

# Oral Health: Preventing Dental Caries, Community-Based Initiatives to Promote the Use of Dental Sealants

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## Task Force Finding and Rationale Statement

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## **Task Force Finding and Rationale Statement**

### **Background**

A meta-analysis (Ahovuo-Saloranta et al., 2013) has shown that dental (pit and fissure) sealants prevent caries (tooth decay) in children and adolescents by 81% at 2 year follow-up. Sealants are clear or opaque plastic resinous materials applied to the chewing surfaces of the back teeth to prevent dental caries. Despite their effectiveness, sealant use remains low, especially among children from low-income families and certain racial or ethnic groups.

### **Intervention Definition**

Community-based dental sealant promotion initiatives aim to increase sealant use, especially among specific populations at high risk for tooth decay (e.g. low-income).

These initiatives can take many forms including continuing education courses for dental professionals; educational campaigns for parents, community leaders, or third party payers of dental treatment; policies to promote access to sealants; financial incentives or reimbursement; and promotional activities to increase the number of schools with sealant delivery programs and the number of students participating in these programs.

[School-based sealant delivery programs](#), which are distinct from initiatives to promote use of sealants, have been recommended by The Community Preventive Services Task Force based on strong evidence of effectiveness in preventing tooth decay among children.

### **Task Force Finding (April 2013)**

The Community Preventive Services Task Force finds insufficient evidence to determine the effectiveness of community-based initiatives to promote use of dental sealants. Although strong evidence exists for the efficacy of sealants and their delivery through school-based programs for preventing caries, few studies examined uptake of sealants following community-based promotion initiatives and their results were inconsistent.

### **Rationale**

#### **Basis of Finding**

The Task Force Finding is based on evidence from a systematic review (search period 1946-2012) identifying three studies of community-based initiatives that evaluated the promotion of sealant use through educational intervention, mass media, financial incentives, or a combination of these methods. Studies reported the percentage of children who received sealants, the number of sealants applied per child, and the extent of sealant use among dentists.

One U.S. study conducted within the Washington Dental Services capitation dental plan compared the effectiveness of an initiative that combined provider education and an additional fee-for-service reimbursement with no intervention. Results showed no statistically significant difference in sealant use.

Another study was conducted in Scotland, where both capitation and fee-for-service schemes are in place. The study compared financial incentives alone, education of clinicians alone, a combination of these two approaches, and no intervention. After adjustment for baseline differences, a statistically significant increase of 9.8 percentage points in the number of children with one or more sealants followed implementation of a financial incentive.

A study from the U.S. explored the effect of a large scale sealant promotion initiative aimed at both the public and dental health professionals. Although the study results showed an increase in the number of dentists reporting sealant use, there was no statistically significant improvement in the level of sealant use by dentists.

### **Other Benefits and Harms**

No other benefits or harms specific to community-based dental sealant promotion initiatives have been identified by the review team or in the published literature.

### **Considerations for Implementation**

Considerations for implementation include the availability of resources and their appropriate allocation to community-based sealant promotion initiatives rather than other programs with evidence of effectiveness, such as school-based sealant delivery programs.

### **Evidence Gaps**

There is a small body of evidence assessing the effectiveness of community-based sealant promotion initiatives for increasing sealant use. The broader literature does demonstrate an increase in knowledge with regard to dental sealants following community-wide programs. Before further studies of community-wide sealant promotion initiatives are undertaken, a greater understanding of dental health professionals' beliefs and other barriers that prevent change with regard to sealant application is required.

*The data presented here are preliminary and are subject to change as the systematic review goes through the scientific peer review process.*

### **References**

Ahovuo-Saloranta A, Forss H, Walsh T, Hiiri A, Nordblad A, Mäkelä M, Worthington HV. (2013) *Sealants for preventing dental decay in the permanent teeth*. 'Cochrane Database of Systematic Reviews 2013', Issue 3. Art. No.: CD001830. DOI: 10.1002/14651858.CD001830.pub4.

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### **Disclaimer**

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

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