

3-5. Tobacco Use, Oral Cancer, and Oral Health

Tobacco use is a common risk factor for multiple systemic and oral conditions, and has long been a risk factor addressed by both medicine and dentistry. Tobacco use includes combustible and smokeless tobacco products, as well as electronic cigarettes. Long-term systemic health effects of cigarette smoking include various types of cancer, as well as cardiovascular and respiratory diseases, among others.⁶⁰ Related to oral health, cigarette smoking is a major risk factor for periodontal disease and oropharyngeal cancer, and smokeless tobacco use is associated with the development of precancerous lesions in the mouth. Smoking also has other negative effects on oral health by contributing to dental implant failure, oral candidiasis, smoker's palate, and smoker's melanosis.⁶¹

In the dental setting, patients are commonly screened for tobacco use. However, less is known about the extent of counseling or referral for cessation in dental settings. Due to the overlapping impact of tobacco use on oral and systemic health, it is of interest to identify opportunities for integrated activities so that medical and dental care systems may collaboratively support patients to reduce tobacco use and design effective public health interventions to address this health risk behavior.

Environmental Scan of Publications

Each program listed in **Table 10** had published information describing interventions related to tobacco use. We have not included programs that provided only minimal references to this topic without accompanying descriptions of what activities were performed. It should be noted that we also excluded studies that primarily detailed tobacco cessation interventions that are performed exclusively within the dental setting; for the purposes of this environmental scan, we did not consider activities that did not involve cross-disciplinary interactions to be integrated activities.

Program Settings and Scope

The most commonly seen activities included screenings for tobacco use, patient education, and referrals for cessation services.

Table 10. Integrated Programs That Target Tobacco Use and Oral Health

Program	State	Brief description
Kaiser Permanente Cedar Hills Dental & Medical Office	OR	All patients over aged 13 are asked about tobacco use with referrals for cessation services
Kaiser Permanente Dental Associates	OR, WA	Care coordination between dental and primary care; screenings and tobacco cessation referrals by dental providers
Trillium Coordinated Care Organization	OR	Accountable care organization (ACO) offers integrated dental and medical care to a county's Medicaid population; dental providers offer smoking cessation counseling
United Community & Family Services	CT	Dental hygienist provides parental education about smoking and tobacco use during pediatric oral health screenings

Community Oral Health Programs

For the 30 online survey respondents, 21 local organizations indicated they provide some form of support for tobacco/smoking cessation.

- **Pharmacotherapy.** Only one program (Alleghany County Health Department Dental Clinic in Cumberland, MD) indicated that it prescribes some type of pharmacotherapy (e.g., bupropion SR, nicotine gum) to assist patients in tobacco cessation.
- **HPV vaccinations.** Four respondents indicated that they are involved in some capacity with HPV vaccinations. For example, dental hygienists at Price County Health and Human Services Department (Phillips, WI) refer age-appropriate children to public health nurses for the series of vaccinations. Likewise, in addition to advising individual patients, SUNY Oral Dental Hygiene Department and Clinic (Middletown, NY) displays posters in its clinic about the importance of the HPV vaccine.

- **Oral cancer screenings.** Nine respondents indicated that medical providers within their systems provide oral cancer screenings on a regular basis.
- **Education.** Thirteen community oral health programs target tobacco use and five programs target alcohol use with health promotion and education activities.
- **Tobacco cessation counseling.** Thirteen oral health programs indicated that they perform tobacco cessation counseling
- **Quitlines.** Thirteen oral health programs report that they refer tobacco users to quitline (hotlines to aid in smoking cessation) services.

State Chronic Disease and Oral Health Programs

Most state oral health programs who responded to the survey (24 of 26) indicated that oral health care workers provide tobacco/smoking cessation support. Support is most often provided in the form of quitline referrals and tobacco cessation counseling. However, states report wide variation in their activities to address tobacco use and oral health:

- **Pharmacotherapy.** Six states (Arizona, Minnesota, Montana, South Dakota, Virginia, and West Virginia) either prescribe or facilitate the use of pharmacotherapy to assist with tobacco cessation.
- **HPV vaccinations.** Ten state oral health programs are involved either with providing or promoting HPV vaccine use in their states as a cancer preventive measure.
- **Oral cancer screenings.** Five states or territories (Nebraska, New Mexico, Palau, South Carolina, and West Virginia) indicate that oral cancer screenings are performed by medical providers.
- **Continuing education for health care providers.** North Carolina has developed continuing education for medical and oral health providers about new and emerging tobacco products. Moreover, the Tobacco Prevention and Control Branch within North Carolina's Chronic Disease and Injury Section has worked with the Oral Health Section to develop a program at East Carolina University dental school to train dentists and dental students about tobacco cessation. In North Dakota, the Oral Health Program works with the Coordinated Chronic Disease Prevention Program to set up educational opportunities for oral health providers and suggests dental sites to pilot tobacco interventions.
- **Web-based toolkit.** Montana uses a web-based toolkit to educate dental providers about evidence-based interventions to address tobacco addiction.

Ten of the responding state chronic disease programs (Colorado, Connecticut, Georgia, Idaho, North Carolina, Ohio, Oregon, Pennsylvania, West Virginia, and Wisconsin) noted existing and continued collaborations relating to tobacco prevention and cessation activities. While many states noted in their surveys that they are generically focused on reducing tobacco intake, two states highlighted initiatives toward a certain product:

- Wisconsin targets chewing tobacco.
- North Carolina targets electronic nicotine delivery systems.

Finally, the chronic disease program in New York pointed out that dentists can be reimbursed by its state Medicaid program for tobacco cessation services.

State Oral Health Plans

Eighteen of the current state oral health plans directly or indirectly address the topic of tobacco use and oral health, primarily by various educational efforts in reducing tobacco use.

Broad objectives and strategies to target tobacco use and oral health include:

- 1) Education of the public
- 2) Education of health professionals
- 3) Enforcement of existing laws and regulations
- 4) Reimbursement for tobacco cessation activities
- 5) Data collection

Specific objectives and strategies identified in state oral health plans address a variety of interventions:

- **Education.** Mechanisms to educate individuals and high-risk populations about the adverse impact of tobacco use (Alaska, California, Idaho, Maryland, Missouri, South Dakota, Vermont, and West Virginia)
- **Quitlines.** Activities related to tobacco quit lines (Alaska and South Dakota)
- **Standardized screening protocols.** Strategies that focus on consistent screening protocols or consistent messaging to assist people in discontinuing tobacco use (California, Michigan, and Minnesota)
- **Support for HPV vaccinations.** Recommendations for dental providers to encourage families with age-eligible children to receive HPV vaccination (Maryland)
- **Environmental interventions.** Enforcement of tobacco-free policies, particularly at schools (Colorado)
- **Provider reimbursement.** An objective for dental providers to be reimbursed for tobacco cessation counseling (Rhode Island)

Two notable partnerships are found in Alaska's and Minnesota's state oral health plans.

- Alaska is working with its cancer control and prevention program to develop a question about oral cancer on its BRFSS survey.
- Minnesota is working with the American Cancer Society to incorporate oral and pharyngeal cancer screenings in Medicare physical examinations.

Conclusions

Integration of medical and dental activities to target tobacco use and oral health was most commonly found to occur administratively at higher levels—specifically, state oral health and chronic disease programs. Of the 17 state oral health programs that conduct health promotion and education activities in this area, 14 states target tobacco use and five states target alcohol use. Several of these programs do so as part of statewide coalitions that target cancer.

Challenges

- State-level initiatives and recommendations require diffusion to the level of local care providers to be effective.
- Messaging and protocols for screenings, referrals, and patient education should be standardized.
- Recognition of HPV as a risk factor for oral cancer and of dental providers' role in this area must be increased.

Recommendations

- 1) Continue to refine and develop the role of state oral health and chronic disease programs in coordinating public health activities that target tobacco use.
- 2) Develop professional guidance regarding the role of dental professionals—especially those providing services to children and adolescents in public health settings—regarding HPV vaccination.