Caries Prevention Partnership

Making prevention a priority

White Paper on Dental Caries Prevention and Management

A summary of the current evidence and the key issues in controlling this preventable disease

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Section 14 A call for action

The challenges in 2016

In the field of dental caries there is an excessive ***implementation gap*** between the extensive research evidence we have accumulated over decades and its adoption in routine clinical practice. In many countries this has specifically been seen since the previous FDI Policy Statements in this area, published in 2002 and in 2012. There is an urgent need to shorten this implementation gap at the present time and to introduce mechanisms to ensure that, as new beneficial research findings are made available, they can then be evaluated appropriately in a predictable and efficient way so that they can be used to update daily practice and improve caries control.

As dental caries (tooth decay) continues to represent a significant burden across the life-course on a global level, the dental profession, in order to fulfil its professional obligations, seeks to re-prioritise the interests of both patients and the public by significantly modernizing and improving the prevention and management of dental caries.

This should be done by being inclusive and collaborative, both within the various aspects of dentistry (which can often be deeply "silo-ed") as well as with external partners in health (from nurses to physicians) and healthcare. The tendency for research to be repeated, or rejected as it is "not invented here", or simply "re-labelled" in attempts to create new niches should be minimized. Whilst maintaining clinical and academic "freedom", wherever possible, building on international best evidence incrementally, should be the best way to improve patient health and healthcare.

Many groups and organizations within Dentistry have been asking for a move forwards towards more effective caries prevention and the preservation of sound tooth structure for more than 20 years – how do we now make it happen and happen more quickly? The message is not new, but to achieve the desired change it is now necessary to identify and overcome a range of barriers/factors in areas such as those associated with:

- Confusion over caries terminology, classification and treatment philosophies for both non-operative and tooth-preserving operative caries care.
- Excessive variation in the degree of investment in the methodologies employed and the quality standards used in caries epidemiology, as well as confusion in the interpretation of results by different stakeholder groups. We need high quality data which also can break out results for both initial-stage and more advanced stages of disease.
- Lack of tools (risk assessment tools, caries detection tools, caries activity assessment tools) and lack of a systematic approach that can work in daily practice.
- Education and knowledge transfer/ implementation for the wealth of evidence that is available in the field and specifically about: early disease, the caries process, the balance between demineralisation and remineralisation and links with risk assessment and clinical management.
- Lack of systematic communication across the domains of Education, Research, Practice and Public Health.
- Remuneration being provided for only some aspects of what is deemed internationally as appropriate caries care and the continuation of inappropriate (or outdated) financial incentives in Practice.

Further, creative solutions need to be shaped to meet a range of identified needs; specifically, the:

- Need for more effective primary and secondary caries prevention strategies across a range of caries risk profiles.
- Need, in particular, for the implementation of the 2015 WHO Guideline on sugars intake for adults and children to be clear and effective.
- Need to understand outcomes of caries and caries care better. Further development

is needed in robust measures for health maintenance, disease control, patient-centred measures of quality as well as wider impacts of systematic caries control.

- Need for less technique-sensitive operative materials with more tooth preservation and better longevity.
- Need to be able to provide IT support to capture this information efficiently locally, nationally and globally.

Call to action – key points

In order to meet the challenges outlined above, we call on national dental associations to consider the following priorities when setting up their own caries prevention and management recommendations, strategies, work plans, and advocacy activities. The actions listed below cover many different fields. Some can be implemented by the dental profession itself, some pertain to education and can be discussed with dental schools, deans etc. and others relate to policy and need to be brought to the attention of health authorities. Yet dental community leaders have a role to play in driving each of these actions forward.

Prevention

Support for caries prevention efforts at both the individual and population levels:

- Primary prevention covers a very large spectrum and needs to target different audiences: 1) individuals (oral health literacy, oral hygiene, diet); 2) dental practitioners (use of fluorides, diet advice, dental sealants...); and 3) policy makers (policies re. fluoride, re. availability of sugary food and drinks etc...). Primary prevention is a key element of state-of-the-art caries prevention and targeted strategies are needed to address each different stakeholder group. Further, there are opportunities arising from the common risk factor approach to link caries prevention with hygiene and the control of obesity and diabetes.
- Secondary prevention: the prompt and efficacious application of preventive care to a specific lesion, once it has been detected and assessed, provides a very significant opportunity to stop lesions from ever progressing to the stage at which surgical intervention is required and to preserve tooth tissue. This aspect of caries care should be a priority and fully integrated into routine dental practice for all age groups.
- All prevention strategies should be integrated both across the dental domains and team and wider, outside of dentistry in order to reach all age groups and help control other diseases which share common risk factors. This is key to achieving the re-integration of oral health into general health.

Clinical practice

Initiate a shift in the management of caries:

- A shift in caries management to detecting caries at an early (non-cavitated) stage and adequate risk assessment to determine appropriate preventive intervention and recall frequency needs to be supported.
- Dentists should be well supported where they need to be in: 1) moving towards an up-to-date, comprehensive, evidence-based, risk-informed, tooth preserving, preventive caries management; and 2) in working effectively with a wider range of internal and external partners to help control caries at both the individual patient and wider community level.
- It has been appreciated for some years that technology developments in the areas of both lesion detection and activity assessment as well as risk assessment are urgently needed to help dentists, the dental team and patients. Although progress with devices, software and techniques to use in dental practice has been frustratingly slow, this remains a priority area in order to support dentists' optimal assessment, re-assessment and minimally invasive clinical care.

Education

Promote a redefinition of cariology curricula

- There is a fundamental need to get cariology education and training re-launched in an effective and efficient way. Education must be

up-to-date and evidence-based and must be delivered at both the undergraduate education and continuing education levels.

Integration

Work towards a stronger integration within oral health and into general health and health policy.

- Oral health should be seen as part of General health; dental teams can help with detection and prevention of systemic conditions whilst more generalist health professions have an important role to play in caries prevention.
- Caries prevention and control strategies need to be put in context with the implementation of the UNEP Minamata Convention (phase-down of amalgam, phase up of prevention).
- ***Within dentistry***: we need to align the key "disciplines" including: nutrition, education and behaviour change, cariology, (dental) public health, clinical practitioners and those developing practice-friendly versions of caries management systems (Section 8).
- ***Outside dentistry***: the dental profession should advocate that "Prevention is key" and "Good oral health should be everybody's business" and seek to join up the pieces to link with suitable actions from other external stakeholders – including other health professions (such a physicians and nurses), wider public health groups, the public, the patients and other stakeholders.

Financing

Participate in re-thinking remuneration mechanisms for caries prevention and management.

- All stakeholders in national or local contract specification and negotiations which includes caries care should ensure that: 1) remuneration is considered as an important element; 2) remuneration should incentivise preventive, evidence-based tooth preserving caries management and only support operative intervention when this can be shown to be needed; and 3) the patient's best interests should stay as the paramount consideration in all such discussions and agreements.
- Health Systems need to avoid investing in heavy and costly infrastructure that might be unnecessary.

Evaluation and Data

Encourage data-driven, evidence-based caries prevention and management.

- The quality of data collected needs to be improved in order to obtain data which is appropriate, valid and comparable (across regions, countries, but also over time). In addition, disease detection thresholds must be placed so that prevention needs and success can be assessed and monitored.
- These should typically go beyond the simple "No obvious decay" or "obvious decay" call at the cavitated caries into dentine D_3 threshold to either a level which corresponds to the D_1 threshold including enamel caries with a limited number of stages of caries severity, or a more comprehensive staging of caries severity across the caries continuum *(see Section 3)*.
- Going forward it is important that: 1) the four types of caries outcome measures (health maintenance, disease control, patient-centred quality and wider impacts of using a caries management system) continue to be developed and refined in ways that are appropriate locally, nationally and globally; and 2) that the IT support required to capture this information as efficiently as possible is developed locally, nationally and globally in parallel.

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