The following groups, organizations and agencies have endorsed the policies and recommendations set forth in the Strategic Plan for Oral Health in Oregon.

- Advantage Dental
- AllCare Health Plan
- Benton, Linn, Lincoln 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 County Health Department
- Northwest Health Foundation
- 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 Medical Associates
- Providence Health & Services
- Samaritan Health Services
- Upstream Public Health
- Virginia Garcia Memorial Health Center
- Yamhill CCO
- Yamhill County Public Health

ENDORSEMENTS

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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.

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ACKNOWLEDGMENTS

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.
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 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

<table>
<thead>
<tr>
<th>OBJECTIVE 1</th>
<th>OBJECTIVE 2</th>
<th>Selected Outcome Measures</th>
</tr>
</thead>
</table>
| **Oregon’s oral health infrastructure delivers better care, better health and lower costs.** | **Oregon’s oral health infrastructure reflects and supports health system transformation priorities.** | - 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). |
| 1. The Oregon Health Authority prioritizes oral health and provides leadership in state-level policy, funding and regulatory discussions and decisions.  
2. OHA and its community partners expand and improve Oregon’s oral health surveillance system.  
3. Local and county oral health infrastructure facilitates equitable and timely access to oral health prevention, education and care. | 1. Coordinated care organizations (CCOs) comprehensively integrate oral health.  
2. Dental benefit packages align with preventive goals and provide adequate care to ensure optimal oral health maintenance and equitable outcomes across the lifespan.  
3. Payment practices for dental services align with current billing and reimbursement models and with the Oregon Dental Practice Act. |                                                                                           |

### Priority Area 2: Prevention and Systems of Care

<table>
<thead>
<tr>
<th>OBJECTIVE 1</th>
<th>OBJECTIVE 2</th>
<th>Selected Outcome Measures</th>
</tr>
</thead>
</table>
| **Evidence-based prevention strategies are implemented across every Oregonian’s lifespan.** | **Oregonians achieve oral health literacy and understand that oral health is inseparable from overall health.** | - 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 dental 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. |
| 1. Maintain or establish optimally fluoridated community water systems.  
2. Include oral disease prevention in prenatal and pediatric programs.  
3. Expand access to screenings, fluoride treatments and care for high-risk children.  
5. Provide community-based prevention, outreach, education and intervention to underserved adults and seniors.  
6. Integrate oral health with chronic disease prevention and management. | 1. Develop a communications plan to educate all Oregonians on oral health.  
2. Integrate oral health education into general health education for all ages. |                                                                                           |

### Priority Area 3: Workforce Capacity

<table>
<thead>
<tr>
<th>OBJECTIVE 1</th>
<th>OBJECTIVE 2</th>
<th>Suggested Outcome Measures</th>
</tr>
</thead>
</table>
| **Oregon has an adequate and equitable distribution of oral health professionals.** | **Oregon’s oral health workforce meets the lifelong oral health needs of all Oregonians, including underserved and vulnerable populations.** | - Number of expanded practice dental hygienists (EPDHs) practicing in Oregon communities.  
  Source: OHDA membership surveys.  
- Number of dental and dental hygiene students completing a 30-day rural rotation.  
  Source: OHSU records.  
- 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. |
| 1. Encourage oral health professionals to work at the top of their license.  
2. Train traditional health workers and related professionals to provide basic preventive care and to connect community members with oral health providers.  
3. Incentivize providers to work in rural and underserved areas.  
4. Support pilot workforce projects made possible by Senate Bill 738.  
5. Encourage retired professionals to return to practice as insured volunteers. | 1. Foster a culturally competent oral health workforce.  
2. Equip providers with education and technology to enable them to reach underserved patients.  
4. Integrate oral health education into the curricula for all health care providers. |                                                                                           |

---

**Plan Overview: Objectives, Strategies and Outcome Measures**

**Priority Area 1: Infrastructure**

- **OBJECTIVE 1**: Oregon’s oral health infrastructure delivers better care, better health and lower costs.
  1. The Oregon Health Authority prioritizes oral health and provides leadership in state-level policy, funding and regulatory discussions and decisions.
  2. OHA and its community partners expand and improve Oregon’s oral health surveillance system.
  3. Local and county oral health infrastructure facilitates equitable and timely access to oral health prevention, education and care.

**Priority Area 2: Prevention and Systems of Care**

- **OBJECTIVE 1**: Evidence-based prevention strategies are implemented across every Oregonian’s lifespan.
  1. Maintain or establish optimally fluoridated community water systems.
  2. Include oral disease prevention in prenatal and pediatric programs.
  3. Expand access to screenings, fluoride treatments and care for high-risk children.
  5. Provide community-based prevention, outreach, education and intervention to underserved adults and seniors.
  6. Integrate oral health with chronic disease prevention and management.

**Priority Area 3: Workforce Capacity**

- **OBJECTIVE 1**: Oregon has an adequate and equitable distribution of oral health professionals.
  1. Encourage oral health professionals to work at the top of their license.
  2. Train traditional health workers and related professionals to provide basic preventive care and to connect community members with oral health providers.
  3. Incentivize providers to work in rural and underserved areas.
  4. Support pilot workforce projects made possible by Senate Bill 738.
  5. Encourage retired professionals to return to practice as insured volunteers.

---

**Selected Outcome Measures**

- 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).
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.
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.orohc.org/strategic-plan