

# Understanding the systems, organisational and patient barriers and facilitators to quality improvement in primary dental care: Prevention and management of dental caries

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## Background

Dental caries is the most common chronic disease of adult and childhood. Although preventable, it is a widespread and costly public health problem<sup>1</sup>, associated with diabetes, heart disease and stroke<sup>2</sup>.

In Scotland, 47% of children aged 4-7 years and 36% aged 10-13 years living in high deprivation areas have obvious signs of decay<sup>3,4</sup>. These oral health disparities persist into adulthood<sup>5</sup>.

In 2005, the Scottish Government established the national 'Childsmile' programme. In 2012, the Scottish Dental Clinical Effectiveness Programme's (SDCEP) guidance for *Prevention and Management of Dental Caries in Children* was published. Despite these initiatives there is still evidence of sub-optimal variation in this area of practice<sup>6</sup>.

Previous research to support improved care delivery found this variation was associated not only with factors at the level of the individual practitioner but also with factors at the patient, practice and policy levels<sup>6</sup>.



## Results

Theoretical domains associated with best practice were identified from the postal survey (N=196), case studies (N=8 practices; 29 interviews), patient focus groups (N=19 participants) and stakeholder interviews (N=4). Salient domains were identified and prioritised, using a consensus approach, to develop a conceptual framework.

At the interactive workshop, patient, practice and policy stakeholders used the conceptual framework to prioritise two professional behaviours for change:

1. The use of preventive fissure sealants (6-12 years)
2. The application of fluoride varnish (6-12 years)

Salient domains were mapped through the TDF related Capability, Opportunity, Motivation– Behaviour (COM-B)<sup>7</sup> system to identify potential interventions for change. The interventions prioritised for immediate implementation were an Audit and Feedback intervention at the practice level and a patient focussed oral health awareness campaign.

## Aims & Objectives

1. To identify patient, practice and policy level factors that influence the routine delivery of guidance recommended care for the prevention and management of dental caries.
2. To inform the development of pragmatic, theory-informed interventions to support the implementation of guidance recommended care in dental primary care in Scotland.

## Discussion & Implementation

This study, conducted as part of the TRiADS programme<sup>9</sup>, demonstrated the benefits of a mixed-methods approach for the development of interventions to address multi-level barriers and facilitators to recommended care.

The findings are informing the review, update and development of implementation tools to accompany the 2nd edition of the SDCEP guidance due for publication in 2016.

In collaboration with NHS Education for Scotland and Childsmile, TRiADS has developed and piloted pre-approved audits for fluoride varnish and fissure sealants.

Future plans include a practice-based campaign to promote patient oral health awareness and support.

## Methods

A sequential mixed-methods approach, underpinned by the Theoretical Domains Framework (TDF), was used to assess six guidance recommended behaviours for the prevention and management of caries (Box 1).

The approach comprised:

- A postal survey
- In depth case studies
- Patient focus groups
- Key stakeholder interviews (education, policy, professional body)

Findings were integrated into a conceptual framework describing the barriers and facilitators to change. These were mapped to associated domains in the TDF to identify theoretically relevant intervention functions and behaviour change techniques<sup>7,8</sup>. An interactive workshop prioritised implementation of interventions for change.

### Box 1. Recommended Behaviours

1. Record caries risk assessment
2. Base recall interval on caries risk assessment
3. Apply fluoride varnish
4. Place preventive fissure sealants
5. Demonstrate oral hygiene (e.g. tooth brushing)
6. Take routine bitewing radiographs

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