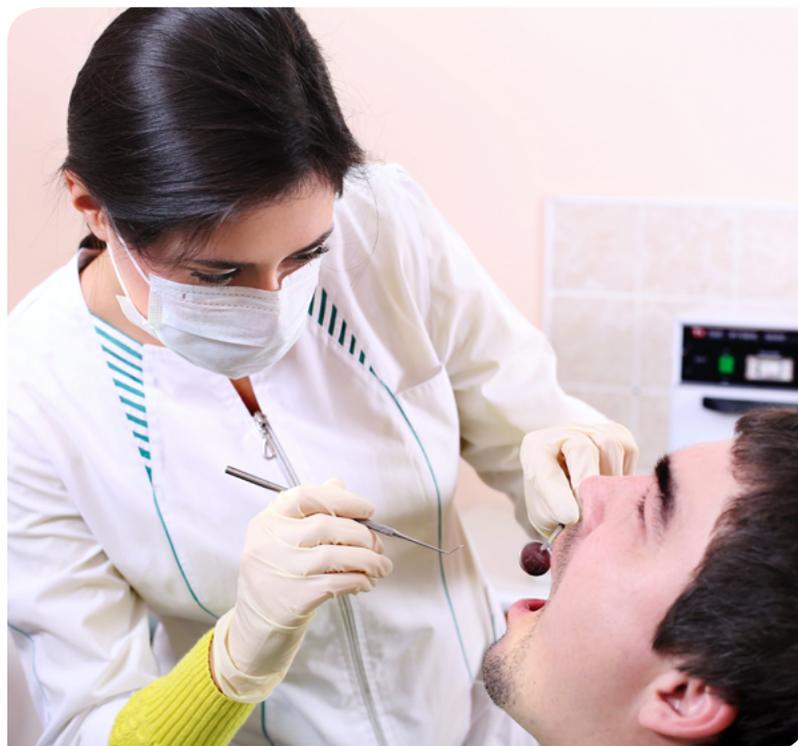
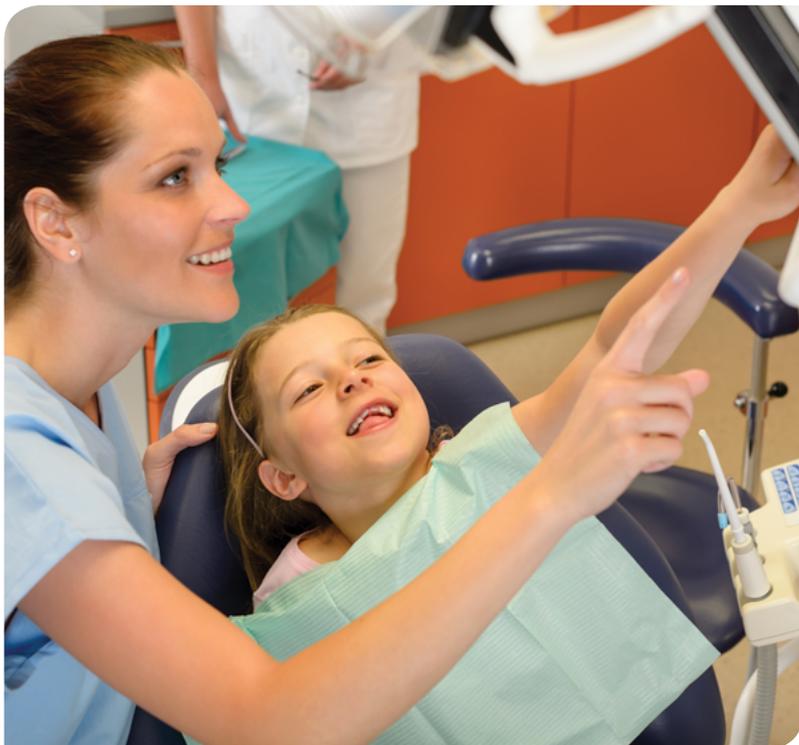


Strategic Plan for Oral Health in Oregon: 2014-2020



ENDORSEMENTS

The following organizations, agencies and groups have endorsed the policies and recommendations in this plan.

- Advantage Dental
- AllCare Health Plan
- Benton, Lincoln, Linn Regional Oral Health Coalition of Oregon
- Cambia Health Foundation
- Capitol Dental Care, Inc.
- CareOregon
- CareOregon Dental
- Central Oregon Oral Health Coalition
- Columbia Pacific CCO
- Dental Foundation of Oregon
- Health Share of Oregon
- Jackson Care Connect
- Kaiser Permanente
- Multnomah Co. Health Department
- Northwest Health Foundation
- Northwest Permanente Medical Group
- Oral Health Funders Collaborative of Oregon and Southwest Washington
- Oregon Child Development Coalition
- The Oregon Community Foundation
- Oregon Dental Association
- Oregon Dental Hygienists' Association
- Oregon Governor's Office
- Oregon Health & Science University and OHSU School of Dentistry
- Oregon Health Authority
- Oregon Oral Health Coalition
- Oregon Primary Care Association
- Permanente Dental Associates
- Providence Health & Services
- Samaritan Health Services
- Upstream Public Health
- Virginia Garcia Memorial Health Center
- Yamhill CCO
- Yamhill County Public Health

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JOHN A. KITZHABER MD
GOVERNOR

September 29, 2014

Dear Oregonians,

Health is fundamental to every Oregonian's opportunity for a pathway to success. My administration is focused on transforming Oregon's healthcare system to produce better health, better care and lower costs. Oregon's sixteen Coordinated Care Organizations, which serve Oregon Health Plan members, have begun to deliver results and will be a model for Oregon and the nation. In the coming years, the *Strategic Plan for Oral Health in Oregon* will be a helpful guide for CCOs, health care partners, and other community-based stakeholders.

I commend the Oregon Oral Health Coalition, the Oral Health Funders Collaborative, and the Oregon Health Authority for taking the initiative to develop this plan and work together to identify opportunities to maintain lifelong oral health for all Oregonians.

Please take the time to review this plan and consider its recommendations in your work. By aligning our objectives, strategies and goals, we will more quickly achieve optimal oral health in Oregon.

Sincerely,

John A. Kitzhaber, M.D.
Governor

Sk:gg

CONTRIBUTORS

In fall 2013, 10 regional meetings were held to collect input for this strategic plan. These meetings were attended by 141 people, including 13 representatives of the larger work group that met regularly throughout the year. Regional meetings took place in Astoria, Coos Bay/North Bend, Corvallis, Eugene, Hood River, Klamath Falls, La Grande, White City/Medford, and Wilsonville/Portland. Although this plan does not list all participants, their input is greatly appreciated and has been integrated into the plan.

Gary Allen, DMD, MS
Advantage Dental

Jo Bell
Capitol Dental Care, Inc.

Christina Swartz Bodamer
Oregon Dental Association

Lisa Bozzetti, DDS
Virginia Garcia Memorial Health Center

Suzanne Browning
Central Oregon Oral Health Coalition

Jodeen Callaghan, DMD
Permanente Dental Associates

Ann Curry-Stevens, PhD
Portland State University

Tracy Dannen Grace
Kaiser Permanente

Donalda Dodson
Oregon Child Development Coalition

David Dowsett, DMD
Private practice

Kathleen Drissi Kleimann, RDH
FamilyCare Health Plans

Sarah Dryfoos
Oregon Primary Care Association

Michele Ferree
Ronald McDonald House Charities® of Oregon and Southwest Washington

Tony Finch, MA, MPH
Oregon Oral Health Coalition

Cindy Fisher
Community Health Centers of Benton and Linn Counties

Melissa Freeman, MPH
The Oregon Community Foundation

Philip Giles
Oregon Oral Health Coalition

Karen Hall, RDH, EPDH
Oregon Oral Health Coalition

Lynn Ironside, RDH
Oregon Dental Hygienists' Association

Kristi Jacobo
Oregon Health Authority

Sean Kolmer, MPH
Oregon Governor's Office

Charlie LaTourette
The Dental Foundation of Oregon

Annette Leong
Oral Health Funders Collaborative

Priscilla Lewis, RN, MBA
Providence Health & Services

Deborah Loy
Capitol Dental Care, Inc.

Sharity Ludwig, BSDH, EPDH
Advantage Dental

Linda Mann, RDH
Capitol Dental Care, Inc

Phillip Marucha, DMD, PhD
OHSU School of Dentistry

Shanie Mason, MPH, CHES
Oregon Health Authority

Conor McNulty, CAE
Oregon Dental Association

JoAnn Miller
Samaritan Health Services

Gary Nelson, DDS, MS
OHSU School of Dentistry

Jan Peterson, DDS
Private practice

Karen Phillips, RDH
Virginia Garcia Memorial Health Center

Kathleen Pitcher Tobey
Cambia Health Foundation

Mike Plunkett, DDS, MPH
Kaiser Permanente

Catherine Potter
Kaiser Permanente

Mel Rader, MS
Upstream Public Health

Zoe Reese
Oregon Primary Care Association

Suk Rhee, MA
Northwest Health Foundation

Molly Roman
The Oregon Community Foundation

Valerie Rux
Oregon Health Authority

Eli Schwarz, DDS, MPH, PhD
OHSU School of Dentistry

Heather Simmons, MPH
Multnomah Co. Health Department

Rebecca Sweatman, MPH
Providence Health & Services

Gary Wappes, MSW
Oregon Oral Health Coalition

Kenneth Wright, DMD, MPH
Kaiser Permanente

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This plan incorporates information from the following resources: Healthy People 2020; *Oregon's Healthy Future: A Plan for Empowering Communities*, which is Oregon's state health improvement plan; and the Oregon Dental Association's 2013 Oral Health Act Outline. It also builds on elements from Colorado's Oral Health Plan, 2017; the Kansas Oral Health Plan, 2014; the Minnesota Oral Health Plan, 2018; the Oral Health and Access to Dental Care Plan for Ohio, 2009; and the Oral Health 2020 Strategic Framework for Dental Health in New South Wales, Australia.

The stakeholder icons appearing in this document were adapted from icons created by Oral Health Colorado, and are used with their kind permission. Plan writing and layout: Brandan Kearney.

EXECUTIVE SUMMARY

Optimal oral health is fundamental to our well-being, happiness, productivity and quality of life. To reduce the social and economic cost of oral disease and related illnesses, it's essential for all Oregonians to receive timely and equitable dental care at every stage of life, including the prenatal stage.

The *Strategic Plan for Oral Health in Oregon* highlights strategies that will deliver **better care, better health and lower costs** for Oregonians of all ages and backgrounds. It represents a collaborative effort by a diverse group of oral health advocates who understand that oral health is inseparable from overall health at every stage of life.

This strategic plan represents an expert consensus on the most potent and cost-effective use of Oregon's limited resources. Its recommendations align with broader public health initiatives, including Healthy People 2020, Governor Kitzhaber's plan for health system transformation, and the Association of State and Territorial Dental Directors' best practices for state oral health programs.

Tooth decay is the most common chronic disease affecting U.S. children and teens. In Oregon, 58 percent of third-graders have experienced tooth decay, and most adults suffer from some degree of oral disease. Only 33 percent of Oregonians ages 33 to 44 have lost no teeth; 37 percent of seniors have lost six or more teeth.

Oral diseases affect what we eat, how we look, the way we communicate, and how we feel about ourselves. They also affect academic success and economic productivity by limiting our ability to learn, work and succeed. This is all the more tragic because **oral diseases are almost entirely preventable, and the cost of prevention is far lower than the cost of treatment.**

A holistic approach to health care is central to our goal of reducing inequities in the availability and quality of dental care. Through this model, dental, behavioral and primary care providers will have new opportunities to coordinate care for all Oregonians, while also helping underserved populations to understand and access health benefits, resources and treatments.

The creation of coordinated care organizations (CCOs) and the expansion of patient-centered primary care homes offer an exciting opportunity for improving statewide access to dental care. But taking advantage of this unique historical moment will require an ongoing collaborative effort. This plan accordingly focuses not just on actionable opportunities for individual stakeholders, but also on goals that oral health advocates can achieve only by working together.

The *Strategic Plan for Oral Health in Oregon* targets three priority areas: Infrastructure, Prevention and Systems of

OUR VISION FOR OREGON

All Oregonians enjoy optimal oral health throughout their lives, as a result of timely access to comprehensive, patient-centered oral health care and age-appropriate oral health education.

OUR GOAL

Implement the most potent and cost-effective strategies to improve oral health for all Oregonians, while reducing disparities in access and quality.

Care, and Workforce Capacity. The chart on the following page provides a broad overview of each area. Additional information appears later in the plan, along with icons that identify possible stakeholder groups who can take the lead in achieving optimal oral health for all Oregonians.

Key recommendations include:

- Oregon needs a state dental director who will establish clinical, fiscal and policy priorities for oral disease prevention and care. A dental director could also bring millions of dollars in federal grants to our state — **grants for which Oregon is currently not eligible because it lacks a state dental director.**
- Basic oral health literacy and preventive services (e.g., fluoride varnish) should be promoted at all local facilities serving children and their parents, including schools, child care centers, medical offices, and social service agencies.
- To address workforce shortages, oral health providers should be incentivized to work at their full licensure and in underserved areas.
- Oregon needs a culturally and linguistically diverse workforce with expertise in reaching disadvantaged populations. Increasing access to care is not enough; unless we address the economic and cultural factors that affect dental care utilization in specific communities, disparities and inequities will persist.

We hope this plan will inspire and guide everyone who is striving to improve oral health in our state. We believe that through this dedicated effort, Oregonians will eventually enjoy the best oral health in the nation.

Priority Area 1: Infrastructure

Pages 12 - 13

OBJECTIVE 1	OBJECTIVE 2	Selected Outcome Measures
<p>Oregon's oral health infrastructure delivers better care, better health and lower costs.</p> <ol style="list-style-type: none"> The Oregon Health Authority prioritizes oral health and provides leadership in state-level policy, funding and regulatory discussions and decisions. OHA and its community partners expand and improve Oregon's oral health surveillance system. Local and county oral health infrastructure facilitates equitable and timely access to oral health prevention, education and care. 	<p>Oregon's oral health infrastructure reflects and supports health system transformation priorities.</p> <ol style="list-style-type: none"> Coordinated care organizations (CCOs) comprehensively integrate oral health. Dental benefit packages align with preventive goals and provide adequate care to ensure optimal oral health maintenance and equitable outcomes across the lifespan. Payment practices for dental services align with current billing and reimbursement models and with the Oregon Dental Practice Act. 	<ul style="list-style-type: none"> Oregon has an appropriately staffed, funded and empowered dental director (2015). Oregon Health Authority develops a strategic plan to expand Oregon's oral health surveillance system (2015). Oregon has a reporting database that tracks hospital emergency visits for nontraumatic dental problems (2017). Health information systems include detailed data on race, ethnicity, language and other characteristics necessary to monitor oral health equity, as required by state law (2017). All school-based health centers and federally qualified health centers integrate oral health care into their activities (2018).

Priority Area 2: Prevention and Systems of Care

Pages 16 - 17

OBJECTIVE 1	OBJECTIVE 2	Selected Outcome Measures
<p>Evidence-based prevention strategies are implemented across every Oregonian's lifespan.</p> <ol style="list-style-type: none"> Maintain or establish optimally fluoridated community water systems. Include oral disease prevention in prenatal and pediatric programs. Expand access to screenings, fluoride treatments and care for high-risk children. Expand evidence-based, best-practice oral health programs in schools. Provide community-based prevention, outreach, education and intervention to underserved adults and seniors. Integrate oral health with chronic disease prevention and management. 	<p>Oregonians achieve oral health literacy and understand that oral health is inseparable from overall health.</p> <ol style="list-style-type: none"> Develop a communications plan to educate all Oregonians on oral health. Integrate oral health education into general health education for all ages. 	<ul style="list-style-type: none"> Pregnant women who had their teeth cleaned within the previous year: 58 percent. <i>Most recent data: 53 percent, 2011.</i> Children 0 to 5 with a dental visit in the previous year: 27 percent. <i>Most recent data: 24 percent, 2011.</i> Children ages 6 to 9 with dental sealants on one or more permanent molars: 42 percent. <i>Most recent data: 38.1 percent, 2012.</i> Adults 18 and older with a dental visit in the previous year: 70 percent. <i>Most recent data: 64 percent, 2011.</i> ED utilizations for nontraumatic dental problems: 1.8 percent. <i>Most recent data: 2.0 percent, 2014.</i>

Priority Area 3: Workforce Capacity

Pages 20 - 21

OBJECTIVE 1	OBJECTIVE 2	Suggested Outcome Measures
<p>Oregon has an adequate and equitable distribution of oral health professionals.</p> <ol style="list-style-type: none"> Encourage oral health professionals to work at the top of their license. Train traditional health workers and related professionals to provide basic preventive care and to connect community members with oral health providers. Incentivize providers to work in rural and underserved areas. Support pilot workforce projects made possible by Senate Bill 738. Encourage retired professionals to return to practice as insured volunteers. 	<p>Oregon's oral health workforce meets the lifelong oral health needs of all Oregonians, including underserved and vulnerable populations.</p> <ol style="list-style-type: none"> Foster a culturally competent oral health workforce. Equip providers with education and technology to enable them to reach underserved patients. Emphasize public health philosophy and practice in dental health professional curricula. Integrate oral health education into the curricula for all health care providers. 	<ul style="list-style-type: none"> Number of expanded practice dental hygienists (EPDHs) practicing in Oregon communities. <i>Source: ODHA membership surveys.</i> Number of dental and dental hygiene students completing a 30-day rural rotation. <i>Source: OHSU records.</i> Proportion of underrepresented minority students admitted to dental and dental hygiene programs. <i>Source: School admission records.</i> Number of oral health care providers who completed cultural competency training as mandated by the Oregon Board of Dentistry. <i>Source: OBD.</i>

INTRODUCTION

Although Oregon’s oral health status has improved in recent years, too many Oregonians of all ages still lack access to timely, affordable and appropriate oral health care and prevention services.

To reduce the social and economic cost of oral diseases, it’s crucial for all Oregonians to receive appropriate and equitable dental care at every stage of life, including the prenatal stage. Therefore, this plan highlights strategies that will deliver *better care, better health and lower costs* for Oregonians of all ages, backgrounds and geographic areas.

The *Strategic Plan for Oral Health in Oregon* identifies three priority areas for optimizing statewide oral health:

- Infrastructure
- Prevention and Systems of Care
- Workforce Capacity

Recommendations range from proven interventions such as water fluoridation and school-based sealant programs, to new and emerging solutions such as teledentistry and pilot programs for workforce development.

Although Oregon’s oral health needs are serious, there are also positive reasons for a sense of urgency. New resources, new paradigms, and statewide momentum make this an ideal time to optimize our state’s oral health. In particular, the combined emergence of health system transformation and national health reform provides an exciting window of opportunity for achieving lasting improvements.

A holistic approach to health care is central to our goal of reducing inequities in the availability and quality of dental care. Through this model, dental, behavioral and primary care providers will have new opportunities to coordinate care for all Oregonians, while also helping underserved populations to understand and access health benefits, resources and treatments.

Taking advantage of this unique historical moment will require a strong, ongoing collaborative effort. This plan accordingly focuses not just on actionable opportunities for individual stakeholders, but also on goals that oral health advocates can achieve only by working together.

We hope this plan will inspire and guide everyone who is striving to improve oral health in our state, including health care, government, business, philanthropy, nonprofit and community leaders.

We believe that through this dedicated effort, Oregonians will eventually enjoy the best oral health in the nation.



Plan History

Oregon’s previous state plan for oral health was created in 2006 and included input from stakeholders in more than 40 communities. In spring 2013, the Oral Health Funders Collaborative and the Oregon Oral Health Coalition jointly convened oral health advocates to develop a new strategic plan that would align oral health with the state’s health transformation initiative.

Over the subsequent year, a broad group of oral health advocates and providers participated in more than a dozen meetings to develop the *Strategic Plan for Oral Health in Oregon*. Participants followed three aspirational guidelines:

1. Teach Oregonians and policymakers that oral health is inseparable from overall health.
2. Seek diverse perspectives, ranging from community members to oral health professionals.
3. Identify currently actionable community-based strategies that will improve oral health for all Oregonians.

In fall 2013, 10 regional meetings were held to get input from local oral health coalitions and other stakeholders. More than 140 people participated in these meetings.

The completed plan is intended to guide policymakers, funders, local coalitions, and other motivated stakeholders as they work together to improve Oregon’s oral health system through 2020. This plan will periodically be revised and updated by the Oregon Oral Health Coalition (OrOHC). Progress reports and changes to the plan will be shared at OrOHC’s annual conference. We welcome your comments and suggestions for improvement.

THE BURDEN OF ORAL DISEASE

Oral disease is a serious problem for Oregonians of all ages and backgrounds. Although it affects a majority of the population, this silent epidemic is seldom recognized as a public health priority.

Oral diseases affect what we eat, how we look, the way we communicate, and how we feel about ourselves. They can also affect academic success and economic productivity by limiting our ability to learn, work and succeed.

In addition to the life-threatening conditions that can result from oral infections, recent studies associate poor oral health with cardiovascular disease and diabetes.

Oral diseases also put a significant strain on our health care system. For example, the cost associated with treating patients with nontraumatic dental problems in Oregon's emergency rooms is estimated at \$8 million per year.

The toll of these diseases is all the more tragic because they are almost entirely preventable, and the cost of prevention is far lower than the cost of treatment.

The Oregon Health Authority's oral health surveillance system collects information on the statewide incidence of oral diseases. The chart on page 6 presents a selection of these data and lists their sources.

Infants and Children

Tooth decay — the result of an oral infection — is Oregon's most common chronic childhood disease, with rates up to four times higher than that of asthma. According to the 2012 *Oregon Smile Survey*, 58 percent of third-graders have experienced tooth decay.

In addition to the needless suffering childhood dental problems cause, they frequently interfere with social development and academic success. Children with poor oral health are nearly three times more likely than other children to miss school. Nationally, children miss more than 51 million school hours each year due to dental pain.

Furthermore, a 2012 study of elementary and high school students, undertaken by researchers from University of Southern California's Ostrow School of Dentistry, found that "students with toothaches were almost four times more likely to have a low grade-point average" than their peers who did not report recent tooth pain.

Prenatal oral care is crucial to preventing early childhood oral disease, as is a comprehensive dental screening and risk assessment by age 1. Unfortunately, fewer than 50 percent of expecting mothers in Oregon receive an oral exam during pregnancy, and only 22 percent of children ages 1 to 3 have had a dental visit in the past year.



Adults and Seniors

Most adult Oregonians suffer from some degree of dental caries or gum disease. Only 33 percent of Oregonians ages 33 to 44 still have all their teeth, while 37 percent of the population age 65 and above has lost six or more teeth.

Although regular dental visits are especially important for people with diabetes, 30 percent of Oregonians with diabetes have not had a dental visit in the past year.

Economic Costs and Health Disparities

Just as oral health is inseparable from systemic health, the costs associated with oral disease are inseparable from Oregon's systemic health care costs.

Lifelong preventive dental care can reduce the economic burden not just of chronic oral disease, but also of high-cost visits to hospital emergency rooms for tooth pain, abscesses, infections and other acute problems. However, studies show that a high percentage of Oregonians are not currently receiving timely preventive care. Only about two-thirds of Oregon adults visit the dentist at least once a year.

Racial, economic and geographic factors strongly affect access to timely prevention and treatment. Black, Hispanic, multiracial, and rural Oregonians receive dental care at rates well below the state average, as do Oregonians at lower income and education levels. Accordingly, rates of tooth decay and gum disease are much higher among these populations. For example, 68 percent of Hispanic children have had at least one cavity, compared to only 47 percent of white children.

COMMON ORAL DISEASES

Risk factors for oral diseases typically overlap with those of other lifestyle-related chronic illnesses, including a high-sugar diet, smoking, alcohol consumption, and poor oral hygiene. The following oral diseases account for most of the social and economic cost of dental care in Oregon.

Dental Caries

Dental caries, or tooth decay, is a chronic infectious disease caused by multiple bacteria species residing in a sticky biofilm called plaque. These bacteria produce acid that damages tooth enamel, eventually causing cavities. The Centers for Disease Control and Prevention notes that tooth decay is “the most common chronic disease of children aged 6 to 11 years and adolescents aged 12 to 19 years.” Furthermore, 90 percent of adults age 20 and older have some degree of tooth decay. Infections resulting from tooth decay may be severe enough to require emergency treatment.



Preventive care should ideally begin before birth; a mother who gets regular dental care and maintains good oral hygiene during pregnancy can reduce the amount of bacteria in her mouth, which in turn limits transmission of the bacteria to her child.

Population-based preventive measures — including water fluoridation and dental sealants — and individual preventive measures, such as the daily use of fluoride toothpaste, are equally important in reducing tooth decay. Together, these treatments greatly reduce the risk that an individual will suffer the physical, emotional and financial problems associated with tooth decay.

Periodontal Diseases

Periodontal diseases are bacterial infections that affect the gums, soft tissue, and bone around the teeth. They typically begin with gum inflammation, or gingivitis, resulting from a buildup of plaque along the gum line. Untreated gingivitis may progress to periodontitis — a serious infection of bone and supportive tissue that can result in tooth loss.

Daily brushing and flossing can prevent the onset of gingivitis. However, because periodontal diseases may not produce any symptoms, regular dental checkups are essential.

People who smoke tobacco and drink alcohol have a higher risk of developing periodontal diseases, and may also be at higher risk for failure of dental implants. Some studies associate chronic periodontal diseases with a higher risk of other serious illnesses, including heart disease and diabetes.

Oral and Throat Cancers

Oral and throat cancers affect about 40,000 Americans every year, leading to 8,000 deaths. Early detection often results in a better prognosis, so regular checkups are essential — especially for people of color, whose mortality rate is much higher than that of whites.

Human papilloma virus (HPV) is the foremost cause of oral and throat cancers among otherwise healthy nonsmokers ages 25 to 50. Dental visits are integral to early detection, and to educating Oregonians about HPV risk factors such as oral sex.

The 2014 U.S. Surgeon General’s report emphasizes that “tobacco use is a risk factor for oral cavity and pharyngeal cancers.” Thus, educational campaigns that target this high-risk behavior are fundamental to the prevention of oral and throat cancers.

Other Common Oral Health Problems

- **Sports injuries** and related recreational activities are a common cause of serious dental injury. Evidence shows that using a properly fitted mouthguard is the best method for reducing the risk and severity of these injuries.
- **Malocclusion** occurs when misaligned teeth prevent the jaws from closing evenly. Though often hereditary, it can also be caused by thumbsucking or premature tooth loss.
- **Oral piercings** can lead to oral health problems ranging from infections to tooth, gum or nerve damage. In addition, the presence of piercings can make it more difficult for oral health providers to take x-rays and to deliver appropriate care.

Selected Oral Health Data for Oregon

Infants and Children

- Toddlers (ages 1 to 3) who visited a dentist in the previous year: 24 percent.¹
- Toddlers who received preventive fluoride: 38 percent.¹
- Third-graders with decay experience: 58 percent, of whom 22 percent were untreated.²
- Third-graders with dental sealants: 52 percent, leaving about 20,000 third-graders untreated.²
- Third-graders with decay in seven or more teeth: 14 percent (22 percent were untreated).³
- 11th-graders with dental decay: 74 percent (26 percent hadn't seen a dentist in the past year).⁴

Adults and Seniors

- Adults with tooth loss: 42 percent, of whom 36 percent did not visit a dentist in the past year.⁵
- Adults 65 and over who have lost all their teeth: 18 percent.⁵
- Adults with diabetes who did not visit a dental professional within the past year: 34 percent.⁵
- Oral and throat cancers account for 41 percent of new HPV-associated cancers.⁶
- Women who did not have a dental visit during pregnancy: 45 percent.⁷
- Dental pain is a more frequent cause of emergency room visits than headache, fever and asthma.⁸

Disparities

- Children from counties in northeastern Oregon had higher cavity rates than children in the rest of the state.²
- Children from lower-income households had substantially higher cavity rates compared to children from higher-income households.²
- Hispanic/Latino children experienced higher rates of cavities, untreated decay, and rampant decay compared to white children.²
- Black/African American children had substantially higher rates of untreated decay compared to white children.²

Infrastructure and Systems of Care

- Only 23 percent of Oregon's population resides in optimally fluoridated communities.⁹
- Oregon Health Plan (OHP) enrollees are four times more likely than commercially insured Oregonians to visit an emergency room for dental problems.⁸
- Emergency room visits for nontraumatic dental problems may cost \$8 million annually.⁸
- Emergency room visits for dental problems are five times more likely among uninsured Oregonians than among the privately insured.⁸

Workforce

- The percentage of practicing dentists declined by 8.8 percent from 2010 to 2012, while the state's population increased by 0.2 percent.¹⁰
- The percentage of dentists practicing in private outpatient clinics decreased from 91 percent to 88 percent between 2010 and 2012.¹⁰
- As of 2012, approximately 78 percent of Oregon dentists are white males. The average age of dentists in Oregon is 50.4 years.¹⁰
- The percentage of dentists aged 65 years and older increased from 11 percent in 2010 to nearly 16 percent in 2012.¹⁰

Sources

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THE NEED FOR A STRATEGIC PLAN

Oregon's state oral health plan was last updated in 2006. Today, the advent of national health reform, and the ongoing health system transformation called for in Governor Kitzhaber's 10-Year Plan, have significantly changed the landscape for oral health care, education and policy in our state.

Oregon has a historic opportunity to prioritize oral health as a fundamental component of general health, so that health care in our state focuses on the entire body. To take advantage of this opportunity, the *Strategic Plan for Oral Health in Oregon* will:

- Communicate to policymakers, providers and the public that oral health is inseparable from overall health at every stage of life.
- Provide factual information about Oregon's oral health status, while also promoting evidence-based strategies for improvement.
- Help state and local oral health coalitions to expand and coordinate their efforts.
- Prepare our state to compete for federal and private funding to optimize oral health.
- Alert policymakers and funders to opportunities for collaboration with other stakeholders who are working to ensure that all Oregonians achieve optimal oral health.

Healthy People 2020

In 2010, the U.S. Department of Health and Human Services launched a national public health initiative called Healthy People 2020. This 10-year campaign sets forth achievable, evidence-based benchmarks for improving the health of

all Americans. (The Healthy People 2020 oral health targets appear in Appendix A.)

The *Strategic Plan for Oral Health in Oregon* will position Oregon to meet or exceed a number of Healthy People 2020's benchmarks for oral health. Oregon has already surpassed some of these benchmarks. However, meeting or exceeding the remaining HP2020 targets will require ongoing collaboration, education and funding, which will in turn require a comprehensive strategic plan.

Coordinated Care Organizations

In 2011, the Oregon state legislature passed HB 3650, the Oregon Health Systems Transformation bill. To address fragmentation and service gaps under the existing system, this groundbreaking legislation called for the creation of coordinated care organizations (CCOs). These local, patient-centered entities coordinate physical, behavioral and oral health care for Oregonians who receive health coverage under the Oregon Health Plan (Medicaid). This includes 16 percent of all Oregonians, and 50 percent of babies born in the state.

CCOs will support the Oregon Health Authority's "Triple Aim" of *better health, better care and affordable costs* by coordinating care between previously isolated providers, with a focus on accountability for lifelong wellness and disease prevention.

STATEWIDE MOMENTUM FOR CHANGE

- The creation of coordinated care organizations (CCOs) and the expansion of patient-centered primary care homes are providing crucial infrastructure for improving statewide access to dental care. As of January 2013, CCOs served more than 90 percent of Oregon's Medicaid population.
- As of July 2014, CCOs must either contract with dental care organizations (DCOs) or provide dental care. This offers an unprecedented opportunity to integrate care for people who might otherwise fall through the cracks between these traditionally distinct health systems.
- The First Tooth program, which was launched by OHA's Oral Health Program in 2009, is now being administered by the Oregon Oral Health Coalition and expanded to meet the needs of pregnant women.
- School-based oral health services are gaining attention and resources. Prominent examples include mobile outreach models such as Tooth Taxi and Medical Teams International; Multnomah Co. Health Department; Virginia Garcia Memorial Health Center; OHA's sealant program; and Siskiyou Community Health Center.
- *Oregon's Healthy Future*, which is the state's health improvement plan, has set ambitious oral health goals to address problems that contribute to poor oral health outcomes, including tobacco use; poor nutrition; and health inequities based on such factors as race/ethnicity, income, education level, geographical isolation, and mental or physical disabilities.

Coordinated care offers substantial benefits:

- It's more likely to identify health problems at early stages, which reduces costs and improves outcomes.
- It's medically preferable for chronic disease management and prevention, because such diseases often share risk factors with oral diseases.

A 2012 analysis by Health Management Associates reports that CCOs have the potential to save taxpayers more than \$3.1 billion over five years.

The Affordable Care Act

With the passage of the Affordable Care Act, demand for oral health services will increase at a time when Oregon's current oral health workforce is struggling to meet existing needs. This influx of new patients — many of whom will require immediate dental care — underscores the need for a comprehensive strategic plan that addresses inequities

in access to care and facilitates the wise allocation of our state's limited resources.

- 292,000 Oregonians were newly eligible for Medicaid benefits in 2014 alone.
- 246,000 Oregonians were newly eligible for private insurance, including dental plans.
- Expanded primary care coverage will increase the diagnosis of oral diseases, and of systemic diseases with oral symptoms or effects.

The Role of Philanthropy

Oregon's many charitable nonprofits and health funders are positioned to play a valuable role not just in supporting programs that foster oral health, but also in conducting research into health disparities; connecting regional and local programs with broader initiatives; and convening oral health advocates, community members and policymakers to discuss and implement strategies for lasting change.

Social and Economic Impacts of Oral Disease

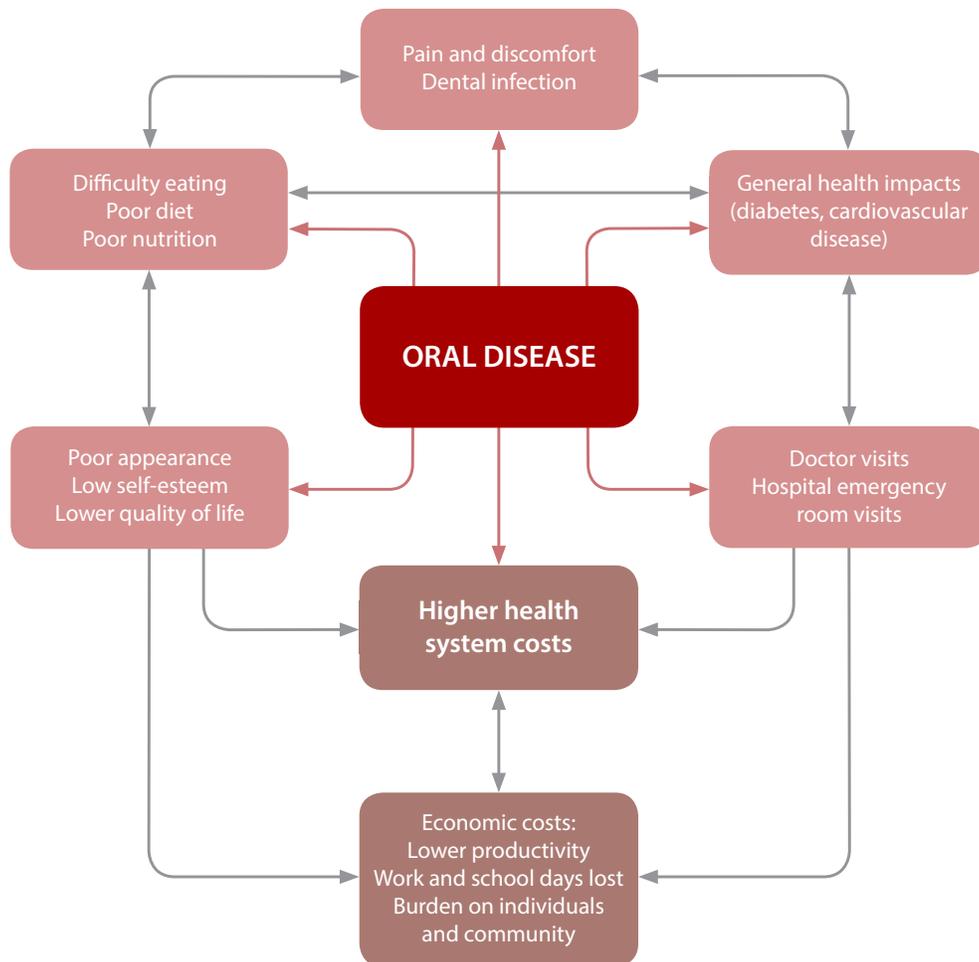


Chart adapted from J.G. Rogers, *Evidence-Based Oral Health Promotion Resource*. Prevention and Population Health Branch, Government of Victoria, Department of Health, Melbourne, 2011. Used by permission.

Stakeholder Icons

This plan identifies target outcomes for achieving optimal oral health in Oregon, as well as evidence-based strategies and activities for achieving these outcomes. For each of the three priority areas detailed on the following pages, icons identify stakeholder groups to whom specific activities will be most relevant.

To learn how you can most effectively contribute to this collaborative effort, look for the icon that best describes you or the organization to which you belong. Note that many activities have multiple icons, demonstrating a need for strategic coordination and collaboration between oral health advocates and other stakeholders.

In cases where only one icon appears, this does *not* imply that a specific group has sole responsibility for that activity. Rather, it indicates that the group will take a lead role in facilitating that activity; this may include forming coalitions and coordinating efforts with other groups.



Community-based organizations. Any group with a mission to improve health in its community.



Public health agencies. State, county and local agencies tasked with promoting or protecting public health.



Educators. Providers of oral health or general health information or training to the public or to medical professionals.



Funders. Private entities and individuals who provide funding for oral disease education, prevention or care.



Oral health coalitions. Statewide or local alliances that foster collaboration between oral health advocates.



Government and policymakers. People, groups and agencies who influence federal, state and local laws, policies and funding.



Providers. Traditional and nontraditional health care professionals responsible for delivering oral or primary health care services.

ASTDD GUIDELINES FOR STATE ORAL HEALTH PROGRAMS

The nonprofit Association of State and Territorial Dental Directors (ASTDD) has created guidelines to aid state health agency officials and public health administrators in developing and operating state oral health programs.

The ASTDD website offers a variety of examples and resources that can help states to integrate oral health activities into public health systems and to achieve optimal benefits from such programs.

1. Assess oral health status and implement an oral health surveillance system.
2. Analyze determinants of oral health and respond to health hazards in the community.
3. Assess public perceptions about oral health issues and educate/empower people to achieve and maintain optimal oral health.
4. Mobilize community partners to leverage resources and advocate for/act on oral health issues.
5. Develop and implement policies and systematic plans that support state and community oral health efforts.
6. Review, educate about and enforce laws and regulations that promote oral health and ensure safe oral health practices.
7. Reduce barriers to care and assure use of personal and population-based oral health services.
8. Assure an adequate and competent public and private oral health workforce.
9. Evaluate effectiveness, accessibility and quality of personal and population-based oral health promotion activities and oral health services.
10. Conduct and review research for new insights and innovative solutions to oral health problems.

Source: www.astdd.org/state-guidelines/

PRIORITY AREA 1: INFRASTRUCTURE

Infrastructure comprises all of the interconnected elements of the system that provides oral health services to Oregonians, including physical and organizational structures; partnerships; and resources.

The Need for a State Dental Director

Oregon is currently in the middle of an unprecedented transformation of its health care delivery system. Although oral health is increasingly being recognized as an essential part of overall health, it is currently being integrated into the larger health system without the guidance of a state-level advocate.

Due to this lack of leadership, and of dedicated funding in the public health department, Oregon risks missing important opportunities to improve statewide oral health. Thus, hiring a state dental director is a necessary step toward meeting the goals of health system transformation.

State Infrastructure

Optimizing statewide infrastructure requires integrating and coordinating state-level health care systems; this in turn requires informed cooperation from policymakers, funders, organizations, oral health coalitions, patients and the general public.

The Oregon Oral Health Coalition has taken the lead in promoting recognition of oral health as an inseparable part of overall health. To facilitate this process, the Oregon Health Authority can provide leadership in policy, funding, and regulatory decisions. This effort also requires ensuring that all CCOs, federally qualified health centers (FQHCs), and school-based health centers (SBHCs) comprehensively integrate oral health care to improve statewide access.

Local Infrastructure and Coalitions

Strengthening local infrastructure entails fostering and empowering local leaders while also cultivating oral health coalitions and engaging other coalitions as allies. Local leaders and programs will work closely with state agencies while garnering community support and encouraging the development of local oral health plans.

Policymakers and funders can build local infrastructure by:

- Providing technical and financial support for county public health departments, SBHCs and FQHCs
- Facilitating communication between agencies
- Dismantling policy barriers to the integration of dental and medical services
- Funding oral health coordinators for county and local coalitions

Data Collection, Analysis and Standardization

Optimizing Oregon's oral health infrastructure requires ongoing data collection. Although OHA has a strong oral health surveillance system with more than 60 indicators, it needs more resources for county-level data collection and dissemination. Surveillance efforts will ideally include a statewide database for dental sealants, fluoride varnish, and all other prevention measures, in order to evaluate Oregon's privately and publicly funded oral health services.



SELECTED OUTCOME MEASURES, 2015-2018

- Oregon has an appropriately staffed, funded and empowered dental director per ASTDD best practices. *Target date: 2015.*
- Oregon Health Authority develops a strategic plan to improve and expand Oregon's oral health surveillance system. *Target date: 2015.*
- Oregon has a reporting database that tracks hospital emergency visits for nontraumatic dental problems. *Target date: 2017.*
- Health information systems include detailed data on race, ethnicity, language and other characteristics necessary to monitor oral health equity, as required by state law. *Target date: 2017.*
- All school-based health centers (SBHCs) and federally qualified health centers (FQHCs) integrate oral health care. *Target date: 2018.*

Please visit page 22 for a complete list of outcome measures.



Collecting and standardizing data will make it easier to identify, monitor and address disparities in access and outcomes.

It's also necessary to improve tracking of quality metrics for dental care, and to integrate oral health metrics into overall health metrics for CCOs, in order to create a unified platform for sharing health data.

Gathering comprehensive data on the statewide cost of oral disease — which includes lost worker productivity, lost hours in public schools, avoidable visits to emergency rooms, and impact on quality of life for seniors — will make it possible to quantify achievable systemic savings. These efforts require cooperation from public and private stakeholders; strengthening state and local infrastructure is fundamental to facilitating this cooperation, just as data collection is fundamental to optimizing infrastructure.

Making Data Actionable and Accessible

An opportunity exists to move from primarily static data collection to a system in which Oregon's numerous oral health metrics are accessible and actionable for a larger group of constituents.

Most notably, there should be a bridge of accountability between payers and providers and the outcome metrics for their patient populations. Necessary steps toward this goal include:

- Appropriate staffing of the Oregon Oral Health Unit to facilitate regular reporting of community oral health data.
- Timely sharing of oral health data between county and state surveillance programs.
- Identifying the best metrics to measure and address across the lifespan in order to improve outcomes for Oregonians at the highest risk of oral disease.
- Tying provider reimbursement models to patient outcome metrics.

THE ROLE OF OREGON'S STATE DENTAL DIRECTOR

A state dental director will establish clinical, fiscal and policy priorities to address Oregon's ongoing oral health crisis and to maximize the effectiveness of our state's investment in prevention and care.

Dental directors in several other states have been able to increase access to oral care for children under Medicaid. For example, Iowa's state dental director helped to create a program that not only refers children to dentists who accept Medicaid patients, but also ensures that children make it to their appointments. In addition, a dental director could bring millions of dollars in federal grants to our state — *grants for which Oregon is currently not eligible because it lacks a state dental director.*

Oregon's dental director would be responsible for the following activities:

1. Formulating and supporting dental health policy
2. Helping state dental programs to develop and implement prevention measures for oral disease through planning and coordinating the state oral health unit
3. Forging internal and external partnerships to ensure that oral health is taken into account when policies and programs are being planned
4. Providing current, evidence-based information on oral health to health agency officials and policymakers
5. Leading the development and expansion of oral public health campaigns and care delivery systems
6. Developing and implementing initiatives for the prevention and control of oral diseases
7. Reducing oral health inequities through culturally, linguistically and developmentally appropriate oral health communications and activities

The ideal candidate will be a licensed oral health professional who has a Masters degree in public health (MPH); who has practiced for seven years or more; and who has clinical experience working in diverse settings and with diverse populations, including Medicaid patients.

Priority Area 1: Infrastructure Objectives and Strategies

Infrastructure comprises all of the interconnected elements of the system that provides oral health services to Oregonians, including physical and organizational structures; partnerships; and resources.



OBJECTIVE 1

Oregon's oral health infrastructure delivers better care, better health and lower costs.

Strategy 1 **The Oregon Health Authority prioritizes oral health and provides leadership in state-level policy, funding and regulatory discussions and decisions.**

- 

 a. Hire a state dental director to provide state-level oral health leadership.
- 

 b. Create a robust and engaged dental advisory council.
- 

 c. Appropriately staff and fund the state oral health program as specified by ASTDD guidelines.
- 



 d. Work with the Health Evidence Review Commission (HERC) to establish evidence-based practices for dental care.

Strategy 2 **OHA and its community partners expand and improve Oregon's oral health surveillance system.**

- 

 a. Establish a statewide database for tracking fluoride varnish (age 6 months to 18 years), sealants and other school-based preventive services.
- 


 b. Monitor and evaluate the statewide costs of oral disease, and the estimated benefits of preventive strategies, to quantify achievable systemic savings.
- 

 c. Establish a database requiring hospitals to report the use of emergency rooms for nontraumatic dental problems.
- 


 d. Gather county-level surveillance data to identify demographic and geographic variation, and target interventions appropriately.
- 

 e. Expand the collection and dissemination of dental utilization data from the Division of Medical Assistance Programs (DMAP), the Oregon Insurance Division, and other sources.

Strategy 3 **Local and county oral health infrastructure facilitates equitable and timely access to oral health prevention, education and care.**

- 


 a. Support development of local oral health coalitions.
- 

 b. Appoint oral health coordinators to support local coalitions and programs.
- 


 c. Support and build infrastructure in county public health departments.
- 



 d. Expand access to oral health services through federally qualified health centers (FQHCs), school-based health centers (SBHCs), provider clinics and public/private partnerships.

Priority Area 1: Infrastructure

Objectives and Strategies — *continued*

OBJECTIVE 2

Oregon's oral health infrastructure reflects and supports health system transformation priorities.

Strategy 1 CCOs comprehensively integrate oral health.

-   a. Include a dental professional on all CCO boards and advisory bodies.
-     b. Offer enhanced incentives for medical and dental professionals who provide education and preventive services to underserved populations.
-    c. Integrate electronic medical and dental health records to improve care coordination.
-    d. Integrate OHA's dental metrics, and improve the tracking of quality metrics and accountability for dental care.
-   e. Engage advisory councils in promoting oral health for CCO enrollees.
-     f. Integrate evidence-based best practices for dental care, such as school-based prevention programs, oral health for pregnant women, and early childhood cavity prevention.

Strategy 2 Dental benefit packages align with preventive goals and provide adequate care to ensure optimal oral health maintenance and equitable outcomes across the lifespan.

-  a. Require oral health parity within insurance exchanges.
-     b. Support alternative, outcome-based funding models for oral health services.
-   c. Private insurance covers pediatric oral disease prevention and care.
-  d. Ensure that health information systems include detailed data on race, ethnicity, language and other characteristics necessary to monitor oral health equity, as required by state law.
-  e. All benefit plans cover general anesthesia services and related facility charges for dental procedures required by children under 7, or by medically compromised or developmentally disabled children or adults.

Strategy 3 Payment practices for dental services align with current billing and reimbursement models and with the Oregon Dental Practice Act.

-     a. Facilitate active, ongoing communication and education on current code and practice for dental service providers and payers.
-   b. The Board of Dentistry collaborates with OHA to monitor changes to oral health practice and billing regulations, and to communicate this information promptly to providers and payers.

PRIORITY AREA 2: PREVENTION AND SYSTEMS OF CARE

Evidence-based behavioral and policy interventions will reduce the toll of oral diseases and achieve a high lifelong standard of oral health for all Oregonians, regardless of income, background or location.

In this plan, *prevention* generally describes community-based, community-wide strategies, as opposed to clinical prevention activities that typically occur in a dental chair.

Water Fluoridation

The Centers for Disease Control and Prevention identifies optimal community water fluoridation as the most cost-effective method of improving public oral health. Studies show that fluoridation reduces tooth decay by about 29 percent among children ages 4 to 17. Currently, Oregon ranks 49th out of 50 states in access to fluoridated water.

Fluoridation has its greatest benefit among disadvantaged populations who are most at risk for dental disease, many of whom may be difficult to help by other means.

A study jointly led by researchers from Oregon Health and Science University and University of Washington reports that Oregonians living in unfluoridated communities are more likely to visit emergency rooms for nontraumatic dental problems. Although water fluoridation obviously faces major hurdles in Oregon, its efficacy makes it crucial both to continue promoting fluoridation in unfluoridated communities, and to maintain existing programs.

Preventive Care in Non-Dental Settings

In recent years, primary care settings have increasingly been identified as a logical access point for preventive oral health services, especially for infants and children ages 0 to 5, who visit primary care providers earlier and more

frequently than they visit dental care providers. In 2014, the U.S. Preventive Services Task Force and the American Academy of Pediatrics recommended that primary care teams support the dental care team by providing fluoride varnish to all children ages 0 to 5, and by prescribing a fluoride supplement to all children whose water supply is not optimally fluoridated. This will require providers to assess fluoride exposure and to determine the need for systemic or topical supplements.

School-based prevention programs that include fluoride varnish and dental sealants are very effective in reducing childhood tooth decay; fluoride varnish, applied regularly to high-risk teeth, can reduce decay by up to 43 percent. Further, basic oral health literacy and preventive services (e.g., fluoride varnish) should be promoted at local facilities serving children and their parents, including schools, child care centers, medical offices, and social service agencies.

Because sugary drinks and snacks are a leading cause of childhood tooth decay, schools and other child-oriented facilities should restrict the marketing of such products on their grounds, educate students and parents on the risks of consuming these products, and improve access to healthier options.

Discouraging the consumption of junk foods, while also making a greater effort to target teens (whose utilization of dental services falls off after age 12), has the potential to prevent a variety of serious dental problems that most commonly affect 20- to 39-year-olds, including those that lead to the majority of costly emergency room visits.



SELECTED OUTCOME MEASURES FOR 2020

- Pregnant women who had their teeth cleaned within the previous year: 58 percent. *Most recent data: 53 percent, 2011.*
- Children 0 to 5 with a dental visit in the previous year: 27 percent. *Most recent data: 24 percent, 2011.*
- Children ages 6 to 9 with sealants on one or more permanent molars: 42 percent. *Most recent data: 38.1 percent, 2012.*
- Adults 18 and older with a dental visit in the previous year: 70 percent. *Most recent data: 64 percent, 2011.*
- ED utilizations for nontraumatic dental problems: 1.8 percent. *Most recent data: 2.0 percent, 2014.*

Please go to page 23 for a complete list of outcome measures.

Expanding Oral Health Literacy

Because the most common oral diseases are preventable, oral health education should become an integral part of health education across the lifespan, from prenatal and early childhood programs to chronic disease education for adults and seniors. Additionally, integrating dental and medical homes will increase the public’s access to current information on the proven links between oral health and systemic health.

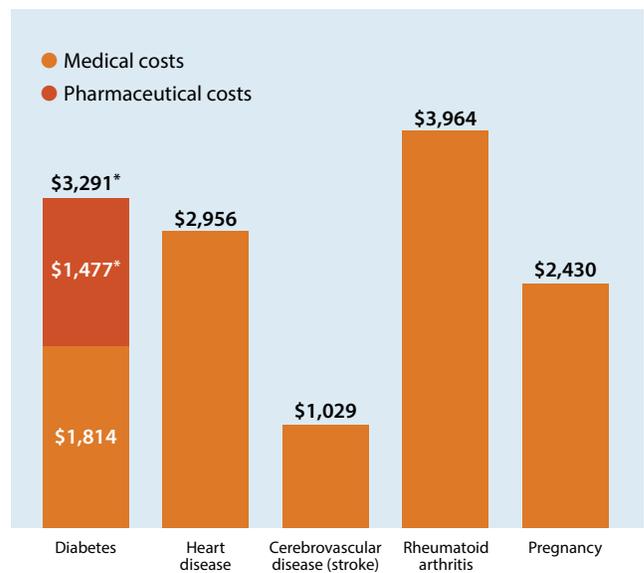
Risk Awareness

Important risk factors for oral disease include poor diet, consumption of sugary drinks, tobacco use, and alcohol abuse. In particular, tobacco use is one of the biggest risk factors for oral cancers and periodontal disease. According to the American Academy of Periodontology, “tobacco use may be one of the most significant risk factors in the development and progression of periodontal disease.”

Focusing on these risks has the potential to improve a wide range of costly chronic health problems in addition to oral disease. Therefore, it’s essential to include oral health information in relevant health promotion efforts, such as healthy eating and tobacco cessation.

Since oral disease shares risk factors with common chronic conditions such as obesity, heart disease, and diabetes, targeted oral health information should also be included in prevention and management materials for chronic disease.

Treating Gum Disease — Annual Savings

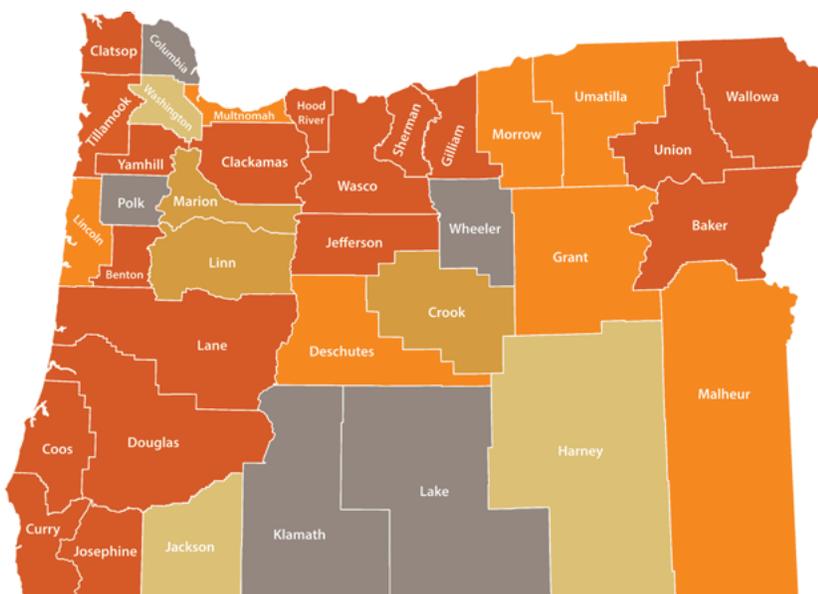


An oral health study conducted in 2012 by United Concordia Dental Insurance shows that significant annual cost savings can be achieved by treating periodontal disease in pregnant women and in individuals who have diabetes, heart disease, cerebrovascular disease, or rheumatoid arthritis.

*The three-year average of \$1,814 in savings from reduced hospital and office visits begins in the first year of periodontal treatment. Pharmacy savings are realized annually after the patient has completed at least seven periodontal treatments or maintenance visits.

Source: United Concordia Dental Insurance, <https://www.unitedconcordia.com>. Used by permission.

Participation of Oregon Schools in Dental Sealant Programs



A school is eligible for the state’s school-based sealant program when 50 percent of its students are eligible for the Free and Reduced-Price Lunch Program (FRL).

Schools that were eligible when starting the program may continue to participate even if FRL eligibility falls below 50 percent.

Statewide, the sealant program reaches 36 percent of eligible schools. When combined with other, locally operated dental sealant programs, 76 percent of Oregon’s eligible schools are served.

Note: Coos, Curry, Hood River, and Wasco counties provide local programs that serve 5th-6th or 6th-7th graders in OHA schools.

Source: Oregon Health Authority



Priority Area 2: Prevention and Systems of Care

Objectives and Strategies

Evidence-based behavioral and policy interventions will reduce the toll of oral diseases and achieve a high lifelong standard of oral health for all Oregonians, regardless of income, background or location.



OBJECTIVE 1

Evidence-based prevention strategies are implemented across every Oregonian's lifespan.

Strategy 1 Maintain or establish optimally fluoridated community water systems.

- 
 a. Establish volunteer advisory boards in larger fluoridated communities to monitor and maintain optimal water fluoridation.
- 
 b. Support optimal water fluoridation in unfluoridated communities.
- 
 c. Educate the public and policymakers on the benefits of water fluoridation.

Strategy 2 Include oral disease prevention in prenatal and pediatric programs.

- 
 a. Promote oral exams and treatment for pregnant women.
- 
 b. Expand First Tooth training to all family and pediatric health care providers.
- 
 c. All children ages 0 to 5 receive fluoride varnish in primary care settings.
- 
 d. Primary care providers prescribe oral fluoride supplements to children in non-optimally fluoridated communities.
- 
 e. Create an incentive within Medicaid for providers to get the training they need to be reimbursed for caries risk assessment and fluoride treatments.

Strategy 3 Expand access to screenings, fluoride treatments and care for high-risk children.

- 
 a. Expand prevention programs in community sites serving a high proportion of low-income children, such as Head Start, WIC and day care centers.
- 
 b. Expand First Tooth training beyond clinical providers to include laypersons such as licensed child care workers.

Strategy 4 Expand evidence-based, best-practice oral health programs in schools.

- 
 a. Include a dental screening along with mandatory vision and hearing tests.
- 
 b. Foster collaboration and coordination between community partners to expand dental sealant programs.
- 
 c. Strengthen the dental referral component of school-based programs.
- 
 d. Restrict the marketing of sugary drinks and other junk foods on school grounds.
- 
 e. Increase school-based oral health access points for high school students.

Priority Area 2: Prevention and Systems of Care

Objectives and Strategies — *continued*

OBJECTIVE 1

Continued

Strategy 5 Provide community-based prevention, outreach, education and intervention to underserved adults and seniors.

- 

 a. Incentivize medical providers to guide underserved patients toward access points for oral health services.
- 



 b. Provide culturally appropriate nutrition and wellness education.
- 


 c. Integrate oral screenings, fluoride treatments and oral hygiene supplies into existing social programs for underserved populations.
- 

 d. Educate senior care providers on oral hygiene and oral disease risk factors.
- 

 e. Provide on-site dental care in nursing homes and in assisted living facilities.

Strategy 6 Integrate oral health with chronic disease prevention and management.

- 

 a. Include dental screening and risk assessments in chronic disease programs.
- 



 b. Include oral health information in diabetes, heart disease, HPV and stroke prevention materials.
- 


 c. Reimburse dental professionals for chronic disease prevention activities, including diabetes screening and tobacco cessation programs.

OBJECTIVE 2

Oregonians achieve oral health literacy and understand that oral health is inseparable from overall health.

Strategy 1 Develop a communications plan to educate all Oregonians on oral health.

- 



 a. Tailor culturally appropriate prevention messages to pregnant women; new parents; adolescents; adults; and seniors and their caregivers.
- 



 b. Focus messages on the impact of nutrition on oral health, the effects of oral disease on the body, and general oral health literacy.
- 




 c. Produce culturally appropriate prevention and care messages in various languages and at various levels of health literacy.

Strategy 2 Integrate oral health education into general health education for all ages.

- 



 a. Include age-appropriate oral health education in general health education curricula from early childhood programs through high school.

PRIORITY AREA 3: WORKFORCE CAPACITY

To meet Oregon's growing oral health needs, we must bolster workforce capacity through innovative strategies to recruit, train, retain and equitably distribute oral health care providers throughout our state.

Oregon currently has 3,500 licensed dentists, of whom about 2,600 have a working address. Roughly 944,000 Oregonians — or 24 percent of the state's population — live in a federally designated dental health professional shortage area (HPSA), defined as an area with 5,000 or more people per dentist.

Because workforce shortages often result from inequitable distribution, providers should be incentivized to work at their full licensure and in underserved areas.

- Encouraging providers to work at their full licensure boosts efficiency and reduces costs by ensuring that dentists don't spend time on care that could safely be done by a hygienist or other provider.
- Students and professionals should be aware of financial incentives — such as tax breaks and tuition forgiveness programs — for providers who work in HPSAs and for retired professionals who work as insured dental volunteers (e.g., in mobile dental clinics or unused group-practice offices).
- Community health workers, traditional health workers, health navigators, and allied professionals should be trained to integrate oral health promotion into their work. New reimbursement models should incentivize this emerging workforce.

Pilot Projects for Workforce Development

Oregon Senate Bill 738 (2009) has authorized the Oregon Health Authority to administer pilot projects for alternative workforce models for oral health care. In addition, the bill allows dental hygienists to expand their scope of practice to include routine restorative dental work, which could be

a cost-effective way of providing routine dental services to disadvantaged patients (including those who might otherwise seek high-cost care in an emergency room).

Collaborative agreements between dentists and dental hygienists, and other innovative workforce models, have the potential to improve access in dental HPSAs, as do emerging technologies such as teledentistry and mobile dental clinics. Because SB 738 sunsets in January 2018, now is the time to support promising projects.

Cultural Competence

Achieving optimal oral health for all Oregonians requires recruiting and training a culturally and linguistically diverse dental workforce with expertise in reaching and serving disadvantaged populations. Simply increasing access to care is not enough; unless providers and policymakers address the underlying economic and cultural factors that affect dental care utilization within specific communities, disparities and inequities will persist.

Integrated Education

Dental and medical providers have traditionally worked in relative isolation from one another. Too often, physicians and their support staff receive minimal oral health training. Changing this paradigm requires integrating oral health into the training for all certified primary care workers.

Oral health training is also necessary for people working directly with underserved and disadvantaged community members. This training should provide competence in basic prevention and hygiene, and in connecting people with a dental home.

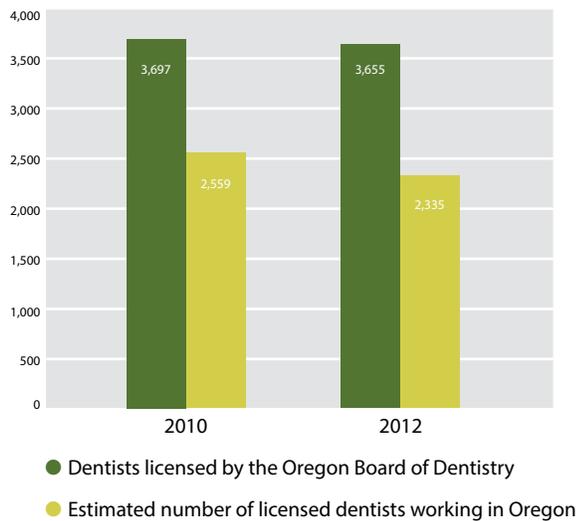


SUGGESTED OUTCOME MEASURES

- Number of expanded practice dental hygienists (EPDHs) practicing in Oregon communities. *Source: ODHA membership surveys.*
- Number of dental and dental hygiene students completing a 30-day rural rotation. *Source: OHSU.*
- Proportion of underrepresented minority students admitted to dental and dental hygiene programs. *Source: School admission records.*
- Number of oral health care providers who completed cultural competency training as mandated by the Oregon Board of Dentistry. *Source: OBD.*

Please go to page 23 for a complete list of outcome measures.

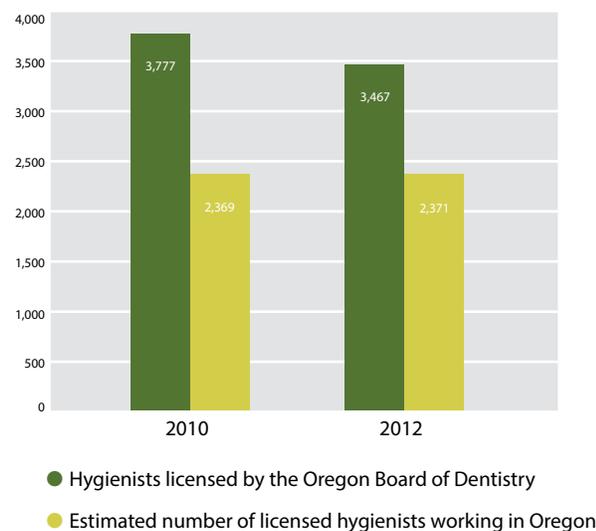
Number of Oregon Dentists: 2010 — 2012



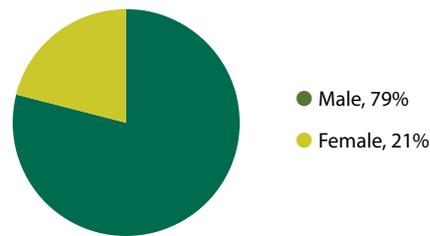
Employment Status of Oregon Dentists



Number of Oregon Hygienists: 2010 — 2012

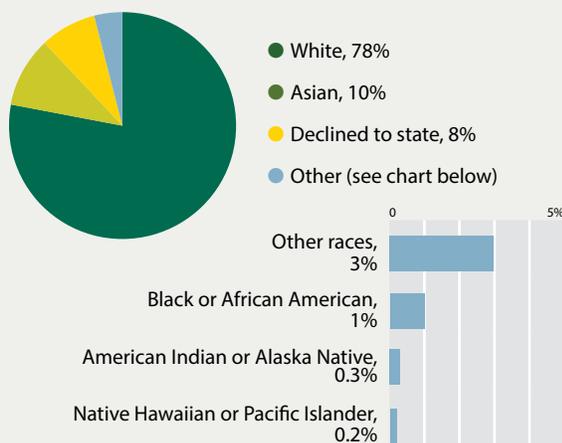


Oregon Dentists by Gender



While Oregon's population continues to increase, the number of licensed dentists serving Oregonians is shrinking. In 2012, the number of licensed dentists estimated to be working in Oregon was 224 less than in 2010 (a decrease of 9 percent). In 2013, the U.S. Department of Health and Human Services ranked Oregon as the 10th worst state for dentist shortages.

Oregon Dentists by Race



Oregon's dentist workforce continues to be mostly white (78 percent), male (79 percent) general dentists (88 percent) who are older than 55 (40 percent) and work in private practice (89 percent). The racial and ethnic diversity of Oregon's dentists has changed little since 2007, but the percentage of female dentists has increased from 14 to 21 percent.

In contrast to the shrinking dentist workforce, the estimated number of licensed dental hygienists working in Oregon has remained stable from 2010 to 2012. Of particular significance is the increase in expanded practice permit (EPP) hygienists: Currently, 355 Oregon hygienists have EPPs, an increase of 74 (26 percent) since 2012. More effective utilization of this emerging workforce has the potential to mitigate the dentist shortage in some geographic areas.

Charts adapted from Jo Isgrigg, *Profile: Oregon's Dentist Workforce – 2012*. Oregon Healthcare Workforce Institute, <http://www.oregonhwi.org/resources/documents/Dentists2012ProfileBrief.pdf>. Used by permission. Data source: Office for Oregon Health Policy and Research, *Oregon Health Professions: Occupational and County Profiles* (February 2013).

Priority Area 3: Workforce Capacity

Objectives and Strategies



To meet Oregon’s growing oral health needs, we must bolster workforce capacity through innovative strategies to recruit, train, retain and equitably distribute oral health care providers throughout our state.

OBJECTIVE 1 Oregon has an adequate and equitable distribution of oral health professionals.

Strategy 1 Encourage oral health professionals to work at the top of their license.

-  a. Implement payment mechanisms and incentives that will encourage oral health professionals to work at their full licensure.
- 

 b. Support dental practice laws and rules that allow work at full licensure.

Strategy 2 Train traditional health workers and related professionals to provide basic preventive care and to connect community members with oral health providers.

- 
 a. Develop billing and payment models to incentivize this workforce.
- 

 b. Create culturally appropriate First Tooth trainings for these groups.
- 

 c. Include oral health in the training for traditional health workers.

Strategy 3 Incentivize providers to work in rural and underserved areas.

- 

 a. Incentivize and educate dentists and expanded practice dental hygienists (EPDHs) to treat underserved populations, including OHP patients.
- 
 b. Educate students on loan repayment programs for workers in underserved areas (e.g., SB 440 and OHSU’s Scholars for a Healthy Oregon Initiative).
- 

 c. Increase dental student rotations in rural and underserved areas.

Strategy 4 Support pilot workforce projects made possible by Senate Bill 738.

- 

 a. Investigate innovative workforce models for oral health care.
- 

 b. Raise project funding from foundations, universities and other stakeholders.

Strategy 5 Encourage retired professionals to return to practice as insured volunteers.

-  a. Educate retired professionals about incentive programs, such as reduced fees from the Board of Dentistry and Medical Teams International.
- 
 b. Work with large group practices to schedule days when retired professionals can work in unused offices.
-  c. Insure returning providers as needed.

Priority Area 3: Workforce Capacity

Objectives and Strategies — *continued*

OBJECTIVE 2

Oregon's oral health workforce meets the lifelong oral health needs of all Oregonians, including underserved and vulnerable populations.

Strategy 1 Foster a culturally competent oral health workforce.

-  a. Educate providers on cultural risk factors for oral disease.
-  b. Recruit and train multilingual and multicultural providers, educators and health system navigators.
-  c. Train providers to work respectfully and proficiently with diverse communities.
-  d. Identify, recruit and train culturally diverse oral health professionals with expertise in caring for underserved populations.

Strategy 2 Equip providers with education and technology to enable them to reach underserved patients.

-  a. Support teledentistry in underserved areas (e.g., by having dental hygienists in the field receive supervision from a dentist electronically).
-  b. Equip dental care providers with mobile dental units.
-  c. Devise billing mechanisms to support new prevention and treatment models.
-  d. Promote education and resources for providers to reach underserved populations (pediatric, teens, elders, developmentally disabled, etc.).

Strategy 3 Emphasize public health philosophy and practice in dental health professional curricula.

-  a. Support internships and clinical rotations that incorporate population-based oral health education.
-  b. Encourage collaboration and communication between oral health education institutions and community partners.
-  c. Integrate public health concepts into dental curricula (e.g., school-based services, HPV prevention and oral cancer screening, and surveillance).

Strategy 4 Integrate oral health education into the curricula for all health care providers.

-  a. Teach the importance of oral health in primary care curricula and promote activities that foster interdisciplinary collaboration between the primary care team and oral health care providers.
-  b. Engage pharmacists and other health professionals in guiding community members toward access points for acute oral care and in providing information on the oral health component of chronic disease prevention and management.

STRATEGIC PLAN OUTCOME MEASURES, 2015—2020

Almost 200 contributors — representing a wide variety of professional fields, communities and viewpoints — donated their expertise and many hours of their time to create this plan. The outcome measures listed below represent their hard-won consensus on the most potent and cost-effective strategies for achieving optimal oral health in Oregon, and also on the need to build a system that is capable of capturing more data and making it more accessible, so that our fight against oral disease will be more effective.

Inevitably, the scope of this plan is limited not just by the need to achieve a broad consensus, but also by a lack of data in key areas — workforce capacity, in particular. As we continue to work together to improve oral health in our state, we will need to gather new data, identify emerging problems, and assess the effectiveness of our interventions. We believe that implementing the objectives and strategies outlined in the preceding pages will make these tasks easier to accomplish.

Although some suggested strategies and outcome measures fell by the wayside in the process of building a consensus, no suggestion was unnecessary or unwelcome. Without a willingness on the part of each contributor to share and debate conflicting views, this plan could not have been completed.

The outcome measures included in this report were identified in one of three ways:

- Data currently captured in the Oregon Oral Health Surveillance System (see *Appendix C*, pages 29 to 35). The primary data sources are listed in the charts.
- Data captured through one-time projects, for which no ongoing tracking system is currently in place. Example: Data on emergency department utilizations were captured by a specially funded study; the *Strategic Plan for Oral Health in Oregon* recommends establishing a hospital database for ongoing tracking.
- Data that are needed, but are not currently collected and for which no baseline has been established.

Priority Area 1: Infrastructure

Target Date

	Target Date
Oregon has an appropriately staffed, funded and empowered dental director per ASTDD best practices.	2015
Oregon Health Authority develops a strategic plan to improve and expand Oregon’s oral health surveillance system.	2015
OHA’s oral health program is adequately funded to implement the activities outlined here and in the Public Health Division’s health improvement plan, and to meet ASTDD guidelines for state oral health programs.	2016
The OHA Metrics and Scoring Committee adopts comprehensive metrics for oral health.	2016
Oral health coordinators serve each county through public health departments, nonprofits and other entities.	2016
CCOs have comprehensively integrated oral health as described in <i>Infrastructure Objective 2, Strategy 1</i> .	2016
Oregon’s CMS state oral health program resolves the discrepancies in billing and reimbursement practices described in <i>Infrastructure Objective 2, Strategy 3</i> .	2016
Oregon has a reporting database that tracks hospital emergency visits for nontraumatic dental problems.	2017
Health information systems include detailed data on race, ethnicity, language and other characteristics necessary to monitor oral health equity, as required by state law.	2017
All federally qualified health centers (FQHCs) integrate oral health care into their activities.	2018
All school-based health centers (SBHCs) integrate oral health care into their activities.	2018

Priority Area 2: Prevention And Systems Of Care

	Most Recent	2020 Target	Change %	Data Source
Population residing in communities with optimally fluoridated water	22.6% ¹	25%	10% ↑	CDC
Pregnant women who had their teeth cleaned within the previous year	53.2% ²	58.5%	10% ↑	PRAMS
Children 0 to 5 with a dental visit in the previous year	24.4% ³	26.8%	10% ↑	PRAMS 2, DMAP ⁶
Third graders with decay experience	58% ⁴	52.2%	10% ↓	OHA
Children ages 6 to 9 with dental sealants on one or more permanent molars	38.1% ⁴	41.9%	10% ↑	OHA
Individuals who have received First Tooth training	3,046 ⁵	8,000	162% ↑	OrOHC
Eighth graders with decay experience	70.1% ⁷	63.1%	10% ↓	OHA
11th graders with a dental visit in the previous year	74.5% ⁷	81.2%	10% ↑	OHA
Adults 18 and older with a dental visit in the previous year	63.8% ⁸	70.2%	10% ↑	BRFSS
Percentage of new HPV-associated cancers that are oral and throat cancer	40.9% ⁹	—	—	OSCaR
ED utilizations for nontraumatic dental problems	2.0% ¹⁰	1.8%	10% ↓	Hospital database

- Centers for Disease Control and Prevention, *Water Fluoridation Data & Statistics*, 2012.
- Centers for Disease Control and Prevention, *Pregnancy Risk Assessment Monitoring System (PRAMS)*, 2011.
- Most recent data is from Centers for Disease Control and Prevention, *Pregnancy Risk Assessment Monitoring System 2 (PRAMS-2)*, 2011, and is specific to children ages 0 to 3. Future measurements will use Division of Medical Assistance Programs (DMAP) data for children ages 0 to 5.
- Oregon Health Authority, *Oregon Smile Survey*, 2012.
- Oregon Oral Health Coalition data as of September 2014.
- Division of Medical Assistance Programs (DMAP).

- Oregon Health Authority, *Oregon Healthy Teens Survey*, 2013.
- Centers for Disease Control and Prevention, *Behavioral Risk Factor Surveillance System (BRFSS)*, 2010.
- Oregon State Cancer Registry (OSCaR), 2009. Oropharyngeal cancers associated with HPV are an emerging health concern. At this time, not enough information is available to determine an achievable target outcome. Through implementation of this plan, a target may be set at a future date.
- Most recent data is from Benjamin Sun and Donald L. Chi, *Emergency Department Visits for Non-Traumatic Dental Problems in Oregon State*, 2014. Future measurements will ideally use the hospital reporting database recommended in this plan.

Priority Area 3: Workforce Capacity

	Data Source
Number of expanded practice dental hygienists (EPDHs) practicing in Oregon communities	ODHA*
Number of dental and dental hygiene students completing a 30-day rural rotation	OHSU
Proportion of underrepresented minority students admitted to dental and dental hygiene programs	School admissions
Number of oral health care providers who completed cultural competency training as mandated by the Oregon Board of Dentistry (OBD)	OBD

As of this writing, most of the available workforce data tell us how many providers there are, by type, in Oregon. This does not tell us where, how and who those providers serve. For this reason, the suggested outcome measures for workforce capacity do not have baselines. Instead, they align with the strategies and activities recommended in this plan, so that baselines can be established through implementation of the plan.

*We recommend that the Oregon Dental Hygienists' Association conduct an annual membership survey of EPDHs to gather information about how and where they use their licensure.

APPENDIX

A. Healthy People 2020: Oral Health Objectives

Healthy People 2020 Objective		Target %
Children's Oral Health		
OH-1	Reduce the proportion of children and teens with dental caries in primary or permanent teeth.	
1.1	Children ages 3 to 5 with dental caries in primary teeth	30.0
1.2	Children ages 6 to 9 with dental caries in primary and permanent teeth	49.0
1.3	Teens ages 13 to 15 with dental caries in permanent teeth	48.3
OH-2	Reduce the proportion of children and teens with untreated dental decay.	
2.1	Children ages 3 to 5 with untreated dental decay in primary teeth	21.4
2.2	Children ages 6 to 9 with untreated dental decay in primary and permanent teeth	25.9
2.3	Teens ages 13 to 15 with untreated dental decay in permanent teeth	15.3
Adult Oral Health		
OH-3	Reduce the proportion of adults with untreated dental decay.	
3.1	Adults ages 35 to 44 with untreated dental decay	25.0
3.2	Adults ages 65 to 74 with untreated coronal caries	15.4
3.3	Adults ages 75 years and older with untreated root surface caries	34.1
OH-4	Reduce the proportion of adults who have lost teeth because of dental caries or periodontal disease.	
4.1	Adults ages 45 to 64 who have had a permanent tooth extracted	68.8
4.2	Adults ages 65 to 74 who have lost all of their natural teeth	21.6
Access to Preventive Services		
OH-9	Increase the proportion of school-based health centers with an oral health component.	
9.1	Includes dental sealants	26.5
9.2	Includes dental care	11.1
9.3	Includes topical fluoride	32.1
OH-10	Increase the proportion of local health departments and Federally Qualified Health Centers with an oral health component.	
10.1	Federally Qualified Health Centers with an oral health care program	83.0
10.2	Local health departments with oral health prevention or care programs	28.4
OH-11	Increase the proportion of patients who receive oral health services at FQHCs each year.	33.3
Oral Health Interventions		
OH-12	Increase the proportion of children and adolescents who have received dental sealants on their molars.	
12.1	Children ages 3 to 5 with dental sealants on one or more primary molars	1.5
12.2	Children ages 6 to 9 with dental sealants on one or more permanent molars	28.1
12.3	Teens ages 13 to 15 with dental sealants on one or more permanent molars	21.9
OH-13	Increase the proportion of the U.S. population with optimally fluoridated community water systems.	79.6

Source: <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=32>

B. Oregon’s Healthy Future: Health Priority 4

Health Priority 4: Improve Oral Health

Health outcomes

Reduce the prevalence of decay in permanent teeth among third graders.
Reduce the prevalence of older adults who have lost all their natural teeth.

Measurable objectives

- Reduce the percentage first-grade through third-grade children with untreated tooth decay to 30% (2007: 36%).
- Increase the percentage of adults with any dental visit in the past year to 75% (2010: 70%).

1 Strategy

Expand school-based dental sealant programs to reach more children.

Performance measures	Baseline	Target	Responsible parties
<p>Percentage of eligible schools with a dental sealant program</p> <p>Note: Eligible schools have at least 50% of students receiving free or low-cost school meals.</p>	61% (2011)	75% of eligible schools have a dental sealant program (2017).	<ul style="list-style-type: none"> • Schools • Local organizations • OHA Public Health Division Oral Health Unit

2 Strategy

Encourage public water districts to optimally fluoridate water to reduce tooth decay.
Note: This was identified by the Health Equity Advisory Group as the oral health improvement strategy that provides the greatest opportunity to affect health equity.

Performance measures	Baseline	Target	Responsible parties
Percentage of population residing in optimally fluoridated communities	22.6% (2010)	30% of the population reside in optimally fluoridated communities (2017).	<ul style="list-style-type: none"> • Local municipalities • Local water districts • General public • County health departments

Source: <http://public.health.oregon.gov/About/Documents/oregons-healthy-future.pdf>

B. Oregon’s Healthy Future — *continued*

3 Strategy ▶ Ensure that children have a preventive dental visit by age 1.			
Performance measures	Baseline	Target	Responsible parties
Percentage of children under 4 years old with a fluoride varnish application by a medical provider	1.6% (2009)	10% have a fluoride varnish application (2017).	<ul style="list-style-type: none"> • Family medical providers • Dental care organizations • Dentists • Caregivers
Percentage of children under 4 years old receiving preventive oral health services by a dental provider	17.6% (2009)	25% receive preventive oral health services (2017).	
4 Strategy ▶ Increase public knowledge about oral health by promoting accurate and consistent messages, including the link between oral health and overall health.			
Performance measures	Baseline	Target	Responsible parties
Percentage of women who received information on dental care during pregnancy	55.4% (2010)	60% of women will receive information on dental care during pregnancy (2017).	<ul style="list-style-type: none"> • Dental health providers • Oregon Dental Association • OHA Public Health Division Oral Health Unit
Percentage of women who received advice on preventing child tooth decay	33.5% (2010)	50% of women receive advice on preventing child tooth decay (2017).	
Data developed for performance measure related to knowledge among the general population			

Source: <http://public.health.oregon.gov/About/Documents/oregons-healthy-future.pdf>

B. Oregon's Healthy Future — *continued*

5 Strategy > Enhance oral health services provided through Federally Qualified Health Centers and School-Based Health Centers.			
Performance measures	Baseline	Target	Responsible parties
Percentage of Federally Qualified Health Centers with onsite dental services <hr/> Percentage of School-Based Health Centers with a dental provider (dentist or dental hygienist)	Not available <hr/> 4.7% (2010)	Data to come. <hr/> 15% of School-Based Health Centers have a dental provider (2017).	<ul style="list-style-type: none"> Federally Qualified Health Centers School-Based Health Centers
6 Strategy > Within health systems, promote the inclusion of oral health in chronic disease prevention and management models.			
Performance measures	Baseline	Target	Responsible parties
Percentage of overweight children with untreated decay <hr/> Percentage of adults with diabetes who visited the dentist, dental hygienist or dental clinic within the past year	Not available <hr/> 65.6% (2008)	Oregon Smiles & Healthy Growth Survey data available (December 2012). <hr/> 70% visited the dentist, dental hygienist or dental clinic within the past year (2017).	<ul style="list-style-type: none"> Health systems Health care providers

Source: <http://public.health.oregon.gov/About/Documents/oregons-healthy-future.pdf>

Oregon Oral Health Surveillance System 2002-2013



Oregon Health Authority
PUBLIC HEALTH DIVISION
Center for Prevention & Health Promotion
Oral Health Program

Source: <http://public.health.oregon.gov/PreventionWellness/oralhealth/Pages/surveillance.aspx>

Oregon Oral Health Surveillance System 2002-2013

Description of Indicator	Source/ Frequency of Data Availability	<input type="checkbox"/> No survey conducted this year <input type="checkbox"/> Question was not asked this year <input type="checkbox"/> Data not yet available											2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013												
Pregnant women																									
Women with a dental visit during pregnancy		47.1%	47.5%	43.1%	43.9%	43.9%	48.8%	51.5%	53.5%	51.1%	55.2%	Available May 2016													
Women who received information on dental care during pregnancy from a provider		45.5%	45.3%	41.5%	43.8%	46.1%	48.5%	51.3%	53.2%	55.4%	57.6%	Available May 2015													
Women who did not receive information on dental care during pregnancy from a provider	PRAMS ¹	54.5%	54.7%	58.5%	56.2%	53.9%	51.5%	48.7%	46.8%	44.6%	42.4%	Available May 2016													
Women who had their teeth cleaned within the previous year	Annual	47.9%	49.1%	45.2%	46.5%	46.0%	50.8%	49.7%			53.2%	Available May 2015													
Women who received advice on infant tooth decay		29.0%	31.6%	32.4%	30.2%	32.0%	33.0%	34.4%	32.3%	33.5%	33.3%	Available May 2015													
Toddlers																									
Toddlers with a dental visit		Question first asked in 2006											17.2%	22.2%	24.6%	28.5%	22.1%	24.4%	Available Dec 2015						
Toddlers who received fluoride drops or tablets		Question first asked in 2006											42.7%	40.0%	35.6%	37.9%	39.7%	38.4%	Available Dec 2014						
Toddlers use of a baby bottle in bed	PRAMS-2 ²	Question first asked in 2006											13.1%	11.9%	13.1%	18.5%	Question changed (see next indicator)		Available Dec 2015						
Toddlers using a baby bottle or sippy cup in bed	Annual	Question first asked in 2006											64.5%	72.5%	72.6%	72.4%	Question changed (see next indicator)		Available Dec 2015						
Toddlers using a baby bottle filled with other than water (night or day)		Question first asked in 2006											64.5%	72.5%	72.6%	72.4%	Question changed (see next indicator)		Available Dec 2015						
Toddlers using a baby bottle filled with other than water (night)		Question first asked in 2006											64.5%	72.5%	72.6%	72.4%	Question changed (see next indicator)		Available Dec 2015						

¹ Pregnancy Risk Assessment Monitoring System (PRAMS); an annual survey of postpartum women. Data from 2012 births will be delayed because of CDC technical problems.

² PRAMS-2: began in 2006, a follow-up survey of PRAMS respondents when child turns two year old.

C. Oregon Health Authority – continued

Description of Indicator	Source/ Frequency of Data Availability	<input type="checkbox"/> No survey conducted this year <input type="checkbox"/> Question was not asked this year <input type="checkbox"/> Data not yet available											
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Elementary school children													
Children aged 6-9 years with cavities (treated and untreated, all teeth)		57.3%					63.7%						52.0%
Children aged 6-9 years with untreated decay (all teeth)		23.9%					35.5%						19.9%
Children aged 6-9 years in need of urgent dental care	Smile Survey ³	2.7%					4.1%						3.0%
Children aged 6-9 years with no dental visit in the previous year	Every 5 Years	19.7%					27.0%						
Children aged 6-9 years with sealants on at least one permanent molar		32.3%					29.7%						38.1%
Children and adolescents													
Children (aged 1-17) with one or more oral health problems in past 6 months (broken teeth, bleeding gums, toothache, and decayed teeth or cavities)	NSCH ⁴	Question first asked in 2007		30.0%		Question changed (see next indicator)							
Children (age 1-17 years) with one or more oral health problems in past 12 months (toothache, decayed teeth, unfilled cavities)	Every 5 Years	20.7%											
Adolescents - 8th grade													
8th graders who saw a dentist or dental hygienist in the previous year		65.3%	68.9%	71.7%	69.9%	67.4%		69.7%		72.2%			72.8%
8th graders who have had one or more cavities ever		Question first asked in 2004		69.1%	72.3%	72.4%		71.7%		71.4%			70.1%
8th graders who brush their teeth daily	OHT ⁵	Question first asked in 2004		96.1%	95.9%	95.9%				94.7%			95.5%
8th graders using spit (chewing) tobacco, snuff, or dip in previous month		1.7%	2.6%	2.7%	3.0%	3.0%		3.4%		4.0%			1.9%
8th graders with mouth injury from any sports ever (organized or recreational)	Every Other Year Since 2009 (Odd Years)	Question first asked in 2008		26.9%		21.8%							
8th graders with oral piercing (tongue, lip, cheek, tooth, etc)		Question first asked in 2011		4.6%		3.9%							
8th graders who missed ≥ 1 hour of school due to dental problems		Question first asked in 2011		8.1%		10.3%							

³ Smile Survey: a screening survey, conducted every 5 years by the Oral Health Program among children aged 6-9 years old. ⁵ Oregon Healthy Teens Survey: a survey of 8th and 11th graders.
⁴ National Survey of Children's Health (NSCH).

C. Oregon Health Authority – continued

Description of Indicator	Source/ Frequency of Data Availability	<input type="checkbox"/> No survey conducted this year <input type="checkbox"/> Question was not asked this year <input type="checkbox"/> Data not yet available											
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Adolescents - 11th grade													
11th graders who saw a dentist or dental hygienist in the previous year		77.2%	75.4%	75.3%	74.3%	72.8%	72.4%				72.2%		74.5%
11th graders who have had one or more cavities ever		Question first asked in 2004	72.6%	74.2%	74.2%	73.2%	74.3%				76.4%		74.0%
11th graders who brush their teeth daily		Question first asked in 2004	96.7%	97.1%	96.0%	95.3%					96.0%		96.0%
11th graders using spit (chewing) tobacco, snuff, or dip in previous month		6.7%	5.7%	6.5%	7.5%	5.6%	8.3%	7.8%	7.4%		7.0%		5.7%
11th grade males using spit (chewing) tobacco, snuff, or dip in previous month (one or more days in the past 30 days)		12.5%	10.4%	10.6%	13.1%	10.2%	13.9%	13.6%	12.0%		11.5%		9.6%
11th graders with mouth injury from organized or recreational sports ever	OHT ^s Every Other Year Since 2009 (Odd Years)	Question first asked in 2011											
11th graders with oral piercing (tongue, lip, cheek, tooth, etc)		Question first asked in 2011											
11th graders who missed ≥ 1 hour of school due to dental problems		Question first asked in 2011											
											11.1%		16.1%
											5.3%		4.6%
											7.9%		9.6%

5 Oregon Healthy Teens Survey: a survey of 8th and 11th graders.

Source: <http://public.health.oregon.gov/PreventionWellness/oralhealth/Pages/surveillance.aspx>

C. Oregon Health Authority – continued

Description of Indicator	Source/ Frequency of Data Availability	<input type="checkbox"/> No survey conducted this year <input type="checkbox"/> Question was not asked this year <input type="checkbox"/> Data not yet available											
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Adults													
Adults aged ≥ 18 years with a dental visit in the previous year for any reason	BRFSS ⁶ Annual	67.7%		67.1%	66.4%	67.4%		70.4%		63.8%	Available Sep 2015	Available Sep 2016	Available Sep 2017
Adults aged ≥ 18 years with no permanent tooth loss		56.3%		59.5%	60.3%	59.1%		60.8%		58.5%			
Adults aged ≥ 18 years with one or more tooth loss		43.2%		40.5%	40.9%	40.9%		39.2%		41.5%			
Adults aged ≥ 18 years who are edentulous (have no teeth)		5.9%		4.8%	5.1%	4.9%		4.5%		5.1%			
Adults aged > 65 years who are edentulous (have no teeth)		18.8%		17.8%	16.4%	16.9%		16.0%		17.7%			
Adults aged ≥ 18 years who had a teeth cleaning within the previous year		67.7%		66.0%	65.0%	65.9%		70.0%		62.0%			
Adults aged ≥ 18 years with diabetes who had dental visit in previous year		Question first asked in 2011											
Adults aged ≥ 18 years with diabetes who could not visit the dentist for any reason		Question first asked in 2011											
Adult smokers or chewers aged ≥ 18 years who were advised by a dentist to quit	Question first asked in 2011												
Medicaid													
Children (aged ≤ 20 years) on Medicaid with a dental visit for any reason	DMAP ⁷ CMS ⁸ Annual	31.1%	25.9%	20.8%	29.0%	31.0%	31.5%	32.8%	35.0%	39.5%	42.4%	42.7%	42.3%
Children (aged ≤ 20 years) on Medicaid who had their teeth cleaned		18.2%	16.5%	June 2014	9.70%	12.0%	27.1%	27.7%	31.3%	33.0%	35.8%	40.0%	36.2%
Adults on Medicaid with a dental visit for any reason		28.5%	18.6%	19.3%	28.4%	29.9%	29.6%	28.7%	30.1%	27.0%	26.7%	25.3%	24.3%
Children aged 6-9 years on Medicaid with dental sealants on permanent molars		Reporting began in 2010											

⁶ Behavioral Risk Factor Surveillance System (BRFSS): an annual survey of adult risk behaviors in Oregon.

⁷ Oregon Division of Medical Assistance Programs (DMAP).

⁸ Centers for Medicare & Medicaid Services (CMS).

⁵ Oregon Healthy Teens Survey: a survey of 8th and 11th graders.

Source: <http://public.health.oregon.gov/PreventionWellness/oralhealth/Pages/surveillance.aspx>

C. Oregon Health Authority – continued

Description of Indicator	Source/ Frequency of Data Availability	<input type="checkbox"/> No survey conducted this year <input type="checkbox"/> Question was not asked this year <input type="checkbox"/> Data not yet available										
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Workforce												
Number licensed dentists in Oregon		Reporting began in 2004	2,526	2,599	2,659	2,738	2,786	3,306	3,697	3,655	3,750	3,754
<i># with Oregon working address</i>		Reporting began in 2004	2,232	2,305	2,339	2,411	2,485	◆	2,559	2,335	2,686	2,682
<i>Population-to-Practitioner Ratio</i>		Reporting began in 2010	◆									
Number licensed pediatric dentists in Oregon	OBD ⁹	Reporting began in 2004	74	79	81	86	93	◆	134	144	155	158
<i># with Oregon working address</i>	OHPP ¹⁰	Reporting began in 2004	65	71	74	78	85	◆	88	91	102	106
Number licensed dental hygienists in Oregon	Annual	Reporting began in 2004	2,503	2,550	2,649	2,730	2,844	3,374	3,777	3,467	4,035	4,150
<i># with Oregon working address</i>		Reporting began in 2004	1,817	1,826	1,856	1,918	2,057	◆	2,369	2,371	2,522	2,579
<i>Population-to-Practitioner Ratio</i>		Reporting began in 2010	◆									
Number expanded practice hygienists		◆	◆	69	66	67	84	◆	115	264	317	367
Cancer												
Oral/pharyngeal (throat) cancer incidence rate per 100,000 adults of all ages (age-adjusted)		10.9	11.1	9.8	10.6	10.9	10.5	10.8	9.5	Available June 2014		
Oral/pharyngeal (throat) cancer incidence rate per 100,000 adults aged ≥ 20 years (age-adjusted)		15.6	15.8	14.2	14.7	15.3	14.7	15.3	13.5	Available June 2015		
Percentage of oral/pharyngeal (throat) cancers incidence diagnosed at early stage among adults aged ≥ 20 years (early stage includes in-situ and local stage)	OSCaR ¹¹	48.6%	51.2%	39.6%	39.7%	35.5%	35.4%	34.5%	37.1%	Available June 2016		
Number of deaths from oral and pharyngeal cancer ¹²	Annual	98	93	110	95	94	104	103	98			
Death rate per 100,000 people from oral and pharyngeal cancers (age-adjusted)		2.7	2.5	2.8	2.3	2.2	2.5	2.3	2.1			

⁹ Oregon Board of Dentistry.

¹⁰ Oregon Health Profession Profiles.

¹¹ Oregon State Cancer Registry (OSCaR).

¹² Oregon Vital Statistics from Center for Health Statistics.

◆ : Board of Registry did not report and can no longer access data set from this year

Source: <http://public.health.oregon.gov/PreventionWellness/oralhealth/Pages/surveillance.aspx>

C. Oregon Health Authority – continued

Description of Indicator	Source/ Frequency of Data Availability	<input type="checkbox"/> No survey conducted this year <input type="checkbox"/> Question was not asked this year <input type="checkbox"/> Data not yet available											
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cleft lip/palate													
Percent of newborns with cleft lip or palate		<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Number of newborns with cleft lip or palate		71	51	52	50	50	68						
Percent of newborns with cleft lip with or without cleft palate	Vital Statistics ¹³ Annual	Reporting began in 2008											
Number of newborns with or without cleft palate		Reporting began in 2008											
Percent of newborns with cleft palate alone		Reporting began in 2008											
Number of newborns with cleft palate alone		Reporting began in 2008											
Water Fluoridation													
Population using optimally fluoridated water systems	CDC ¹⁴ Every Other Year (Even Years)	19.4%		18.8%		27.4%		27.3%		22.6%		22.6%	

¹³ Oregon Vital Statistics from Center for Health Statistics.
¹⁴ Centers for Disease Control and Prevention (CDC).



Contact:
 Kathryn Broderick
 Manager, Maternal & Child Health – Assessment & Evaluation
 Center for Prevention and Health Promotion
 800 NE Oregon St., Suite 825
 Portland, OR 97232
 971-673-0228
 kathryn.broderick@state.or.us

D. Emergency Department Visits For Non-Traumatic Dental Problems: Findings and Policy Recommendations

Part I: Executive Summary

Part I summarizes the analysis of two complementary data sources for the year 2010: data from 24 Oregon hospitals representing 745,348 Emergency Department (ED) visits and statewide data on insured patients' visits to Oregon hospitals representing 1,587,649 ED visits. We found:

ED visits for dental conditions are common.

- Approximately 2% of Oregon ED visits were for non-traumatic dental problems. This condition is the twelfth most common ED discharge diagnosis. Among young adults (ages 20–39 years), it is the second most common discharge diagnosis. Extrapolation to all Oregon hospitals suggests 28,000 annual ED dental visits. Hospital admissions are uncommon (2%) but are associated with potentially serious medical complications.

ED visits for dental conditions reflect lack of access to dental care.

- ED visits by uninsured Oregonians were eight times more likely to be for dental problems than were visits by commercially-insured patients. Compared to commercially-insured Oregonians, Oregon Health Plan (OHP) enrollees' visits were four times more likely to be for dental problems.
- People living closer to hospitals are more likely to seek dental care in EDs, emphasizing the importance of providing access to dental care close to where the need is.

ED visits for dental care are unlikely to cure the patient's dental problem.

- The majority of patients received opioid pain medications and antibiotics, which may reduce pain and potentially prevent progression to uncommon but serious complications.
- Dental procedures are seldom performed in the ED, suggesting that most patients leave the ED still in need of definitive dental care.
- One quarter of Oregonians who sought care in an ED for a dental problem returned to the ED for further dental care.

Failure to provide access to dental care may add cost to the healthcare system.

- The mean cost per ED dental visit was \$294, greater than the cost for a year's coverage in an Oregon Dental Care Organization (average annual capitation payment \$228). Extrapolation to all Oregon hospitals suggests annual costs as high as \$8 million for ED dental visits.

These findings highlight the need for better community resources for oral health. Medicaid expansion as part of the Affordable Care Act, combined with integration of medical and dental benefits through Oregon's Coordinated Care Organizations, provide unique opportunities to improve oral health and reduce ED dental visits of Oregonians. However, when that care is not available, preserving ED access remains essential to relieve the burden of pain, reduce the risk of infectious complications, and identify uncommon but medically serious conditions associated with dental problems.

POLICY RECOMMENDATION:

- Oregon should mandate ED data reporting, similar to requirements in 31 other states. ED claims collection from individual health systems is slow, burdensome, and results in incomplete data. A statewide, mandatory ED dataset will facilitate future health policy analyses.

Source: http://www.oregoncf.org/Templates/media/files/oral_health_funders_collaborative/dental-report-final.pdf

D. Emergency Department Visits For Non-Traumatic Dental Problems — *continued*

Policy Recommendations

Based on findings from Aim 1 and the potential solutions proposed by stakeholders in Aim 2, we draw the following multilevel policy recommendations that we believe will systematically reduce and prevent ED use for NTDCs.

Target Population

- Medicaid enrollees are at high risk for NTDC-related ED use
- NTDC-related ED use is primarily a problem of young adults ages 20 and 30, which means that all of these individuals were likely to have treatable dental disease during adolescence
- Medicaid-enrolled adolescents have comprehensive dental benefits, which offers an opportunity to target these high risk individuals, treat disease, and reinforce oral health behaviors (toothbrushing with fluoride toothpaste, healthy diet, regular visits to the dentist) that prevent NTDC-related ED use later in life.

Multilevel Solutions

- Develop a statewide surveillance system focusing on adolescents (Smile Survey) and implement metrics to track progress within this high-risk population
- Assemble community planning groups consisting of adolescents to help develop feasible interventions aimed at adolescent oral health promotion
- Use the current Medicaid system and work with school nurses within junior and senior high schools to identify and refer adolescents with dental disease and treatment needs
- Reinforce primary care dental providers and case management for adolescents in Medicaid
- Educate community about changes in the Oregon Health Plan (Medicaid) and dental benefits
- Distribute free toothpaste and reduce availability of sugar sweetened beverages within schools (pouring rights)
- Develop community-based strategies to promote and protect community water fluoridation

Additional Solutions

- Encourage interprofessional collaborations between dentists and pharmacists and implement oral health education interventions within pharmacies, which patients who require prescription medications will visit
- Use denturists to provide removable prosthodontic care (partial dentures) for patient requiring tooth extractions
- Provide continuing education courses for dentists on appropriate management of NTDCs to take advantage of chemotherapeutic management of dental disease including topical fluoride, povidone iodine, and diammine silver fluoride.
- Deliver continuing education courses for ED staff on appropriate prescribing of antibiotics to reduce costs to Medicaid

Source: http://www.oregoncf.org/Templates/media/files/oral_health_funders_collaborative/dental-report-final.pdf

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Optimal oral health is fundamental to our well-being, happiness, productivity and quality of life.



The Oregon Oral Health Coalition (OrOHC) was formed in 2006 by the State Oral Health Program and health professionals concerned about oral health in Oregon.

As a nonprofit organization with many diverse stakeholders, OrOHC provides support and leadership to professional and advocacy groups, local and state government agencies, and various other organizations working to achieve optimal oral health for all Oregonians.

OrOHC's mission is to serve as the central source for advocacy, information and communication about oral health issues in Oregon, and to organize stakeholders' individual strengths into a collective force for oral health.

www.orohc.org



Oregon Health Authority (OHA) is at the forefront of lowering and containing costs, improving quality and increasing access to health care in order to improve the lifelong health of Oregonians.

OHA is working to fundamentally improve how health care is delivered and paid for. Because poor health is only partially due to lack of medical care, OHA also works to reduce health disparities and to broaden the state's focus on prevention.

OHA's mission is to help people and communities achieve optimum physical, mental and social well-being through partnerships, prevention and access to quality, affordable health care.

www.oregon.gov/oha/



The Oral Health Funders Collaborative is a partnership consisting of 11 regional grantmakers who are coordinating their efforts to identify and invest in lasting oral health solutions for Oregon and Southwest Washington:

Cambia Health Foundation; The Dental Foundation of Oregon; The Ford Family Foundation; Grantmakers of Oregon and Southwest Washington; Kaiser Permanente; Meyer Memorial Trust; Northwest Health Foundation; The Oregon Community Foundation; Providence Health & Services; Ronald McDonald House Charities® of Oregon and Southwest Washington; and Samaritan Health Services.

www.oregoncf.org/ocf-initiatives/ohfc



The Strategic Plan for Oral Health in Oregon highlights strategies that will deliver better care, better health and lower costs for Oregonians of all ages and backgrounds.

To get involved,
visit www.orohe.org/strategic-plan

