prevention, including appropriate use of fluoride (such as water fluoridation) and other community-level provisions, can be effective in supporting this process.

At a practitioner level, the focus should be on maintaining tooth health at the individual level, with a shift in dental practice towards risk-based care (including behaviour-based interventions such as advice on diet and dental hygiene) and directly prevention-based interventions (such as topical fluoride and preventive/therapeutic sealants).

Health systems in many countries have already taken steps to prioritise preventive interventions and work towards being 'cavity-free'. Prevention at both individual and population levels has, for example, become a priority in many Scandinavian countries.

1. Marcenes W, Kassebaum NJ, Bernabé E, Flaxman A, Naghavi M, Lopez A, Murray CJ. (2013). Global burden of oral conditions in 1990-2010: a systematic analysis. *J Dent Res.* 92(7):592-7.

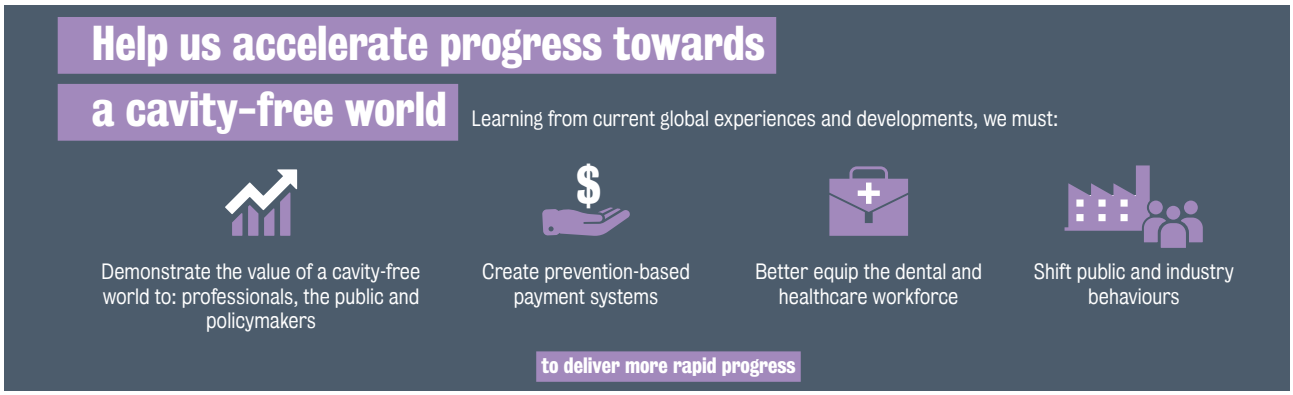
2. NCD Alliance & FDI (2017). Accelerating action on oral health and NCDs. Geneva: FDI World Dental Federation.

3. Pitts NB, Grant J, Hinrichs-Krapels S, Mazevet ME. (2017) Towards a Cavity-Free Future: How Do We Accelerate a Policy Shift Towards Increased Resource Allocation for Caries Prevention and Control? London: The Policy Institute at King's.

The first Dental Policy Lab, held in 2017, underlined the need to redesign dental payment systems in order to accelerate a shift towards caries prevention and control.

In June 2017, the Alliance for a Cavity-Free Future, in association with King's College London Dental Innovation and Translation Hub and the Policy Institute at King's, hosted the first Dental Policy Lab, looking at the question: 'How do we accelerate a policy shift towards increased resource allocation for caries prevention and control?' This event was very successful and the feedback from the meeting and subsequent report showed a hunger for increased discussion, particularly across disciplines, to tackle some of the complex issues faced by dentistry in our fight towards achieving a cavity-free world.

A number of areas of action have been identified and shared across the world. Better equipping the dental workforce, shifting industry and public behaviour and demonstrating the value of a cavity-free world are all actions that have been widely supported by a number of stakeholders.



Substantial progress has been made since the first Dental Policy

We have seen mobilisation across multiple organisations, and through multiple countries towards a shift in thinking on the issue of caries prevention-based upon our key take-away messaging from the 2017 Lab.

Examples include:

FDI – CDO's DPH Section – The Chief Dental Officers and Dental Public Health Section of the International Dental Federation had a representative at the Policy Lab and asked for a presentation on the Lab and its outcomes to be made at their annual meeting held at the World Dental Congress in Madrid. A Summary and Infographic from the Lab was very well received and distributed to 193 CDOs worldwide.

Creation of the ACFF Health Economics Consortium – Having highlighted the dearth of policy-relevant health economic data for dental caries internationally, the health economists who participated in the Policy Lab have, with the inclusion of some colleagues and WHO representation, formed an ACFF Health Economics Consortium who are taking the Policy Lab agenda forward.

Engagement with Office of the Chief Dental Officer, England – Participation from the deputy CDO England at the Dental Policy Lab meetings, and attendance of CDO England at the FDI – CDO's DPH Section, led to useful discussions around the next steps in dental contract reforms.

CariesCare International – A new entity has been formed within the ICDAS Foundation charity which seeks to provide practical tools for preventive Caries Management in General Dental Practice. ICDAS Foundation members who had been present at the Dental Policy Lab relayed the deliberations and conclusions to a CariesCare International planning meeting in Oslo which then adapted its plans to incorporate key recommendations from the Lab.

A shift towards prevention requires changes to dental payment systems

Outmoded payment systems have been identified as a significant barrier to shifting treatment strategies in dentistry towards prevention in daily practice. Creating new prevention-based payment models was an essential action to emerge from the first Dental Policy Lab.

Historically, the majority of payment systems for dentists were built around providing treatment for later stage caries, such as dealing with cavities by filling. Many national dental payment systems started to appear after World War two, when a large number of people, many with a lot of cavities, needed care. These dental payment systems developed mainly on a 'fee-for-service' model, paying per treatment offered. This was very useful at the time, as it allowed an efficient allocation of resources to treat the maximum number of patients.

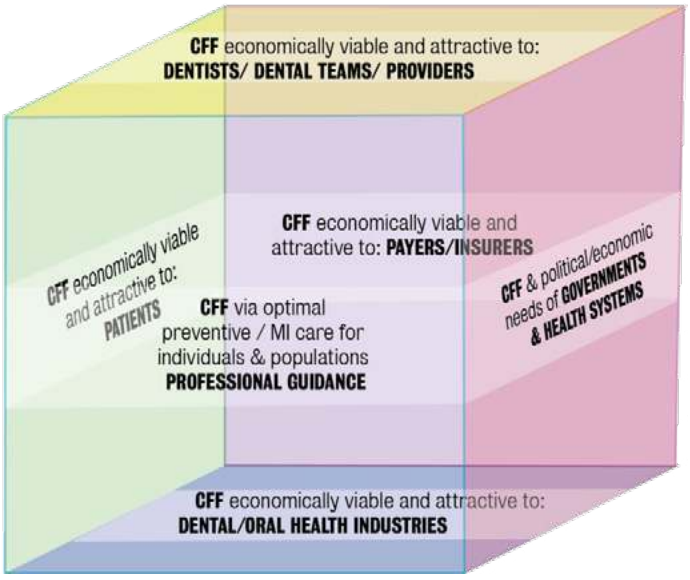
Since then, techniques have evolved greatly, and we have the evidence and know-how to avoid the need for fillings by preventing the appearance of cavities. However, even after over fifteen years of discussion, policy makers and dental practitioners are often still unaware of the current evidence around caries as a dynamic process, where the balance of risk factors need to be kept under control throughout the life course.[4] A more comprehensive understanding of this across dental professionals, policy makers and patients should lead to a shift in approach from 'drill and fill' to a prevention and tooth preserving management-based process.

More fundamentally, current dental payment systems do not typically pay dentists to offer caries prevention and control measures, and there is little or no financial incentive for the providers to follow a preventively-oriented pathway to keep patients healthy. In fact, in most current systems, taking a preventive approach would significantly reduce the income of the practitioner.

One approach could be to encourage the adoption of capitation-based systems. Capitation means that instead of receiving a fee for a service or a treatment, the provider receives a defined sum of money to keep their patients healthy. However, both fee-for-service and full capitation systems have complications. Fee-for-service payment systems often lead to overtreatment, whilst practitioners working within capitation systems can tend to undertreat. In order to ensure what is truly best for the patient a delicate balance needs to be struck between the two. In addition to this, within a system geared towards prevention, patients may be wary of paying a regular fee without receiving a traditional surgical intervention from a dentist, making the implementation of a capitation system problematic. On the other hand, recent increases in interest in health and well-being in many countries may balance this issue.

These potential tensions highlight the fact that dental health systems are influenced by a number of stakeholders (as shown in figure 1) and changing a parameter of any system (such as the way to remunerate the providers) affects many different groups, some of whom may have unaligned or competing interests.

Figure 1: The Win[6] Stakeholder Cube



**CFF – Cavity-Free Future*

Successfully implementing changes will require working on solutions which recognise and take into account as many of these interests as possible, in order to obtain buy-in from all parties.

4. Pitts N B. (2004). Are we ready to move from operative to non-operative/preventive treatment of dental caries in clinical practice? *Caries Research*. 38: 294-304.

The Second Policy Lab




A second Dental Policy Lab focused on how to shift 'towards paying for health in dentistry'

Taking into account the background from the first Dental Policy Lab, focus was put on how to shift 'towards paying for health in dentistry' as the subject of a second Policy Lab event held in July 2018. The specific question considered at the second Lab was:

> ? How can we create and implement acceptable prevention-based dental payment systems to achieve and maintain health outcomes?

In order to ensure a realistic, implementable solution to the question of creating prevention-based dental payment systems which would be acceptable to all stakeholders, the ACFF, along with the King's College London Dental Innovation and Translation Hub and the Policy Institute at King's, hosted this follow-up Policy Lab meeting, facilitated by 'Power of Numbers', to bring this question forward for discussion.

Held in London over 24 hours, the 2018 Policy Lab brought together 36 international experts (participant list can be found at the end of this document) representing a wide range of different stakeholders who rarely meet or work together. The meeting offered the chance to utilise the differing perspectives to explore in detail the issues around reaching consensus over this particular policy challenge.

Attendees were briefed prior to the event and prompted with the key questions for consideration, particularly around the barriers faced when addressing the challenges posed by the design and implementation of new payment systems. An overview of the briefing pack can be found in the online appendix. The session encouraged rapid, creative thinking to develop responses which were novel, but also practical and grounded in the existing evidence base. It combined an initial fast-paced, dynamic group work session establishing an overview of the barriers and possible actions to accelerate progress with a more in-depth look at the issue, working through the challenges prevalent among different stakeholders and sectors with a view to developing a set of targeted actions.

The second Dental Policy Lab designed a 'blueprint' as a model for change in dental payment systems

The outcome of the July 2018 Policy Lab was summarised in a generic payment model 'blueprint', drawing out three key components which provide the basis of the design of prevention-based payment systems.

What We Should Pay For

- Standardized and measureable health outcomes, such as being cavity-free
- Innovative and evidence-based preventive interventions
- Personalised and integrative care, such as the CariesCare International 4D System

Who the system must work for

- For patients – changing personal attitudes and behaviours around oral health and facilitating access to avoid discrimination
- For professionals and providers –supporting practice level sustainability
- For government and payers – delivering system sustainability

How we deliver the change needed

- Taking the lead as a dental profession
- Working collaboratively using multi-stakeholder approaches
- Establishing consistent standards
- Putting in place the necessary data
- Adapting the blueprint for different types of dental health system around the world

To be rolled out in any given dental system, these generic characteristics must be adapted to the local realities of a specific health system in order to successfully implement the change, in terms of both:

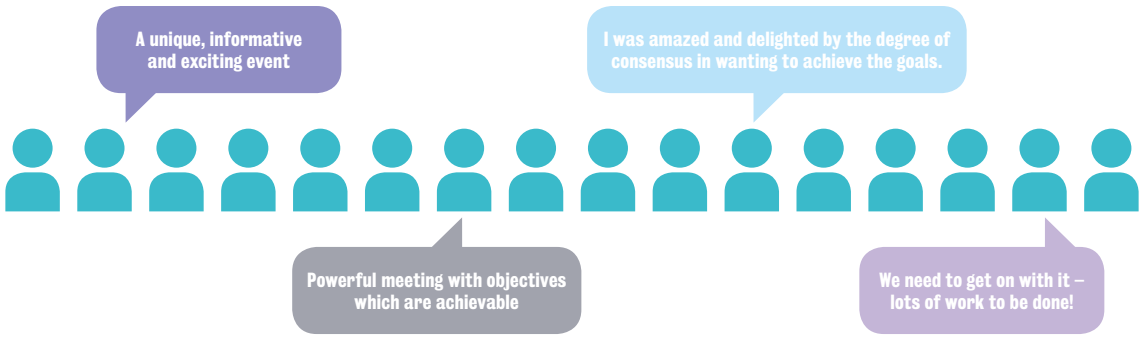
Design: The available workforce, financial resources, political constraints and the current oral health status of the population are examples of elements to be considered when tailoring the design of the blueprint to local settings.

Implementation: Implementing the local design may lead to different results than expected. The lack of appropriate Information Technology, inadequate training of professionals or unplanned counter-incentives might appear in the process. Although this blueprint lists the main issues to take into consideration, when adapting the blueprint for use locally, further adjustments are likely to be needed. It seems necessary to plan ahead, monitor and allow the system to evolve according to outcomes and reactions from patients and professionals.

The next three sections explore in more detail the generic components of the 'blueprint' model:

1. **What we should pay for**
2. **Who the system should work for**
3. **How we deliver the change needed**

Reactions from Participants:



1 – What Should We Pay For?

1.1 – Standardized and measurable health outcomes

A strong, uniform and focused approach to achieving long term health outcomes is paramount

The new payment model needs a set of standardised and measurable health outcomes which will drive the design and implementation of effective preventative interventions and also provide the data necessary to remunerate those involved in the delivery of those interventions. In agreeing these outcome measures there is a need for simplicity and consensus.

The adoption of 'cavity-free' as an overarching outcome goal would work at individual, practice and population level. This is seen as a simple and concrete measure which, if delivered, would by necessity lead to better overall oral health as well as contributing to improvements in a wider set of NCDs. It also allows comparison between different practitioners, regions or states. The 'cavity-free' message can also be motivational for patients being told 'I am here to help you stay cavity-free' as an encouragement towards valuing health, making required behaviour changes and paying for preventive interventions.

We propose that the initial focus should be on a dental caries outcome (cavity-free) as the primary clinical health outcome indicator. This has the advantage of focusing on health rather than disease. Additional information can readily be collected in terms of number, severity and activity of lesions. Patient Reported Outcome Measures (PROMs) are also an important compliment to clinical measures.

How do we achieve this?

More work is required to develop the diagnostic and coding standards to support measuring health outcomes. DMFT as currently practiced is not sensitive enough to show detriments or improvements to health to demonstrate performance or to reinforce good practice with providers. **Improvements are therefore needed around uniformity of coding of what is happening at surface, tooth, patient and population level.**

While good tools are available to measure severity of caries, assessing caries activity is more problematic. Regular and repeated assessment use of CariesCare International – ICCMS™ as part of the 4D approach would allow both severity staging and activity assessment, enabling, for example, checking remineralisation.

To ensure a globally uniform approach to measuring health outcomes, collaborative work is needed to align current international systems (SNOMED, ICDAS, ICCMS™ etc.) to work in compatible ways.

Patient risk status is also a good way to measure more immediate outcomes and to reward for prevention

Patient's risk statuses in oral health can reflect several risk factors can be managed through appropriate primary, secondary and tertiary prevention measures. In addition, the management of habits such as high sugar or alcohol consumption, as well as the use of tobacco and drugs may produce wider benefits to overall health. Measuring risk levels can be a good intermediate outcome measures for financiers and governments as it can show direct benefit for the patients, before obtaining longer term data on health outcome gains.

How do we achieve this?

Over several years of trials, the NHS Pilots and Prototypes evaluated a more preventive contract for general dental practitioners in England and Wales. It was found that the incorporation of a red, amber, green risk assessment within clinical pathways was both useful and acceptable to patients and providers.[5]

We need to be integrating patient reported outcome measures

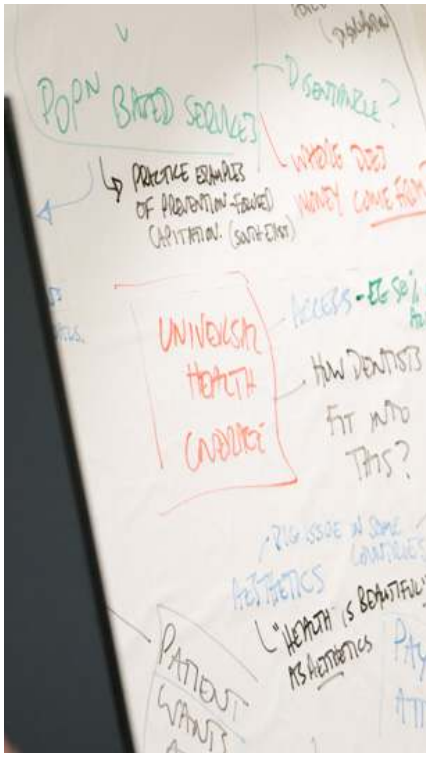
In order to ensure that patient needs are at the heart of the dental payment system, the outcomes have to take into account what matters most to the patients. Besides clinical data and general medical data, patient reported outcomes measures (PROMs) have to be collected in order to understand which treatments most positively affect the patient's life, including feedback measures on things such as pain levels, smiling, and confidence in social interactions. This knowledge can allow us to best assess what will drive the population to support the system adjustments and achieve more patient centred care. It will also inform policy makers.

Besides the advantages of using the patient's voice as a way to understand outcomes, PROMs have the ability to bridge the gap between the clinician and the patient's point of view regarding treatment needs. An example of this can be found in the FDI – ICHOMS Project.[6]

Furthermore, PROMs can be used to maximise the efficiency and appropriateness of the allocation of resources (both human and economic).

5. Rooney, E. (2018). Dental Contract Reform: Evaluation of the first year of prototyping 2016-2017. London: Department of Health and Social Care.

6. FDI World Dental Federation (2018) *FDI and ICHOM present Standard Set of Adult Oral Health Measures* Accessed 24/01/2019 https://www.fdiworlddental.org/news/20180908/fdi-and-ichom-present-standard-set-of-adult-oral-health-measures



1.2 – Evidence-based and innovative preventive interventions

There is growing consensus on what the treatment for any given caries related need might be, especially at a regional level (for example, across Scandinavia). Despite this convergence, it is clear that globally, many dentists are still intervening prematurely[3,7] and that this premature surgical intervention does affect outcomes (while it may remove pain in the short term, there will almost certainly be accelerated re-treatment at future dates and worse long-term outcomes for patients).

Clear guidance is required on how to achieve comprehensive care plans that deliver and reward preventive approaches.

This requires evidence-based protocols for interventions to ensure consistency of decision-making based on patient needs, taking people along a care pathway 'from A to B'. [8,9,10,11]

A number of successful initiatives[12,13] around the world demonstrate that much of the required knowledge already exists on how to promote the effective prevention and management of caries. The challenge is to get this knowledge out into wider practice; lack of progress in this area is an implementation issue.

The dental profession should be looking to improve on communication with patients around effective prevention (both those in the system with access to routine care and those outside the system with complex circumstances[3]). However, in complex circumstances of 'high needs' patients where there are a range of social, cultural and environmental determinants of the disease at play, new and different solutions will be needed to enhance messaging, patient-professional communications and access.

Collaboration is key

It is also important to note that placing a focus enhancing prevention at a population level should not just be seen as something that happens within the dental system. High risk patients outside of routine care require dental and other health professionals to work outside of their silos in a collaborative way in order to improve the health and access to care available to this often-excluded group.

This needs to be seen across health professions (between dentists, general medical practitioners, health visitors, paediatricians, pharmacists, public health professionals, etc.) and also outside the health professions (with policy makers, the dental industry etc.), and should focus not solely on dental health, but also patient health in general. This will include dental professions being proactive in offering referral for other, non-dental health related issues which might be identified by oral examination, as well as advice on sugar consumption.

3. Pitts NB, Grant J, Hinrichs-Krapels S, Mazevet ME. (2017) Towards a Cavity-Free Future: How Do We Accelerate a Policy Shift Towards Increased Resource Allocation for Caries Prevention and Control? London: The Policy Institute at King's.

7. Schwendicke F, Kroisa J, Splieth C H , Innes N, Robertson M , Schmoeckel J, Santamaria RM. (2018). Cost-effectiveness of managing cavitated primary molar caries lesions: a randomized trial in Germany. *J Dent.* 78: 40-45.

8. Steel, J. (2009). NHS dental services in England. London; Department of Health England.

9. Ismail AI, Tellez M, Pitts NB, Ekstrand KR, Ricketts D, Longbottom C, Eggertsson H, Deery C, Fisher J, Young DA, Featherstone JDB, Evans RW, Zeller GG, Zero D, Martignon S, Fontana M and Zandona A (2013). Caries management pathways preserve dental tissues and promote oral health. *Community Dental Oral Epidemiology,* 41, e12–e40.

10. Pitts NB and Ekstrand KR (2013). International Caries Detection and Assessment System (ICDAS) and its International Caries Classification and Management System (ICCMS™) – methods for staging of the caries process and enabling dentists to manage caries. *Community Dental Oral Epidemiology,* 41, e41–e52.

11. Pitts NB, Zero D, Marsh P, Ekstrand K, Weintraub J, Ramos-Gomez J, Tagami J, Twetman S, Tsakos G and Ismail A (2017). Dental caries. *Nature Reviews Disease Primers,* 3(17030).

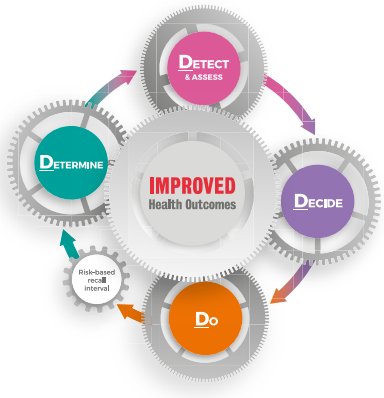
12. Evans RW, Paula Clark P, Jia N. (2016) Caries Management System: are preventive effects sustained postclinical trial? *Com Dent Oral Epi,* 44(2): 188-197.

13. Pitts NB, Ismail AI, Martignon S, Ekstrand K, Douglas GV, Longbottom C. (2014) ICCMS™ Guide for Practitioners and Educators. London: Global Collaboratory for Caries Management.

1.3 – Care and recommendations tailored to the patient using a simple, yet comprehensive approach such as the CariesCare International 4D system

The dental payment model should support personalised, integrated care across a holistic caries management cycle such as the CariesCare International 4D System, where the dental team uses a structured process and intervention guidelines to ensure appropriate care and consideration for each patient's needs.

The four domains of the CariesCare International 4D System are:



Determine	Determine patient level risk
Detect	Detect and Assess caries staging and activity
Decide	Decide on a personalised care plan
Do	Do appropriate tooth and patient preserving caries prevention and control interventions

Continuing care is an important element of this management cycle, which also includes using a risk-based recall interval and individually tailored action pathways, agreed between the professional and the patient. This reflects the continuing challenge of caries throughout the life course and the need to capture changes in a patient's caries risk status.

At a system level, the payment model needs to be supported by health care planning approaches that match supply with properly assessed population needs, not with demands, as some demands are supply-side driven and don't always reflect prevention needs.

1.4 – Preventive and non-surgical interventions, which can also drive the interest of dental industries in bringing new preventive and tooth preserving products to market.

Dental industries have generally focused their research and development on restorative treatments.

The payment model should also work for dental and oral health industries as to encourage the creation of market opportunities that favour preventive care.

In addition to consistent or improved demand for readily available home and practice based preventive treatments such as fluoride toothpastes and varnishes, there are a wide range of innovations and commercial opportunities that can created by this shift in treatment priorities.

Some examples of these may include:

- Data collection systems that enable practitioners to monitor health outcomes, early caries lesions and risk status.
- AI-assisted software that can synthesise risk factors and personal characteristics in order to develop personalised treatments, enhanced prognosis and compliance to recommendations.
- Well-being apps that empower a balanced diet or can assist smoking cessation.
- Connected objects (such as 'smart' toothbrushes) and tools that encourage better oral hygiene at home.

2 – Who The System Must Work For

2.1 – For patients: encouraging system participation

Facilitating access to avoid discrimination

The overall solution at a system level must take into account that not everyone, globally or regionally, has the same access to dental services. Significant proportions of people can be excluded either because of affordability issues or because of challenging personal or social circumstances. Consequently, the payment model must be designed not only to support a focus on prevention through dental service payments but should also provide funding that brings more patients with a need into the system (for example through free assessments for all). The model should also work to reach excluded patients and improve oral health outcomes through locally appropriate population-level interventions, such as water fluoridation and oral health campaigns.

It is also important to ensure that the setting up of payment systems does not lead to neglected groups of patients and, as part of that, that the system is able to provide access and quality care for those with a need who are currently outside of regular dental services.

Any risk assessment carried out needs to guard against creating a societal divide and potentially leading to negative reinforcement or bias for high risk patients, who may face challenging and complex social and health factors (diabetes, low income, poor housing, etc.). The language and determinants used need to be carefully considered, as to highlight or reinforce these complex social determinants through the risk assessment runs the risk of disempowering and disenfranchising already vulnerable patients.

Setting these acceptable, risk-based financial incentives is likely to be one of the hardest tasks in the design of the payment system. Local considerations such as professional demography, composition of the dental team, average practice turnover and macro-economic data are some of the elements that will have to be taken into account.

Changing attitudes and promoting positive behaviours around oral health

Offering incentives may aid in positively influencing the behaviour of patients. An example of this could be to offer rewards, such as a reduction of insurance premiums for patients who show 'good behaviour' by attending dental consultations as advised by their dental team.

In the future, positive behaviour could also be promoted through using apps and other accessible technology which helps patients to monitor their oral (and general) health more accurately. The data collected by these devices or apps could be used by payers or dental teams to set up incentives programs that could reward patients for positive activity and may enhance patient's overall oral health.[14]

Case Study

The German Dental Health System offers rewards for patients who attend regular consultations. These rewards can take the form of reductions in insurance premiums, cash bonuses or even sports equipment. The effectiveness of these measures which encourage patients to attend appointments through reward rather than penalty is controversial, but may be appropriate in specific contexts. Special attention has to be given to high needs populations in order to avoid penalizing high risk groups.[15]

14. Shetty V, Yamamoto J, Yale K (2018). Re-architecting oral healthcare for the 21st century. *J Dent.* 74, Suppl 1:S10-S14.7.

2.2 – For professionals and providers: supporting practice level sustainability

An increased focus on prevention in dentistry needs buy-in from professionals both at an intellectual and ethical level and also needs to be acceptable in terms of the financial implications. Although providers are increasingly interested in working to improve health outcomes, we need to be sure that these are measurable and that the measures used are, to an extent, within the control of the dental provider.

The proposed payment model blueprint balances 'paying for outcomes', 'paying for risk and severity' and also 'paying for process'

Traditionally, dental practices have been functioning on a Fee-For-Service basis, meaning that dentists receive a set amount of money for each treatment performed on a patient.

It has been shown that although fee-for-service systems lead to increased activity from providers, allowing them to treat a lot of patients, this type of payment system does not support the delivery of optimal preventive care.[16,18] In effect, in most systems, a dentist who maintains all of their patients in a healthy state would not receive any payment, due to the lack of restorative treatment undertaken and paid for.

Capitation systems, which provide a fixed amount of money to practitioners for treating each registered patient, have been set up both privately and publicly in order to address this issue. They have demonstrated success in favour of delivering preventive care and improving health outcomes[16,17] however Capitation systems have their own, different drawbacks. Both systems have shown their respective limitations (see table below), and locally appropriate "mixed" solutions are suggested to best deliver on the advantages of each system.

A more recent type of payment system, "paying for performance", is also being trialled around the world.[19,20] This incentivises and values preventive work in order to maximise health outcomes. The evidence is currently inconclusive, but the method seems to have potential. Therefore, features such as offering bonuses for health outcomes, recruitment of patients or certain aspects of preventive care performed may be appropriate in combination with another type of remuneration..

Table 1: Contrasting fee-for-service and capitation: a Cochrane review [21]

Fee-per-service	Capitation
Increased clinical activity (fillings and extractions)	Fewer fillings and extractions
Earlier restoration of caries	Caries restoration at a later stage
More frequent appoinments	Less frequent appointments
Less preventive advice given to patients	More preventive advice given to patients
Dentists more likely to introduce innovations into their dental practice	A greater number of children were referred to the public dental service from dentists receiving capitation
Dentists felt more tempted to over-prescribe treatment	Dentists felt more tempted to under-prescribe treatment

16. Andås CA, Hackeberg, M. (2016) Payment systems and oral health in Swedish dental care: Observations over six years. Community Dental Health, 33:257-261.
17. Grytten J. (2017). Payment systems and incentives in dentistry. Com Dent Oral Epi, 45(1):1-11.
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Based on the evidence available to date and the Policy Lab discussions, we recommend exploration of hybrid methods of paying practices based on the risk profile of its patients combined with initial assessments of the disease severity and activity. Incentives for access, data collection, quality of care or other required parameters should also be taken into account. We propose that practice level remuneration could therefore comprise of a hybrid of Fee For Service, Pay for Performance and Capitation components.

Hybrid model for practice level dental remuneration

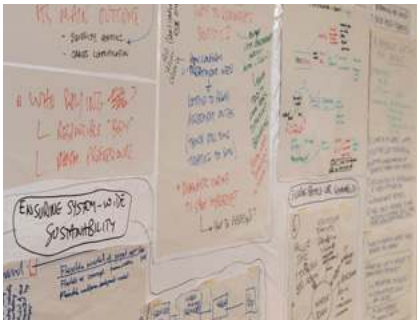

Fee For Service


Pay for Performance


Capitation

CLINICAL OUTCOMES		N/A
		Paying for absence of disease, such as % of patients without cavities at practice level, or offering bonus payments for each patient without cavities
		Setting financial incentives in capitation fees to support profit across all risk groups, offering further incentive when movement to lower risk category is achieved
RISK MANAGEMENT		Bonus payments offered per treatment session involving high risk patients
		Ongoing assessment of individual patient risk, with bonus paid when patients move to a lower risk group.
		Risk-based capitation fees set based for treatment of patients from all risk groups.
ACCESS		Bonuses offered for treating special needs patients (those with physical or mental handicap, chronic disease, low SES)
		Bonuses offered for treating special needs patients (those with physical or mental handicap, chronic disease, low SES) according to defined targets
		Adjusted capitation fees dependant on local demographic (to avoid 'cream-skimming')
QUALITY OF CARE		Bonuses for treatments that require special attention, or using certain evidence based techniques which add value
		Rewarding achievement of annual targets on safety and quality of care for the dental practice
		Contracted quality of service with the patient or financer
DATA COLLECTION		Fee for data collection for each assessment
		Annual bonus for defined data collection targets
		Mandatory assessments and records to obtain capitation fees

Using a combination of each payment type within the components is possible in designing effective preventively focused payment systems which achieve and maintain health outcomes



Private payments are likely to form some part of practice remuneration

Depending on the characteristics of the local system, and political preferences and constraints, some proportion of the money to fund this remuneration mix would come from 'private money', either directly from patients or from insurance payers.

Ideally, where private payments are the norm, to help improve access for patients currently outside the system, the prevention support could be offered free with any surgical treatment reimbursed at cost (to avoid overtreatment).

Transition to the new payment model must assure short-term profitability

Any changes to dental payment systems must continue to work in the short-term to maintain practice level profitability. In order to introduce new systems, there needs to be a locally agreed, flexible transition. This might involve serial experimentation, and initial coverage of part of the patient base concerned, with finetuning of the system as learning occurs.

For example, in year 1, a pilot could operate covering a limited proportion of the patient base.

Year 2 could develop on this, adjusting for any inadequacies seen within the current system and growing the included patient base.

The transition phase structure will inevitably be localised according to the magnitude of the change from the previous system, the level of engagement from existing providers and the ability of the health system to change. The examples below reflect some of the experiences encountered to date in different countries, but this is by no means an exhaustive list.

- New remuneration methods should be compared to what is currently practised in the local settings. Elements such as fees for current treatments, overhead charges and time spent on care for new procedures should be taken into account.
- Pilot system evaluations are likely to take additional time for the providers. Selecting volunteers instead of compulsory allocation to the experiments may lead to professional buy-in and serve as a proof of concept. Financial incentives for the extra amount of time spent may also be considered.
- Economic evaluations should be performed. This may prove to be difficult in settings where no national data collection system is in place and may require adaptation of professional software systems or designing specific paper-based forms. These details should be considered in partnership with the professionals.
- A pilot system evaluation may be targeted on a specific age group or a localised area to allow easier analysis.

Practices will need support to train and motivate the entire 'dental team' to embrace a prevention-focused approach

In order to deliver the type of care envisaged by these new preventive payment systems, in parallel with the transition arrangements for payment, appropriate continuing professional development opportunities for the entire dental team will also need to be put in place, to ensure that each dentist and their team are able to provide all of the aspects of modern caries care that the new payment system incentivises. This links to the third recommendation taken from the first Dental Policy Lab, to 'better equip the dental and healthcare workforce'.[3]

Examples of the continuing education topics required include:

- Determining and reassessing patient level caries risk.
- Detecting and assessing caries across the full range of severity, including initial stage lesions amenable to preventive care.
- Deciding on a personalised care plan which synthesises all of the information collected at a comprehensive oral health assessment.
- Doing the full range of tooth preserving, preventive and surgical care required, including the use of a minimally interventive approach, exploiting modern materials and techniques.

Creating effective guidance documents and offering training to practice owners will assist in easing the transition.

Moving towards a more preventive philosophy must involve the whole practice team, clinical and administrative, in understanding how any new arrangement functions, and how the practice will be rewarded for its efforts.

Interprofessional working: effective team work with other health professions to secure health

At present, dentists may not be motivated to engage with the idea of a more interprofessional way of working, due to uncertainty over how this will affect their business financially. However, with clear guidance offered they can be assisted in seeing how their business might be adapted to take advantage of these changes. This interprofessional team (which may comprise of dentists working with general medical practitioners, paediatricians, nurses, health workers etc.) should be best placed to deliver improved health outcomes for patients based on a preventive-focused approach.

2.3 – For government and payers: delivering system sustainability

Facing a rise in life expectancy, complex and onerous treatments and limited funding, means that payers constantly need to think about the best resource allocation within health systems: are they are getting value for what they are paying for? In order to best communicate benefits, comprehensive economic evaluations need to be set up alongside the implementation of payment systems in order to demonstrate both the short and long term value which will be achieved compared to current systems, along with cost effectiveness and the financial risk involved.

This shift towards paying for health in dentistry aligns with current thinking regarding enhancing preventive measures across all areas of health and is seen as one of the essential strategies to ensuring the future sustainability of health systems.[22]

This therefore offers policy makers a potential long-term political win, through delivering better service for patients, improving health outcomes and securing value for money.

Efforts should be made to educate and influence policy makers to get behind the cause of dental prevention and fight for a cavity-free future as part of an overall package of public health prevention improvements. The argument for this is strengthened by the fact that oral health can be considered as both a lead indicator for other NCDs and also a key factor in maintaining health and well-being.

Moreover, the system-wide planning could also contribute to aligning the contribution of the dental system with other parts of health care, helping break down current silos and acting as a catalyst to get dental teams working with other providers and be remunerated around a broader set of health outcomes (for example, including diabetes or obesity outcomes).

3. Pitts NB, Grant J, Hinrichs-Krapels S, Mazevet ME. (2017) Towards a Cavity-Free Future: How Do We Accelerate a Policy Shift Towards Increased Resource Allocation for Caries Prevention and Control? London: The Policy Institute at King's.

22. World Health Organisation (2016) Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development Accessed 29/01/2019 https://www.who.int/healthpromotion/conferences/9gchp/shanghai-declaration.pdf

3 – How We Deliver The Change Needed

3.1 – Taking the lead as a dental profession

The dental profession has the responsibility to be the main driver for change, and should be leading on developing and articulating:

- The 'destination' that the system should move towards – namely 'maintaining lifelong health and reducing caries risk'
- The solution needed to reach that, including the design and implementation of a prevention-focused payment model.
- The re-definition of the professional role as being one centred on disease management, running an extended dental team with a range of appropriate skills including, as needed, a specialist surgeon.
- A focus on long-term outcomes, recognising that caries is a lifelong disease that requires on-going control with input from both patients and professionals.

There should be one aligned 'dental voice' advocating the solution, why it is (and will continue to be) viable, and why it is not a threat.

This united voice should take the lead in putting forward the case for the shift that works for patients, dental professionals and the system as a whole.

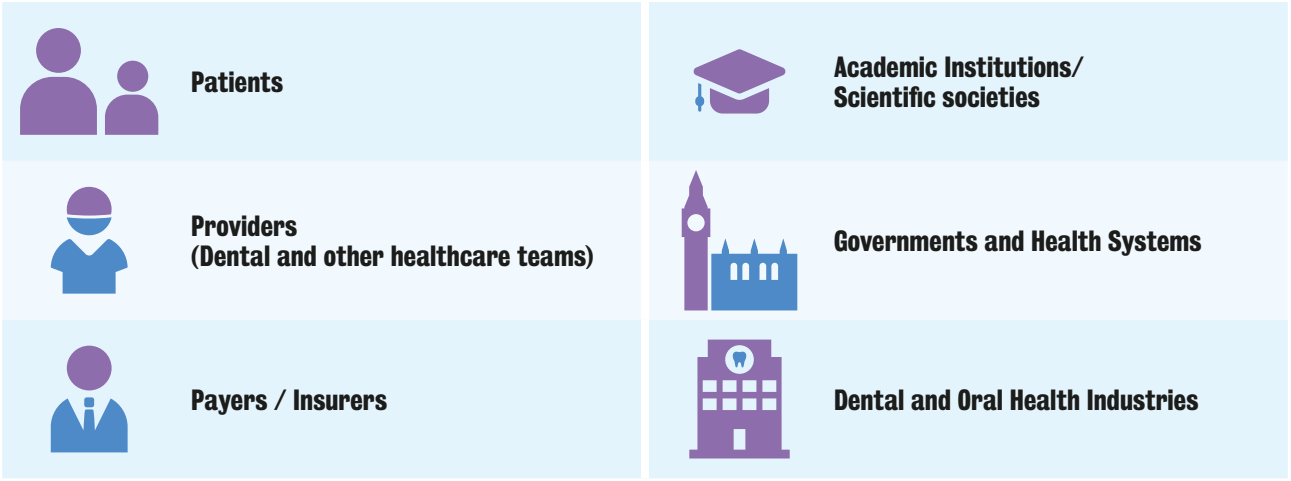
It may also occur that, depending on the locality in which this is being implemented, this sort of leadership will be part of restoring, rebuilding or enhancing the reputation and self-confidence of the dental profession and how it is perceived amongst both the public and governments.

Professional leadership will be essential in:

- Shifting prevailing attitudes where they act as a barrier to an emphasis on prevention and reframing the dentist from being just a surgical specialist to being someone overseeing the health of a group of patients. Helping individuals and populations remain "Cavity-Free" is a powerful overarching message to support this shift.
- Getting professional education to endorse prevention, changing the focus to interventions that maintain health and using a competencies-based approach to be able to deliver the required interventions, based on the needs of the population.
- Emphasising the importance of data collection and evidence in underpinning professional practice.
- Moulding the shape of the workforce, getting the right number and mix of skills in dental teams (including the necessary skills to work with vulnerable populations).
- Ensuring the development and implementation of appropriate arrangements for regulating or assuring quality (depending upon local conventions and systems).
- Identifying and lobbying for the support and funding needed to transition to a payment for health model (e.g. using a redeployed sugar tax to support oral health).
- Reminding the profession that it has always adapted and is well-equipped to thrive in this expected future environment (e.g. doing more work on aesthetics, building multi-skilled dental teams, working across boundaries with other health professionals to tackle a broad set of NCDs together).

3.2 – Working collaboratively using multi-stakeholder approaches

Successful implementation of a new payment model will require all Win6 stakeholder groups (figure 1) to be aligned as far as possible. Understanding the different perspectives and sharing information in a trusted environment allows barriers to be identified and acceptable solutions found amongst different stakeholder groups.



A key success factor in building multi-stakeholder buy-in will be finding language that is both easily understood and motivational.

We need to be careful with how certain ideas translate into other languages. E.g. the use of the term 'cavity-free', which does not translate easily in some countries.

There may be resistance to the idea of paying for prevention as an abstract concept, both by professionals and patients. We should potentially try to use phrases such as 'paying for preventive care' or 'preventive interventions' instead.

3.3 – Establishing consistent standards and necessary data

Work to develop consistent standards is needed to underpin the use of health outcomes, standardised intervention protocols and performance measurement. Considerable progress has been made in recent years towards this end.

In order to truly understand the prevalence and severity of dental caries, we require a standardised global approach to measuring the disease, and also a more uniform standard of care. Once we have achieved greater uniformity in reporting and assessing caries, this will allow for comparisons both between demographic groups and geographic locations, and also between practices. We also need to work collaboratively to align standards, particularly around risk management and lesion staging.

A prevention-focused payment model can only succeed if the capture and reporting of the required underlying data is both accurate and timely. Technological programmes for the facilitation of effective data capture within practices are currently available and in continued development.

However, further work is needed to:

- Ensure that these systems operate using consistent standards for assessment and decision-making around interventions.
- Roll out these systems across wider health systems such that aggregated data can be captured at population level.
- Ensure that regular reassessments are undertaken for each patient to measure performance and outcomes.
- Improve significantly the analytics that can be applied to the data and the subsequent dissemination and use (e.g. feeding back to practices or individual practitioners using behavioural insights such as reporting performance compared to peers).

3.4 – Adapting the 'blueprint' for different types of dental health system around the world

The generic blueprint (see page 10) sets the key components for a payment system. However, many characteristics differ from country to country. The blueprint must be adapted to operate within different types of health system around the world. System requirements will vary widely at a country level, and often even within countries themselves.

There are a number of characteristics that will distinguish the requirements of this blueprint within different types of health system, including:

- Average income per person and wealth distribution
- Level of public funding
- Patient out of pocket cost for treatment
- Access/equity of access
- Starting point for remuneration of dental health professionals
- The size, skill mix and organisation of the workforce

How do we achieve this?

The first step of adapting the blueprint can be to synthesize the existing evidence regarding dental payment system initiatives/ reforms. Some solutions may be more appropriate than others depending on the local context.

The second step should be the design of an appropriate payment system which uses a multi stakeholder approach to provide an acceptable solution for the different parties.

The third step should be carefully planned implementation of the new payment system, allowing iterative feedback from the providers and appropriate monitoring across stakeholders.

What Should We Do Next?

Continue to build the collaborative network driving this change:

There is a committed and versatile group of people (dental practitioners, economists, policy makers, commissioners and payers, NGO's, patient representatives, etc.) currently working to drive towards making paying for health in dentistry a reality.

Continuing to build this collaborative network is key.

A number of experiments with dental payment systems have already taken place in different countries. A collaboration to share previous and current experiences is essential in order that all can learn and benefit.

Extend and share the evidence base

While there is already a significant pool of knowledge and data to draw on in designing and implementing a prevention-focused payment model, there is further work to be done to:

- Understand patient attitudes and what's needed to motivate individuals towards prevention.
- Develop robust evidence on the long-term value for money of a prevention-focused approach and prove the added value of a cavity-free future to policy makers and politicians.
- Evaluate the evidence on alternative delivery models for prevention, especially in terms of what is needed for individuals and populations in complex and challenging situations outside of routine dental care.
- Refine and share evidence-based criteria around caries risk and activity.
- Establish the country-level data on health workforce (and available education) in sample of countries to help build tailored blueprints for different systems.

Refine the design of the generic model

While the overall content of the generic payment model blueprint has been identified, further work is needed to refine this in terms of:

- Promoting international consistency and standardisation of the definitions for patient risk/severity/activity and health outcome measures.
- The feasibility of using a caries-focused model as a mechanism for paying for a wider set of diseases as a bundle, especially in the short-term with periodontal disease and tooth surface loss (erosive tooth wear) and, potentially over the longer-term, other oral health conditions (e.g. oral cancer) and wider health conditions (such as those which share common risk factors with caries, including obesity, diabetes and cardiovascular disease).
- Building a prototype 'flexible model of payment over time' at a system level to help matching supply to actual populations needs (not just expressed demand).

Test the model in different systems

Once the generic model is refined and completed there is both a need and enthusiasm to test it in different health systems and locations. The type of payment system, such as fee for service, capitation, salaried, pay for performance (or a combination of these) will likely vary according to these characteristics.

A number of participants have taken the ideas from the Policy Lab back to their own countries for immediate application. These steps and others will serve to test the model in different types of health system and provide rapid feedback on how to adapt the generic blueprint to different situations and offer lessons from moving towards implementation.

Design implementation blueprints for a 'Glocal' approach

****Glocal – a concept promoted by the ACFF in which global evidence is applied locally.****

The experiences from testing the model in different systems – 'Glocally' understanding the art of the possible – can then be taken and shaped into blueprints for a 'Glocal' approach to be used by other systems as they embark on their journey towards paying for health in dentistry.

In order to share the experiences of introducing new payment systems and lower the barriers to implementation for different countries, the generic global model can be localised efficiently by creating implementation guides to help similar types of countries secure the needed change.

Immediate Progress

Examples of immediate progress in developing Glocal approaches are as follows:

Progress Report 1: The French Experiment

A local adaptation of the blueprint was proposed by French Dental Surgeons (Les CDF), the largest dental trade union, to the french National Health Insurance. France. It includes a risk-based capitation component and is based around the CariesCare International 4D Concepts. The content is currently in negotiation with the French authorities to develop a nationwide experimentation to reform the dental contracts.

Progress Report 2: Welsh Government

The Welsh Government has held policy workshops, attended and assisted by members of the ACFF Health Economics Consortium, looking at ways to adapt the blueprints outlined by the second Dental Policy Lab for use within the Welsh government to push towards a more preventively focused payment system for their dental practitioners. These discussions are ongoing at the time of publication.

Progress Report 3: CariesCare International

CariesCare International paused its strategic development in order to await the outcomes of the second Dental Policy Lab. They are now building their dental practice programmes around the recommendations of the report blueprint.

Progress Report 4: Rwanda

ACFF was approached by a Danish charity working with the University of Copenhagen in order to see how best dental services in Rwanda could be planned as part of the national rebuilding programme, in order to become less reliant on aid, but build its own dental system based on the insights from Dental Policy Labs 1 and 2.

What Will We Do Next?

We are delighted with the progress already seen, and are keen to ensure that momentum is harnessed, and discussions nurtured within health systems around the world.

The ACFF health economics consortium and Positive Policy Change Networks will continue to act as catalysts for change, starting conversations and supporting discussions. The Alliance will keep working to educate and inspire practitioners and policy makers to understand the potential of a cavity-free future, and to work to make this vision a reality.

Wherever you are, we invite you to join this discussion and fight for positive policy change, improved health outcomes and a brighter future for all.

Glossary Of Key Terms

This glossary defines how the terms are used in the context of this report. It does not aim to provide an update to already existing definitions.

BLUEPRINT

An overview of a payment system design, which can then be adapted to more closely fit dental health system specifications.

CAVITY

A tooth with caries that has progressed far enough to produce a collapse in the integrity of the outer enamel, exposing the inner dentine. This stage of caries typically leads to a restoration or filling.

CARIES PREVALENCE

A population measure of the disease experience. Traditionally, survey methods have only recorded some later stages of caries (using the DMFT index) at the cavity threshold (D3MFT). More recently, comprehensive assessments of both early and late – stage disease provide an estimate of the total caries present.

CARIES PREVENTION AND CONTROL

The continuing assessment and management of early stage dental caries in order to prevent the development of cavities and limit the need for restorative treatment.

DALYS

One DALY can be thought of as one lost year of 'healthy' life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability. [WHO]

DENTAL CARIES

The disease and disease process known as tooth decay. Dental caries (tooth decay) is a dynamic, multifactorial disease in which the hard tissues of the teeth demineralise at a faster rate than they can replenish the minerals lost (remineralisation).

DENTAL HEALTH SYSTEM TYPES

A generalised classification of health system types based on a number of high-level factors, for the purpose of discussion and system creation.

DMFT

An index for measuring Decayed, Missing and Filled Teeth.

GLOCAL

Glocal – a concept promoted by the ACFF in which global evidence is applied locally.

HEALTH OUTCOMES

Benefits to a patient (or group of patients) as the result of a series of interventions.

NON-COMMUNICABLE DISEASES (NCDS)

Medical conditions or diseases that are not caused by classical infectious agents. NCDs can refer to chronic diseases which last for long periods of time and progress slowly.

PAYMENT SYSTEM

The system that generates payments which directly determine or influence the personal income of the primary care dentist.

PREVENTION – PRIMARY

Prevention of the disease (in the absence of the disease).

PREVENTION – SECONDARY

Prompt detection of early – stage disease in order to provide effective arrest and/or regression of caries prior to the cavity stage.

PREVENTION – TERTIARY

Prevention applied to later stages of caries (cavity stage). It aims to prevent further hard tissue destruction, pulpal involvement and tooth loss, and restore function and aesthetics while preventing the initiation of new disease.

PREVENTIVELY ORIENTED PATHWAY

A clinical pathway which includes determining caries risk, detecting and assessing caries lesions, deciding on appropriate care from a menu of preventive and operative choices, and doing patient centred, tooth preserving care. [ICCMS™/ CariesCare International 4D is an example of such a preventively oriented pathway.]

RESTORATIVE – ONLY PATHWAY

A clinical pathway from diagnosis to treatment planning which relies solely on surgical intervention as the treatment choice.

Policy Lab Participants

Dr Mick Armstrong – UK
Professor Stephen Birch – Canada
Dwayne Boyers – UK
Professor Mariana Braga – Brazil
Dr Colette Bridgeman – Wales
Professor Kim Ekstrand – Denmark
Julian Fisher – Germany
Mark Genuis – Canada
Dr Guy Goffin – Belgium
Professor Jostein Grytten – Norway
Professor Nobuhiro Hanada – Japan
Ayberk Kara – Turkey
Dr Chng Chai Kiat – Singapore
Professor Stefania Martignon – Colombia
Dr Marco Mazevet – France
Professor Paulo Melo – Portugal
Dr Shannon Mills – USA
Helen Miscampbell – England
Professor Timothy Newton – UK
Professor Yoshiaki Nomura – Japan
Professor Mark Pennington – UK
Professor Nigel Pitts – UK
Professor Eric Rooney – England
Dr Catherine Rutland – UK
Dr Susie Sanderson – UK
Dr James Taylor – Canada
Professor Svante Twetman – Denmark
Dr Paula Vassallo – Malta
Dr Christopher Vernazza – UK
Dr Marko Vujicic – USA
Dr Shlomo Zusman – Israel

Facilitation Team

Rachel Hesketh
Cat Mayne
Ross Pow
Charlene Rohr

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Online Appendix – https://goo.gl/o1nzUe

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Policy Lab outcomes: How do we create and implement acceptable prevention-based dental payment systems to achieve and maintain health outcomes?

Untreated caries in permanent teeth affects 2.4 billion people and was the most prevalent condition among all those evaluated in the Global Burden of Diseases 2010 study. Caries shares risk factors with other non-communicable diseases (NCDs) such as obesity and diabetes, so by decreasing the prevalence of caries and its associated risk factors, **it is entirely possible to move towards a Cavity-free world and we can also move towards improving general health.**

Outmoded payment systems have been identified as a big barrier to achieving this. In most countries, dental teams are paid for 'drilling and filling' rather than being rewarded for the preventative and non-surgical care that would keep their patients healthy.

Devising and implementing new payment systems to support preventive, non-surgical and tooth preserving care can play a major part in providing a solution to this problem.

A Policy Lab meeting took place on 23-24 July 2018, and was a further breakthrough, bringing together a multi-faceted expert group (including health economists) from around the world who looked to answer this question by designing a generic payment model blueprint.

The key components of the blueprint set out 1) What we should pay for, 2) Who the system must work for and 3) How we can deliver the change needed:

What we should pay for

- **Standardized and measurable health outcomes, such as being cavity-free:** The ability to measure how our care affects a patient's health is imperative: it allows us to understand how effective our treatments are, and how best to spend our resources to maximise health gain. For this purpose, the standardisation of health outcomes is essential to compare best practices between practitioners, payment systems and countries. These health outcomes have to be easily measurable for the dental teams in order to facilitate implementation.
- **Innovative and evidence-based preventive interventions:** In most health system, preventative interventions or care such as the patient's risk assessment, fluoride varnishes or minimally interventive procedures are still not financed by payers and may not be valued by patients. This is at odds with international recommendations for best practice and has been for decades.
- **Personalised and integrative care:** Evidence-informed and evidence-based systems such as the CariesCare International 4D System are comprehensive, dental team friendly protocols that maximises the patient's health gains, it is important that each element of is paid for, from Risk Assessment to a comprehensive examination, personalised care planning and the full range of tooth preserving treatments.
- **Paying dentists for preventive and non-surgical interventions** will help drive the interest of dental industries in bringing new preventive products to market

Who the system must work for

- **For patients** – changing personal attitudes and behaviours around oral health and facilitating access to avoid discrimination: It is essential that the payment system enhances the patient's self management of risk factors such sugar consumption. Extra care has to be given to the patients that are at higher caries risk: payment systems should integrate that this extra care given has to be valued, in order to avoid cream-skimming and promote patient tailored treatments.
- **For professionals and providers** – supporting practice level sustainability: Professional buy-in has to be strong in order to change practices. Dental teams should be remunerated fairly according to the amount of care given and the financial incentive to perform preventative and non-invasive care should not be less than the one to perform surgical care.
- **For government and payers** – delivering system sustainability: Payment systems have to be financially viable for payers and governments. Comprehensive economic evaluations have to be set-up alongside the implementation of payment systems in order to understand the short and long term value achieved, cost-effectiveness and financial risk.

How we deliver the change needed

- **Taking the lead as a dental profession:** The profession has the responsibility to be the main driver for change. They should appreciate and work with all aspects of the Win6 stakeholder cube to facilitate the change needed.
- **Working collaboratively using multi-stakeholder approaches:** collaborations, such as the recent dental policy labs facilitate change amongst stakeholders groups with different interests, that often do not speak with each other. Understanding the different perspectives and sharing information in a trusted environment allows barriers to be identified and acceptable solutions found amongst different stakeholder groups.
- **Establishing consistent standards:** Standards have to be set up and implemented to allow comparisons between practices. A global approach has to be taken to how we measure disease and key aspects of care.
- **Essential data should be comparable internationally, but also allow variations according to local requirements.** The minimal data required to both pay for health and assess outcomes should be part of secure electronic health records accessible to all who can benefit from them.
- **Adapting the blueprint for different types of dental health system around the world:** The generic blueprint sets the key components for a payment system. However, many characteristics differ from country to country, such as the type of financing, the available workforce, the oral health care status, distribution of the dental team and the general health condition of the population (prevalence of systemic diseases).

What should we do next?

- **Continue to build the collaborative network driving this change:** several experiments with dental payment systems have already taken place in different countries: a collaboration to share previous and current experiences is essential in order that all can learn and benefit.
- **Expand and share the evidence base:** We already have an impressive evidence base in many areas, but further data has to be collected in order to inform policymakers and other stakeholders. Reliable and consistent data globally provided can help to constantly improve the design and the implementation of these payment systems. Sharing it may allow the targeting of best-practices and also help to advocate for these new payment systems.
- **Refine the design of the generic model:** The main components of the system have been defined in the policy lab : the output will be aggregated in the full report.
- **Test the model in different systems:** once the generic model is refined and completed there is both a need and enthusiasm to test it in different health systems and locations. The type of payment system, such as fee for service, capitation, salaried, pay for performance (or a combination of) will likely vary according to these characteristics.
- **Develop implementation blueprints for a '*Glocal*' approach:** In order to share the experiences of introducing new payment systems and lower the barriers for different countries the generic (*Global*) model can be *localised* efficiently by creating implementation blueprints to help similar types of countries secure the needed change.

Paying for health in dentistry

Dental caries has the greatest global burden of any disease, yet it is largely preventable. It is entirely possible to move towards a cavity-free world which would bring with it wider health benefits as well as improved oral health.

Outmoded payment systems have been identified as a big barrier to achieving this. In most countries dental teams are paid for 'drilling and filling' rather than being rewarded for the preventative and non-surgical care that would keep their patients healthy.

Devising and implementing new payment systems to support preventative, non-surgical and tooth preserving care can play a major part in providing a solution to this problem.

The Policy Lab

4D Caries Management

Determine
Detect and Assess
Decide
Do

A Policy Lab meeting took place on 23-24 July 2018, bringing together a multi-faceted expert group from around the world who looked to answer this question by designing a generic payment model blueprint.

Key components

This blueprint sets out **what we should pay for**, **who the system must work for** and **how we can deliver the change needed**.

What we should pay for

- Standardized and measureable health outcomes, such as being cavity-free
- Innovative and evidence-based preventive interventions
- Personalised and integrative care, such as the CariesCare International 4D System

Who the system must work for

- For patients – changing personal attitudes and behaviours around oral health and facilitating access to avoid discrimination
- For professionals and providers –supporting practice level sustainability
- For government and payers – delivering system sustainability

How we deliver the change needed

- Taking the lead as a dental profession
- Working collaboratively using multi-stakeholder approaches
- Establishing consistent standards
- Putting in place the necessary data
- Adapting the blueprint for different types of dental health system around the world

What should we do next?

Continue to build the collaborative network driving this change

Expand and share the evidence base

Refine the design of the generic model

Test the model in different systems

Develop implementation blueprints for a 'Glocal' approach

This document represents the outcomes of a Policy Lab meeting facilitated by the Alliance for a Cavity-Free Future with King's College London Dental Institute and the Policy Institute at King's. For more information please visit www.acffglobal.org

The Policy Institute at King's