Oregon Public Health

State Health Improvement Plan

2015–2019

Oregon Health Authority

Contents

Contents

The creation of this document was supported by Funding Opportunity Number CMS-1G1-12-001 from the US Department of Health and Human Services, Centers for Medicare & Medicaid Services. The contents provided are solely the responsibility of the authors and do not necessarily represent the office views of HHS or any of its agencies.

Dear Colleagues,

Oregon's state health improvement plan addresses the leading causes of death, disease and injury in Oregon through evidence-based and measurable strategies intended to improve the health of all people in Oregon by 2020. The state health improvement plan is one tool in place for all individuals, organizations and communities that are working to improve the health of people in Oregon. This plan highlights strategies specifically intended to move our state toward achieving health equity. We will never substantively improve population health in Oregon if some of our residents are left to experience a disproportionate burden of illness, disease and injury.

The priorities and strategies contained within this plan are those that will improve health within the next five years. However, we have a role to play in addressing the root causes of death, disease and injury in our state. Root causes, often called social determinants of health, include economic stability, access to education and healthy foods, transportation options, and community safety, among others. These root causes are complex and require the focused attention of a number of sectors, including public health. As we work to implement the strategies outlined in the state health improvement plan, we must not lose sight on long-term efforts to develop physical, social and economic environments that promote health for everyone.

Oregon's state health improvement plan, first released in 2013, was updated in 2014-15 to ensure that the plan reflects the needs of partners and communities throughout the state. In 2014, the Oregon Health Authority's Public Health Division held community engagement sessions across Oregon. Revisions to the 2013 plan were based on feedback from these sessions, alignment with community health improvement plan priorities, and review of the most current data on the leading causes of death, disease and injury.

This plan outlines strategies for individuals, organizations, and communities to work together to improve health. It will likely evolve over the course of these five years. The priorities are clear, but the methods to achieve our goals may shift as partnerships develop and our understanding of these complex health issues grows.

We envision an Oregon where every individual and family lives in a community that supports their lifelong health. Through collaboration and coordination, we will achieve our vision of lifelong health for the people of Oregon.

Respectfully,

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Executive summary

Oregon has a tradition of healthy communities built around abundant natural resources, caring for our neighbors and a spirit of innovation. We are proud that Oregon ranks 12th among U.S. states for overall health (America's Health Rankings, 2014). Yet, we realize that health benefits are not evenly spread across the population, and more must be done to improve the health of all people in Oregon.

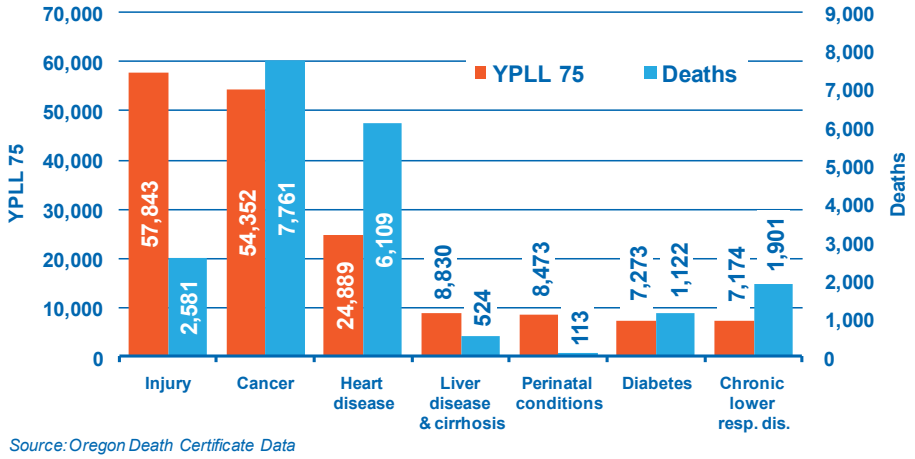
Health inequities persist for individuals and communities based on factors such as race, gender, sexual orientation, geographic location, income and education. Without specifically addressing inequitable health outcomes, Oregon will not be successful in achieving its goal of optimal health for everyone.

Leading causes of death and social impact of premature death in Oregon

Because leading causes of death vary by age, mortality rates by underlying cause alone do not reflect the full social impact of premature death. Estimating years of potential life lost (YPLL) is a way of quantifying the cost of early death by measuring the number of years between age at death and a specific standard age. For instance, if the standard is set at 75 years, a death at age 21 results in 54 years of potential life lost.

The graph below compares causes of death by YPLL before age 75 years with the number of deaths.

Years of potential life lost (YPLL) before age 75 and leading causes of death, Oregon, 2012



Source: Oregon Death Certificate Data

State health improvement plan priorities

Based upon feedback from partners and stakeholders, the Oregon Public Health Division began a process to revise the existing state health improvement plan in 2014. During community engagement sessions held from May to August of 2014 across the state, stakeholders and members of many organizations collaborated to review critical health indicators and strategic issues. This revised version of the state health improvement plan identifies seven priority areas for improving health and quality of life in Oregon over the next five years:

- Prevent and reduce tobacco use
- Slow the increase of obesity
- Improve oral health
- Reduce harms associated with alcohol and substance use
- Prevent deaths from suicide
- Improve immunization rates
- Protect the population from communicable diseases

These priorities are based on the leading causes of death in Oregon, areas where Oregon's national ranking is poor or the trend is moving in the wrong direction, or areas that align with the Centers for Disease Control and Prevention's (CDC) Winnable Battles.[1]

This plan outlines the evidence-based strategies that will allow us to meet our goals for each priority area, and defines the measures for how we will track our progress. Each priority area contains interventions that work at the population and health-system level, as well as interventions specifically intended to advance healthy equity. Success will be achieved as a broad set of community and governmental organizations, private industry and other partners work together to implement these strategies.

[1] Centers for Disease Control and Prevention (CDC). Winnable Battles; 2015. Available at: www.cdc.gov/winnablebattles.

Introduction and background

The unprecedented change with Oregon's health system transformation requires a bold vision for improving the health of everyone in the state. Oregon's state health improvement plan lays the path forward for ensuring the lifelong health for all people of Oregon, regardless of where they live.

Factors that create health

A person's health is determined largely by social and economic factors, rather than by the health care he or she receives. According to the World Health Organization (1948), "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Where we live, go to school and work affects our overall health, as does the safety and livability of our communities, whether we're economically stable or struggling to get by, and whether we have strong social connections. This "social determinants of health" model explains why certain segments of the population experience better health outcomes, while for other populations, external factors in their lives make health difficult to achieve.

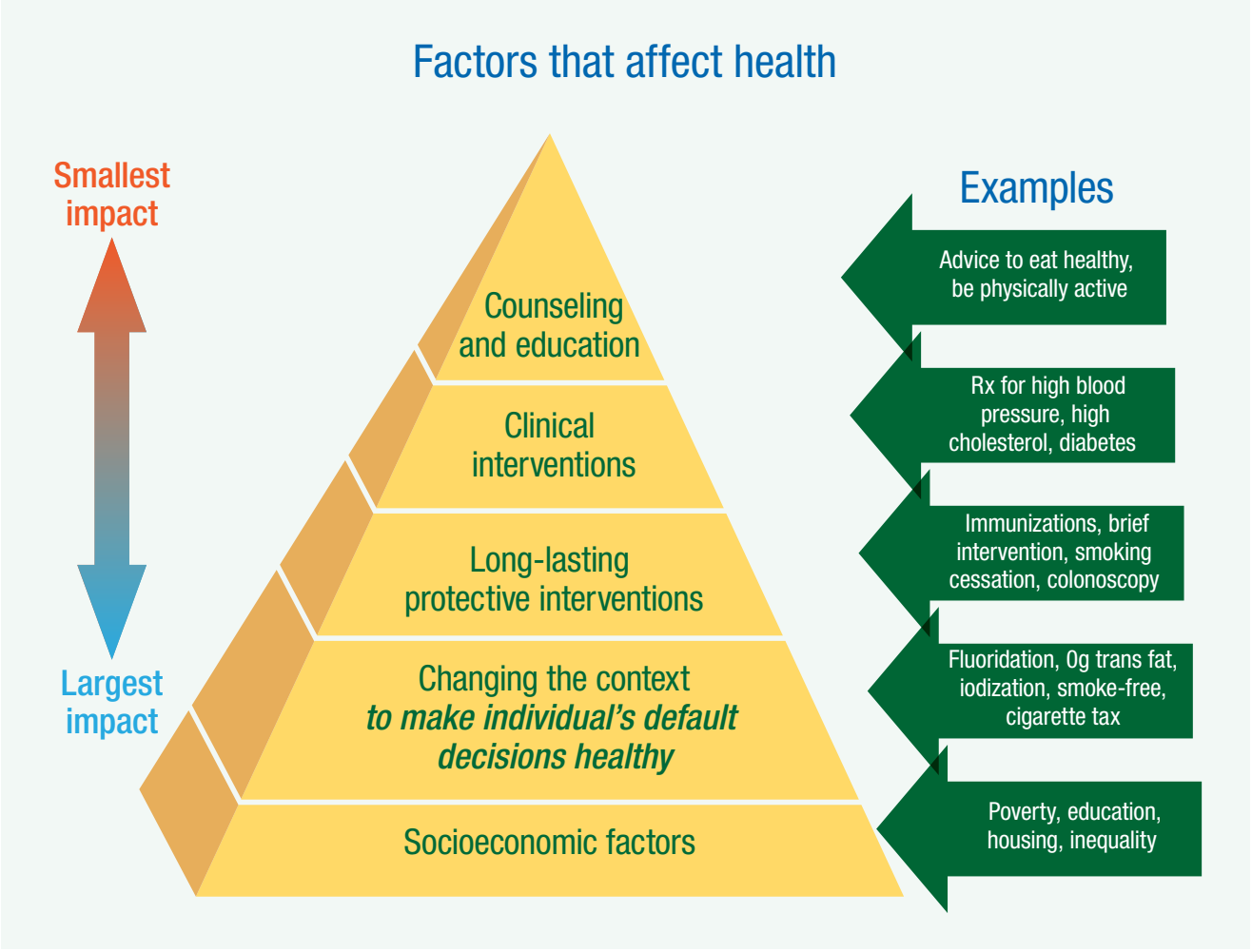
An example highlights how social determinants impact health:

> Consider two children who are both diagnosed with asthma. One child lives in a home close to a major freeway. Her parents have recently discovered mold in the closets, but their landlord has been unresponsive to their requests to address it. This child is exposed to secondhand smoke from adults who live in the same housing complex as her family. The nearest grocery store requires crossing busy streets with no pedestrian crosswalks. The family often relies on preservative-filled foods that can be purchased at the corner store, even though this child shows sensitivity to food additives. The child misses school frequently due to her asthma, which means one of her parents also misses work. This exacerbates the family's financial instability, and the child falls behind her peers in school. The family would like to move to an area with safer air quality and healthier food options, but can't find rental properties in these areas that are within their budget.
>
> The second child has a home that is free of mold and far enough away from busy streets that her asthma is not triggered by car exhaust. She is rarely exposed to secondhand smoke. There are many grocery stores close to her home. Her parents can afford to purchase plenty of fruits, vegetables and other foods that contain few of the preservatives that can trigger an asthma attack. Because her family is able to reduce her exposure

to asthma triggers, this child rarely misses school and is academically on par with her classmates. Her family has to work to keep her home healthy and free from environmental triggers, but they have resources to make changes when needed and feel well-equipped to manage their daughter's asthma.

This example demonstrates how differences in economic, social and environmental factors can affect people with the same medical condition. Health conditions, such as asthma, can exacerbate economic disadvantages and widen achievement gaps for individuals and families.

The public health and health care systems both implement strategies on multiple levels to improve the health of individuals and families. The five-tier pyramid, shown below, illustrates the impact of different types of interventions that affect health.



Source: Thomas R. Frieden, MD, MPH. A Framework for Public Health Action: The Health Impact Pyramid. American Journal of Public Health. 2010 April; 100(4): 509-595. Doi: 10.2105/ALPH.2009.185652 PMCID: PMC2836340

Interventions addressing the socioeconomic factors that affect health make up the base of this five-tier pyramid. These interventions have the greatest potential to affect health because they reach the entire population, rather than focusing on individuals. However, it can take a generation or longer to see the effects of interventions intended to change the socioeconomic factors that affect health.

The interventions in the top two tiers of the pyramid commonly occur in a health care setting. These interventions are essential to protect and improve an individual's health, but they typically have a lesser impact on the entire population's ability to achieve optimal health.

Oregon's state health improvement plan focuses on the lower tiers of this pyramid. These interventions can improve the health of the entire population by making health resources readily available, ensuring the health care system is equipped to address health needs, and enacting policy that makes the healthy choice the default choice for the population.

Oregon's state health improvement plan

Oregon's state health improvement plan outlines the health priorities for our state and the policy, systems and environmental improvements that put healthy options within reach for everyone in Oregon. The health priorities and improvement strategies in the state health improvement plan are the foundation for improving health in Oregon over the next five years. These outcomes will be achieved by forming strong community connections, aligning with health system transformation efforts and comprehensively implementing the strategies laid out in this plan.

The goal of this plan is to make measurable improvements in health outcomes for each of the seven priority areas by 2020. The priority areas are listed below. Each priority area contains evidence-based strategies for the entire population and within the health system. Each area also includes health equity strategies directed specifically at segments of the population that experience a disproportionate burden of disease. These targeted equity strategies ensure that populations experiencing health disparities attain the same level of health as the general population. We strive to attain the highest level of health for all people in Oregon, regardless of their income, level of education, where they live, or their race or ethnicity.

Oregon's state health improvement plan priorities for 2015–19 are listed below:

Prevent and reduce tobacco use

- Cigarette smoking prevalence among youth
- Other tobacco product (non-cigarette) use among youth
- Cigarette smoking prevalence among adults

Slow the increase of obesity

- Obesity prevalence among 2- to 5-year-olds
- Obesity prevalence among youth
- Obesity prevalence among adults
- Diabetes prevalence among adults

Improve oral health

- Third graders with cavities in their permanent teeth
- Adolescents with one or more new cavities identified during a dental visit in the previous year
- Prevalence of older adults who have lost all their natural teeth

Reduce harms associated with alcohol and substance use

- Prescription opioid mortality
- Alcohol-related motor vehicle deaths

Prevent deaths from suicide

- Rate of suicide
- Suicide attempts among 8th graders
- Emergency department visits for suicide attempts

Improve immunization rates

- Rate of 2-year-olds who are fully vaccinated
- HPV vaccination series rate among 13- to 17-year-olds
- Seasonal flu vaccination rates in people ≥6 months of age

Protect the population from communicable diseases

- Gonorrhea in women aged 15–44 years
- HIV infections in Oregon residents
- Hospital-onset *Clostridium difficile* infections
- Infections caused by the Shiga toxin-producing *Escherichia coli* infections in children under 10 years

2015 revision

This plan builds upon the work of prior state health improvement plans — most notably Oregon's Healthy Future, September 2013. The work on Oregon's Healthy Future began in 2012 with the creation of the Oregon's Healthy Future Advisory Group. This group sought additional community feedback from more than 300 participants; reviewed public health data, including data from Oregon's State Health Profile of key health indicators; and synthesized the findings to create Oregon's Healthy Future.

In 2014, based on feedback from stakeholders and other partners, the decision was made to revisit and update Oregon's Healthy Future to better reflect the needs of partners and communities through the state. The Oregon Health Authority's Public Health Division (PHD) held community engagement sessions across Oregon from May to August of 2014 to solicit feedback. These meetings included members of community advisory councils, county health departments, schools of public health, nonprofit partners, coordinated care organizations and others.

Community engagement session participants reviewed data on the health status of people in Oregon and discussed health issues in their community using the model below:

Population health issues in Oregon – 2014

Leading causes of death
- Tobacco
- Obesity
- Substance abuse

Not improving over time
- Diabetes
- Sexually transmitted infections
- Pertussis
- Opioid-related overdoses

Key questions
1) Looking at these potential health issues, are there any missing?
2) Which of these health issues should be prioritized?
3) Which of these health issues are also priorities in your local area?
4) From a state perspective, what should be done to address these health issues?

National ranking
- Suicide
- Oral health
- Immunizations

Winnable battles
- Hospital acquired infections
- Food safety (e.g., salmonellosis)
- Teen births
- Motor vehicle accidents

After careful review of the feedback from the sessions and state health profile data, the state health improvement plan was revised in 2015. An updated version, in effect from 2015 through 2019, became available in September 2015.

Implementation and accountability

Oregon's state health improvement plan includes specific, achievable measures for each of the strategies. This will allow us to track our progress, celebrate achievements and change course when desired outcomes are not being met.

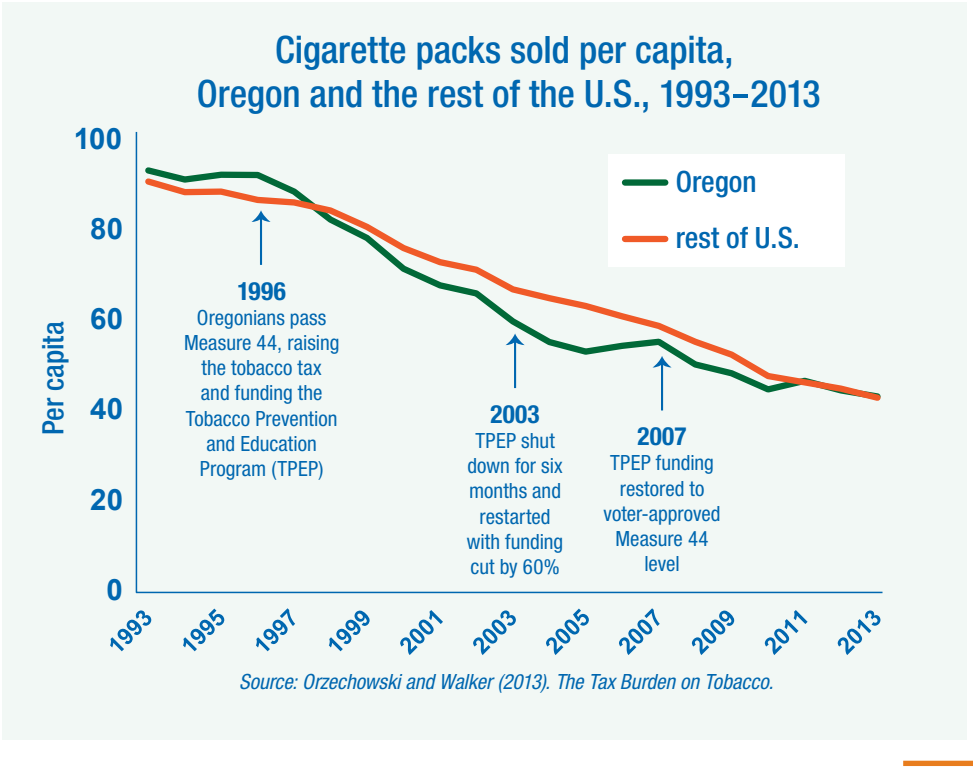
PHD will take the lead on implementing and tracking progress on this state health improvement plan. The state health improvement plan can be used as a guiding document for local health departments as they develop community health improvement plans (CHIP). PHD will monitor the public health priorities included in local public health and CCO CHIPs, as well as nonprofit hospital community health needs assessment and implementation plans (CHNA-IPs). PHD will assist organizations working on related public health priority areas, when appropriate.

The Oregon Public Health Advisory Board (PHAB) holds PHD accountable for demonstrating achievement toward meeting the measures and making progress toward better population health in each of the priority areas. PHD reports directly to PHAB on progress toward these goals.

Prevent and reduce tobacco use

Tobacco use remains the number one cause of preventable death in Oregon and nationally. Tobacco use kills approximately 7,000 Oregonians each year, and secondhand smoke causes an additional 650 deaths.[1] Tobacco use causes lung cancer, cardiovascular disease and chronic obstructive pulmonary disorder. It is a major risk factor in developing asthma, arthritis, diabetes, stroke, tuberculosis and ectopic pregnancy – as well as liver, colorectal and other forms of cancer. It also worsens symptoms for people already battling chronic diseases. Smoking costs Oregon more than $2.5 billion annually in medical expenditures and through indirect costs due to premature death.

Oregonians voted in 1996 for Measure 44, which raised cigarette taxes and funded the Tobacco Prevention and Education Program. The graph below shows cigarette consumption has declined in Oregon during the last 20 years. Per capita cigarette consumption has decreased by 56% since the Tobacco Prevention and Education Program began in 1997.



Current cigarette smoking among Oregon adults has decreased over recent years. Since 2010, smoking prevalence among Oregon adults has decreased 14%.

Current cigarette smoking among adults, Oregon 2010–2013

	Age-adjusted (%)			
	2010	2011	2012	2013
Current cigarette smoking	20.7	20.5	18.5	17.8

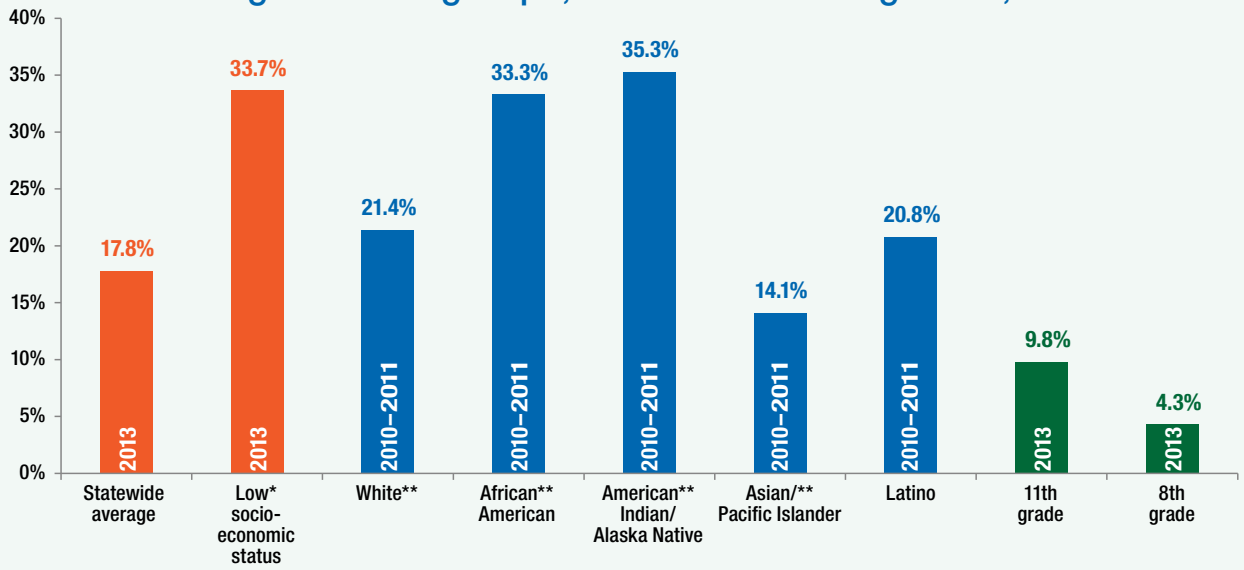
Source: Oregon Behavioral Risk Factors Surveillance System 2010–2013; age-adjusted to the 2000 standard population.

However, cigarette smoking continues to be a significant risk factor among Oregon adults. Approximately 519,100 Oregonians smoke cigarettes. When smokeless tobacco is included, this number increases to approximately 604,600 adult tobacco users in Oregon.[2]

The burden of tobacco use falls hardest on lower-income Oregonians and certain racial and ethnic groups, who use tobacco at higher rates and suffer the harshest consequences in terms of chronic disease burden.

Tobacco use prevalence among adults is nearly twice as high among African Americans and American Indian/Alaskan Natives than among the general population (33.3%, 35.3% and 17.8%, respectively).

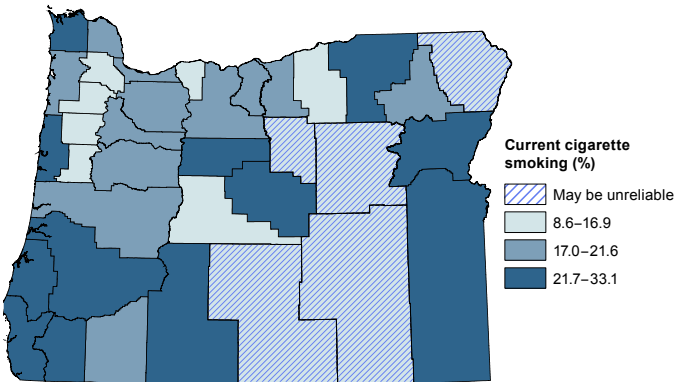
Percentage of Adult Oregonians who smoke, among selected groups; and teen smoking rates, 2013



2013 Oregon Behavioral Risk Factor Surveillance System (BRFSS) | 2010-2011 Oregon BRFSS Race Oversample | 2013 Oregon Healthy Teens Survey

*Household income less than $15,000/year
**Non-Latino
All estimates are age-adjusted

Cigarette use among Oregon adults, by Oregon county, 2010–2013



Rates of tobacco use are almost twice as high among adults of low socioeconomic status than among the general population (33.7%, 17.8%). Cigarette smoking prevalence among Oregon adults with less than a high school education is four times higher than among those who have graduated from college.[1] Tobacco prevalence is also higher among Oregon adults enrolled in Medicaid; 29.3% of Oregon adults enrolled in Medicaid smoke cigarettes.[3]

Current cigarette smoking rates vary across Oregon counties. Lincoln County has the highest smoking prevalence at 33%, and Wallowa County has the lowest at 9%. (Wallowa County's rate should be interpreted with caution because the estimate may be statistically unreliable.)

Cigarette use among Oregon adults, by Oregon county, 2010–2013

County	Cigarette smoker (%)	County	Cigarette smoker (%)
Baker	23.2	Lake	13.4^
Benton	14.3	Lane	21.6
Clackamas	18.3	Lincoln	33.1
Clatsop	21.6	Linn	20.5
Columbia	18.6	Malheur	22.5
Coos	27.5	Marion	19.0
Crook	31.0	Morrow	15.8
Curry	29.2	Multnomah	18.8
Deschutes	16.3	North Central*	19.6
Douglas	25.6	Polk	16.4
Grant	16.3^	Tillamook	20.0
Harney	10.8^	Umatilla	22.9
Hood River	9.8	Union	18.6
Jackson	20.1	Wallowa	8.6^
Jefferson	24.1	Washington	14.1
Josephine	25.2	Wheeler	10.7^
Klamath	23.2	Yamhill	16.9

^ This number may be statistically unreliable and should be interpreted with caution.

* North Central Public Health District includes Gilliam, Sherman and Wasco counties.

Source: Oregon Behavioral Risk Factors Surveillance System 2010–2013 county combined; age-adjusted to the 2000 standard population.

Strategies to reduce and prevent tobacco use in Oregon

To reduce tobacco use, Oregon must take a comprehensive approach. Hard-hitting messages and warnings, advice and assistance to quit, increasing the price of tobacco products, improving access to and affordability of cessation services, restrictions on where tobacco can be used, and restricting how tobacco can be promoted are all necessary components of an effective tobacco control strategy.[4]

Priorities, strategies and measures

Priority targets

Cigarette smoking prevalence among youth

Target: 11th grade 7.5%, eighth grade 2%

Baseline: 11th grade 10%, eighth grade 4% (2013)

Data source: Oregon Healthy Teens Survey

Other tobacco product (non-cigarette) use among youth

Target: 11th grade 15%, eighth grade 4%

Baseline: 11th grade 18%, eighth grade 6% (2013)

Data source: Oregon Healthy Teens Survey

Cigarette smoking prevalence among adults

Target: 15%

Baseline: 17% (2013)

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

Population interventions

Strategy 1: Increase the price of tobacco

Justification: Raising the price of tobacco is one of the most effective strategies for reducing tobacco initiation, decreasing consumption and increasing cessation.

Measure 1.1: Amount of state tax per pack of cigarettes

Target: $2.33

Baseline: $1.31 (2015)

Data source: Oregon Department of Revenue

Measure 1.2: Cigarette consumption – cigarette packs sales per capita

Target: 38.0

Baseline: 41.0 (2014)

Data source: Oregon Department of Revenue and Orzechowski & Walker, The Tax Burden on Tobacco[5]

Strategy 2: Prohibit free sampling of tobacco products, tobacco coupon redemption and other price reduction strategies

Justification: Tobacco prices have a significant effect on initiation and consumption. Strategies such as banning free samples or coupon redemption are effective non-tax ways to increase tobacco prices.

Measure 2.1: Number of jurisdictions with a comprehensive tobacco retail licensure ordinance

Target: 5

Baseline: 1 (2015)

Data source: Policy database

Measure 2.2: Number of jurisdictions with tobacco price reduction strategies such as banning free sampling or tobacco coupon redemption

Target: 4

Baseline: 0 (2015)

Data source: Policy database

Strategy 3: Increase the number of tobacco-free environments

Justification: Tobacco-free environments protect people from exposure to secondhand smoke, encourage tobacco users to quit and help former smokers remain tobacco-free.

Measure 3.1: Percentage of government entities with comprehensive tobacco-free properties/ campus policies

Target: 100% for all categories

Baseline: State agencies: 100% (2015)

Counties: 20% (2015)

Tribes: 0% (2015)

Community colleges: 29% (2012)

Public universities: 29% (2012)

Public housing: 91% (2012)

Data source: Policy database

Health equity interventions

Strategy 1: Increase protections for secondhand smoke among low-income and service-industry employees

Justification: Oregon adults are still exposed to secondhand smoke while working in places where smoking may not be prohibited under the Indoor Clean Air Act. These workers are often of lower socioeconomic status. These places include outdoor dining food service areas, hotels, casinos, home care and construction.

Measure 1.1: Number of jurisdictions with public policies that prohibit smoking and tobacco use where low-income and service workers are still exposed to secondhand smoke (i.e., address exemptions to the Indoor Clean Air Act: outdoor dining food service areas, hotels, casinos, home care and construction).

Target: 10

Baseline: 0 (2015)

Data source: Policy database

Strategy 2: Increase the number of Department of Human Services (DHS) and Oregon Health Authority (OHA) mental and behavioral health service providers that adopt tobacco-free campus policies, adopt tobacco-free contracting rules and refer clients and employees who smoke to evidence-based cessation services

Justification: DHS and OHA provide essential social and health services to client and consumers. DHS and OHA served over 1.4 million Oregonians in 2014. DHS and OHA are two of the largest state agencies that jointly employ over 11,000 people.

Measure 2.1: Number of DHS and OHA policies that support health for clients and employees

Target: 5

Baseline: 2 (2015)

Data source: OHA administrative data

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to prevent and reduce tobacco use

Justification: Incentive measures and alternate payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for tobacco prevention

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate tobacco prevention in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Ensure availability of comprehensive cessation benefits through private and public health plans

Justification: More than three-quarters of adults in Oregon who smoke want to quit. Success can depend on receiving evidence-based support, including counseling and medication. Comprehensive cessation benefits offered by health plans play an important role in providing Oregon adults the support needed to successfully quit.

Measure 2.1: Number of public health plans with comprehensive, barrier-free cessation benefits as defined under the Affordable Care Act

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2014)

Data source: CCO Cessation Benefits Survey, PEBB and OEBB contracts

Measure 2.2: Smoking prevalence among pregnant women

Target: 8%

Baseline: 11% (2012)

Data source: Oregon birth certificate statistical file

Strategy 3: Create tobacco-free private and public health plans, health systems and hospitals

Justification: Tobacco-free environments protect people from exposure to secondhand smoke, encourage tobacco users to quit and help former smokers remain tobacco-free.

Measure 3.1: Number of public health plans that have a 100% tobacco-free campus policy that prohibits tobacco use on all campuses for employees, clients, patients, vendors and visitors with all contracted providers and facilities.

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: Policy database, PEBB and OEBB contracts

Measure 3.2: Number of hospitals that have a 100% tobacco-free policy that prohibits tobacco use on all campuses for employees, clients, patients, vendors and visitors.

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Policy database

[1] Oregon Health Authority, Public Health Division, Health Promotion and Chronic Disease Prevention section. Oregon Tobacco Facts 2013, Costs of Tobacco. 2013. Retrieved from: https://public.health.oregon.gov/PreventionWellness/TobaccoPrevention/Pages/oregon-tobacco-facts.aspx.

[2] Oregon Health Authority, Public Health Division, Health Promotion and Chronic Disease Prevention section. Adult Data: Tobacco use and related topics, Oregon 2013. 2013. Retrieved from: http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Pages/AdultData.aspx.

[3] Oregon Health Authority, Office of Health Analytics. 2014 Medicaid Behavioral Risk Factor Surveillance Survey. 2015. Retrieved from: www.oregon.gov/oha/analytics/MBRFFS%20Docs/2014%20MBRFSS%20State%20Total%20Data%20Tables.pdf.

[4] Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs. 2014. Retrieved from: www.cdc.gov/tobacco/stateandcommunity/best_practices/.

[5] Orzechowski & Walker. The Tax Burden on Tobacco. 2014. Available at: www.taxadmin.org/fta/tobacco/papers/tax_burden_2014.pdf.

Slow the increase of obesity

Obesity is the number two cause of preventable death in Oregon and nationally, second only to tobacco use. Obesity related conditions account for 1,400 deaths in Oregon each year.[1] Preventing obesity among Oregonians lowers the risk of diabetes, heart disease, stroke, cancer, high blood pressure, high cholesterol, arthritis, stress and depression. Children and adolescents who are obese are at increased risk for becoming obese as adults.[2]

Each year, Oregon spends about $1.6 billion ($339 million paid by Medicaid) in medical expenses for obesity-related chronic conditions such as diabetes and heart disease. Annual medical costs of persons who are obese are estimated to be $1,429 higher than those who are not obese. Nearly 48,000 hospitalizations were due to diabetes, heart disease and stroke in 2011, with a cost of nearly $1.5 billion.[3]

Chronic diseases account for approximately 85 cents of every dollar spent on health care costs. For Oregon to successfully transform the health system and achieve the triple aim of better health and better health care at lower costs, Oregon must work to reduce and prevent obesity.

Obesity prevalence among Oregon adults has risen dramatically in the past two decades, from 11.2% in 1990 to 26.8% in 2013. Although the rate of increase has leveled off recently, the obesity rate of 26.8% in 2013 represents 821,400 adults and is the highest rate yet recorded for the adult population in Oregon.[4]

Obesity among adults, Oregon 2010–2013

	Age-adjusted (%)			
	2010	2011	2012	2013
Obese (female)	26.6	27.5	27.2	25.2
Obese (male)	26.8	25.7	26.2	28.4
Obese (total)	26.6	26.6	26.7	26.8

Source: Oregon Behavioral Risk Factors Surveillance System 2010–2013; age-adjusted to the 2000 standard population.

Racial and ethnic disparities exist in obesity rates among Oregon adults. Compared to non-Latino Whites, African Americans, American Indians or Alaska Natives, and Latinos have higher rates of obesity, while Asian or Pacific Islanders have lower rates of obesity. The largest disparity is among American Indian or Alaska Natives, who are affected by obesity at a rate 55% higher than their White counterparts.

Obesity rates do not typically differ by sex within racial and ethnic groups, with the exception of Latinos, among whom females have higher rates of obesity than males.

Obesity among adults by sex, race and ethnicity, Oregon 2010–2011

	White, non-Latino (NL)	African American, NL	Asian or Pacific Islander, NL	American Indian or Alaska Native, NL	Latino
	%	%	%	%	%
Obese (female)	25.4	35.5	10.3^	39.8	38.4
Obese (male)	26.0	32.2	16.5	40.1	29.6
Obese (total)	25.7	33.7	13.5	40.0	33.5

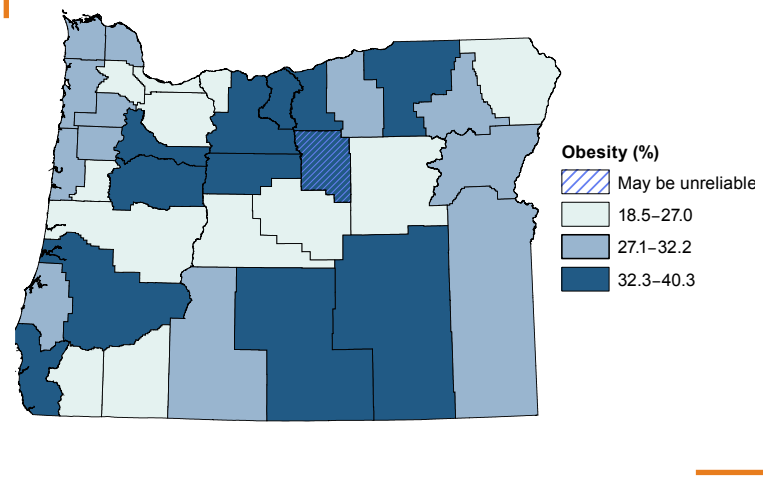
^ This number may be statistically unreliable and should be interpreted with caution.

Source: Oregon Behavioral Risk Factors Surveillance System Race Oversample Dataset 2010–2011; age-adjusted to the 2000 standard population.

Note: For an explanation of using unadjusted versus age-adjusted estimates, please see http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORRaceEthnicity_riskfactors.pdf

Obesity rates among Oregon counties vary, ranging from a low of 18.5% of adults in Hood River County, to a high of 40.3% in Curry County.

Obesity rates among Oregon adults, by county, 2010–2013



County	Obese (%)
State	25.9
Baker	29.0
Benton	21.2
Clackamas	25.2
Clatsop	29.1
Columbia	31.9
Coos	28.6
Crook	25.1
Curry	40.3
Deschutes	21.8
Douglas	34.4
Grant	23.8
Harney	38.7
Hood River	18.5
Jackson	22.3
Jefferson	40.1
Josephine	22.7
Klamath	28.1

County	Obese (%)
Lake	34.1
Lane	27.0
Lincoln	30.3
Linn	33.2
Malheur	31.0
Marion	32.7
Morrow	29.5
Multnomah	21.4
North Central*	33.6
Polk	31.4
Tillamook	31.8
Umatilla	33.2
Union	27.7
Wallowa	22.2
Washington	22.9
Wheeler	37.7^
Yamhill	32.2

^ This number may be statistically unreliable and should be interpreted with caution.

* North Central Public Health District includes Gilliam, Sherman and Wasco counties.

Source: Oregon Behavioral Risk Factors Surveillance System 2010–2013 county combined; age-adjusted to the 2000 standard population.

Obesity is less prevalent among younger (18–24) and older (75+) age groups. Obesity is most prevalent between the ages of 35 to 74.

As with tobacco use, obesity rates in Oregon vary by education and income level. The prevalence of obesity among adults with less than a high school education is nearly double that of adults with a college degree. Among Oregon adults enrolled in Medicaid, 36.2% are currently obese.[5]

Strategies to slow the increase of obesity in Oregon

To reduce obesity, Oregon must take a comprehensive approach. Key strategies include:

- Monitor obesity and obesity-related conditions;
- Raise the price of unhealthful foods;
- Lower the price of healthful foods;
- Enforce laws that enable healthy eating and active living;
- Create safe places for physical activity;
- Offer support for people to manage their weight.

These strategies to prevent and reduce obesity are modeled after Best Practices for Comprehensive Tobacco Control Programs.[6]

Obesity rates by age among Oregon adults, 2013

Age	Obese (%)
18–24	9.6
25–34	25.9
35–44	30.0
45–54	32.1
55–64	32.3
65–74	30.9
75+	19.9

Source: 2013 Oregon Behavioral Risk Factors Surveillance System

Priorities, strategies and measures

Priority targets

Obesity prevalence among 2- to 5-year-olds

Target: 14.5%

Baseline: 15.5% (2013)

Data source: WIC administrative data

Obesity prevalence among youth

Target: 11th grade 10%, eighth grade 9%

Baseline: 11th grade 11%, eighth grade 10% (2013)

Data source: Oregon Healthy Teens Survey

Obesity prevalence among adults

Target: 25%

Baseline: 27% (2013)

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

Diabetes prevalence among adults

Target: 8%

Baseline: 9% (2013)

Data source: BRFSS

Population interventions

Strategy 1: Increase the price of sugary drinks

Justification: Sugary drinks are the number one source of empty calories in the American diet. Studies suggest raising the price of sugary drinks would decrease calorie consumption and improve population-wide weight status.

Measure 1.1: Amount of state tax on sugary drinks

Target: $0.01/oz

Baseline: $0.00/oz (2015)

Data source: Budget information

Measure 1.2: Percentage of adults who consume seven or more sodas per week

Target: 9%

Baseline: 11% (2013)

Data source: BRFSS

Measure 1.3: Percentage of youth who consume seven or more sodas per week

Target: 11th grade: 9%, eighth grade: 10%

Baseline: 11th grade: 11%, eighth grade: 12% (2013)

Data source: Oregon Healthy Teens Survey

Strategy 2: Increase the number of private and public businesses and other places that adopt standards for healthy food and beverages, physical activity and breastfeeding.

Justification: Local policies and the physical environment influence daily choices that affect health and weight status. The Centers for Disease Control and Prevention's recommended Strategies for Obesity Prevention include increasing the availability of healthier food and beverage choices, increasing opportunities for physical activity and increasing support for breastfeeding.[7]

Measure 2.1: Number of state agencies with comprehensive nutrition, physical activity and breastfeeding standards policies

Target: 25

Baseline: 0 (2015)

Data source: Policy database

Measure 2.2: Number of local government settings with comprehensive nutrition, physical activity and breastfeeding standards policies

Target: 10

Baseline: Unknown, developmental measure (2015)

Data source: Policy database

Strategy 3: Increase opportunities for physical activity for adults and youth

Justification: Local policies and the physical environment influence daily choices that affect health and weight status. The Centers for Disease Control and Prevention's recommended Strategies for Obesity Prevention include increasing opportunities for physical activity.

Measure 3.1: Number of community design plans that include physical activity as a consideration for land use and transportation

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Policy database

Measure 3.2: Number of formal agreements between two or more government entities that set terms and conditions for shared use of public properties or facilities (e.g., joint-use agreements) that promote physical activity

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Policy database

Measure 3.3: Percentage of adults that get at least 150 minutes of physical activity per week

Target: 66%

Baseline: 64% (2013)

Data source: BRFSS

Measure 3.4: Percentage of youth that participated in 60 or more minutes of physical activity, five or more days a week

Target: 62%

Baseline: 59.5% (2013)

Data source: Oregon Healthy Teens Survey

Strategy 4: Improve availability of affordable, healthy food and beverage choices

Justification: Local policies and the physical environment influence daily choices that affect health and weight status. The Centers for Disease Control and Prevention's recommended Strategies for Obesity Prevention include increasing the availability of affordable healthier food and beverage choices.

Measure 4.1: Percentage of adults who consume five or more servings of fruits and vegetables a day

Target: 25%

Baseline: 22% (2013)

Data source: BRFSS

Measure 4.2: Percentage of eighth graders who consume five or more servings of fruits and vegetables a day

Target: 27%

Baseline: 25% (2013)

Data source: Oregon Healthy Teens Survey

Measure 4.3: Percentage of issued cash value vouchers used by WIC participants to purchase fresh and frozen fruits and vegetables

Target: 85%

Baseline: 83% (2014)

Data source: WIC administrative data

Measure 4.4: Percentage of issued WIC Farmer Direct Nutrition Program (FDNP) checks used to purchase fresh fruits and vegetables at farmers markets and farm stands

Target: 75%

Baseline: 72% (2014)

Data source: WIC administrative data

Measure 4.5: Percentage of issued Senior FDNP checks used to purchase fresh fruits and vegetables at farmers markets and farm stands

Target: 80%

Baseline: 78% (2014)

Data source: WIC administrative data

Health equity interventions

Strategy 1: Increase the number of Department of Human Services (DHS) and Oregon Health Authority (OHA) mental and behavioral health service providers that adopt standards for healthy food and beverages, physical activity and breast-feeding for clients and employees

Justification: DHS and OHA provide essential social and health services to clients and consumers. In 2014, DHS and OHA served over 1.4 million Oregonians. DHS and OHA are two of the largest state agencies that jointly employ over 11,000 people.

Measure 1.1: Number of DHS and OHA policies that support health for clients and employees

Target: 5

Baseline: 2 (2015)

Data source: OHA administrative data

Strategy 2: Increase the number of people at high risk of type 2 diabetes who participate in the National Diabetes Prevention Program

Justification: The National Diabetes Prevention Program (National DPP) is an evidence-based lifestyle change program for preventing type 2 diabetes. Nearly 90 percent of adults who have prediabetes are unaware they have it. Private and public health plans play a critical role in identifying those at high risk for type 2 diabetes, promoting awareness of prediabetes, and referring to CDC-recognized lifestyle change programs. Oregonians of low socioeconomic status, African Americans and Native Americans are disproportionally affected by diabetes.

Measure 2.1: Number of public health plans with policies or practices to refer persons with prediabetes to a CDC-recognized lifestyle change program.

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: OHA administrative data

Measure 2.2: Number of participants in CDC-recognized lifestyle change programs

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: CDC aggregate data. If possible, the target, baseline and data source will be updated to collect and report race/ethnicity data during the state health improvement plan implementation period.

Strategy 3: Increase access to parks and recreational facilities for people in Oregon experiencing socioeconomic or racial/ethnic disparities

Justification: Local policies and the physical environment influence daily choices that affect health and weight status. The Centers for Disease Control and Prevention's recommended Strategies for Obesity Prevention include increasing opportunities for physical activity.

Measure 3.1: Number of communities with significant low socioeconomic status (SES) or racial/ethnic populations with access to locations for physical activity, including parks or recreational facilities.

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Environmental Public Health Tracking GIS data

Measure 3.2: Number of counties with significant low SES or racial/ethnic populations with access to locations for physical activity, including parks or recreational facilities.

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Robert Wood Johnson Foundation County Health Rankings data

Strategy 4: Increase access to healthy foods in low income communities and with poor access to healthy foods

Justification: Areas with poor access to healthy and affordable food, also known as "food deserts," can contribute to disparities in diet and diet-related health outcomes.

Measure 4.1: Number of low income communities with access to healthy foods

Target: 740 out of 830 census tracts

Baseline: 738 out of 830 census (2010)

Data source: USDA Food Atlas

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to decrease the prevalence of obesity

Justification: Incentive measures and alternative payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for obesity prevention

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate obesity prevention in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Increase the number of hospitals that meet baby-friendly standards

Justification: Evidence-based hospital practices play a critical role in assisting mothers to initiate and establish breastfeeding. Studies have demonstrated a strong association between hospital staff training and increased breastfeeding initiation as well as significant increases when hospitals adopt the 10 standards specified by Baby Friendly USA.[8] Implementation of these steps does not significantly increase hospitals' labor and delivery costs.

Measure 2.1: Maternity Practices in Infant Nutrition and Care (mPINC) survey composite score

Target: 90

Baseline: 85 (2013)

Data source: mPINC

Measure 2.2: Maternity Practices in Infant Nutrition and Care survey support after discharge score

Target: 41

Baseline: 31 (2013)

Data source: mPINC

Strategy 3: Ensure coverage for weight management and chronic disease self-management programs by private and public health plans

Justification: Evidence-based weight management and chronic disease self-management programs help people learn appropriate use of the health care system, how to communicate with providers, adhere to medication, and set goals and action plans. Private and public health plans can support members in losing or maintaining weight, or managing a chronic condition by providing these programs as a covered benefit.

Measure 3.1: Number of public health plans that provide coverage for weight management programs

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 100% of PEBB and OEBB carriers; CCOs unknown (2015)

Data source: OHA administrative data

Measure 3.2: Number of public health plans that cover chronic disease self-management programs

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: OHA administrative data

Strategy 4: Adopt and implement standards for food and beverages sold or available at private and public health plans, clinics and hospitals

Justification: Local policies and the physical environment influence daily choices that affect health and weight status. The Centers for Disease Control and Prevention's recommended Strategies for Obesity Prevention include increasing the availability of healthier food and beverage choices.

Measure 4.1: Number of public health plans, clinics and hospitals that apply nutrition standards to foods and beverages sold or available to employees, clients, patients and visitors

Target: 16 CCOs

Baseline: 0 CCOs (2015)

Data source: Policy database

[1] Oregon Health Authority, Public Health Division, Health Promotion & Chronic Disease Prevention Program. Oregon Overweight, Obesity, Physical Activity and Nutrition Facts. 2012. Retrieved from: https://public.health.oregon.gov/PreventionWellness/PhysicalActivity/Documents/Oregon_PANfactst_2012.pdf.

[2] US Burden of Disease Collaborators. The State of US Health, 1990–2010: Burden of Disease, Injuries, and Risk Factors. Journal of the American Medical Association. 2013;310:6. Retrieved from: http://jama.jamanetwork.com/article.aspx?articleid=1710486.

[3] Oregon Health Authority, Public Health Division, Health Promotion & Chronic Disease Prevention section. Diabetes, Heart Disease and Stroke in Oregon. 2014. Retrieved from: http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Diabetes/Documents/volume1.pdf.

[4] Oregon Health Authority, Public Health Authority, Health Promotion & Chronic Disease Prevention section. Health Risk and Protective Factors Among Adults, Oregon 2013. 2014. Retrieved from: http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORAnnual-BRFSS_riskfactors.pdf.

[5] Oregon Health Authority, Office of Health Analytics. 2014 Medicaid Behavioral Risk Factor Surveillance Survey. 2015. Retrieved from: www.oregon.gov/oha/analytics/MBRFFS%20Docs/2014%20MBRFSS%20State%20Total%20Data%20Tables.pdf.

[6] Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs-2014. 2014. Retrieved from: www.cdc.gov/tobacco/stateandcommunity/best_practices/.

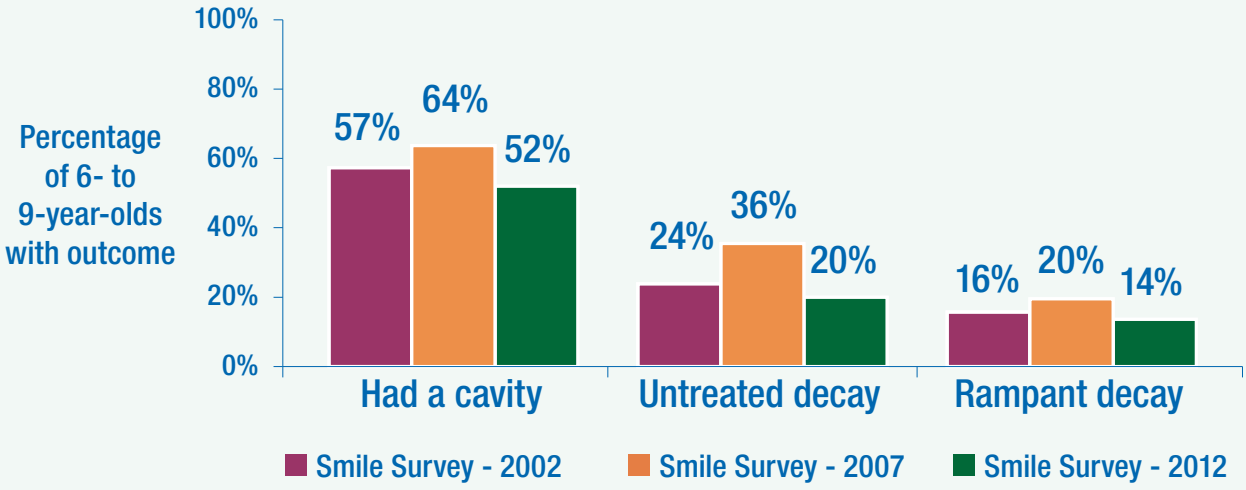
[7] Centers for Disease Control and Prevention (CDC). (2009). Recommended Community Strategies and Measurements to Prevent Obesity in the United States: Implementation and Measurement Guide. Available at: http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf.

[8] Baby Friendly USA. The Ten Steps to Successful Breastfeeding. Available at: https://www.babyfriendlyusa.org/about-us/baby-friendly-hospital-initiative/the-ten-steps.

Improve oral health

Oral health is an integral part of overall health and well-being across the lifespan. Oral diseases affect what we eat, how we communicate, the way we look, our ability to learn and how we feel about ourselves. Despite being a preventable disease, tooth decay is the most common chronic disease affecting U.S. children and teens. In Oregon, 58% of third graders have experienced tooth decay,[1] and most adults suffer from some degree of oral disease. Thirty one percent of Oregonians aged 33 to 44 have lost teeth; 19.9% of older adults have lost six or more teeth.[2]

Oregon Health Authority's Smile Survey, conducted every five years, assesses the oral health of first, second and third graders attending Oregon elementary schools through oral health screenings.



*Primary and permanent teeth

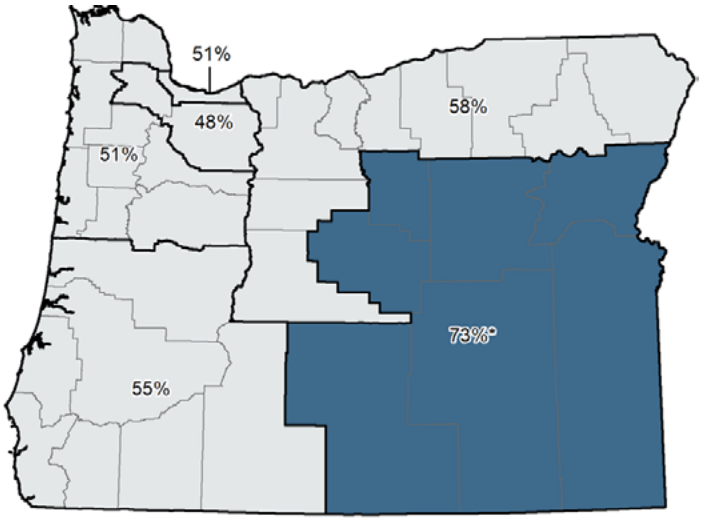
Source: Oregon Smile Surveys, 2002–2012

The Oregon Health Authority's 2012 Smile Survey found that:

- 52% of 6- to 9-year-olds had a cavity, 20% had untreated decay and 14% had rampant decay at the time of their oral health screening;
- Children from counties in southeastern Oregon had higher cavity rates than those of the rest of the state;

- Children from lower-income households had substantially higher cavity rates compared to children from higher-income households (63% vs. 38%), almost twice the rate of untreated decay (25% vs. 13%), and more than twice the rate of rampant decay (19% vs. 8%);
- Hispanic/Latino children experienced particularly high rates of cavities, untreated decay and rampant decay compared to White children; and
- Black/African American children had substantially higher rates of untreated decay compared to White children.

Cavities rates† by geographic region, 2012



†6- to 9-year-olds, primary and permanent teeth

*Statistically different from the statewide average of 52%

Source: Oregon Smile Survey, 2012

Having a healthy mouth is an important part of overall health, and is especially important to child development. The burden of tooth decay or early childhood caries in young children is a significant public health concern and causes needless pain and suffering for many children. Dental decay is the most common chronic disease of children aged 6 to 11 years and adolescents aged 12 to 19 years. Tooth decay is four times more common than asthma among adolescents aged 14 to 17 years. Poor oral health among children affects speech, nutrition, growth, social development and the ability to learn. Children with poor oral health have worse academic performance and are nearly three times more likely to miss school as a result of dental pain.[4] More than 51 million school hours are lost each year to dental-related illness.[5]

Recent studies show there may be a link between oral health and other chronic diseases. Dental decay in childhood has been linked to increased risk for future decay, and chronic oral infections are associated with an array of other health problems such as heart disease, diabetes and unfavorable pregnancy outcomes. Among pregnant women, oral infections can increase the risks for premature delivery and low birth weight babies.[6]

Lifelong access to timely preventive dental care can reduce health care costs, but a high percentage of Oregonians are not currently receiving timely preventive care. Only about

two-thirds (66.9%) of Oregon adults visit the dentist at least once a year.[2] This can lead to costly hospital emergency care. The number of dental-related emergency visits by Oregon's Medicaid enrollees in 2010 was 31% higher than in 2008. Hospital care for a Medicaid enrollee costs nearly 10 times more than preventive care in a regular dental office.[7]

Strategies to improve oral health in Oregon

Continued improvements in oral health in Oregon will require collaborative efforts by public health, dental and medical providers, schools, and the community at large to support policies and programs intended to prevent dental disease. Both behavioral interventions and community-based preventive strategies can help reduce the suffering and costs of oral diseases.

1. Behavioral interventions include:
    - Starting proper oral hygiene as soon as the first tooth erupts and maintaining good oral hygiene into adulthood;
    - Scheduling a child's first dental visit by age 1;
    - Ensuring timely access to regular dental visits;
    - Receiving oral health and nutrition education based on developmental needs across the lifespan (also known as anticipatory guidance);
    - Integrating oral health care into medical care settings during prenatal care visits, well-child visits, adolescent wellness exams and at other opportunities; and
    - Reducing at-will consumption of beverages and foods containing fermentable carbohydrates (e.g., juice drinks, soft drinks, milk and starches).
2. Community-based interventions include:
    - **Community water fluoridation**
      Community water fluoridation is an evidence-based practice recommended by the Community Preventive Services Task Force, Association of State and Territorial Dental Directors, and Healthy People 2020 based on strong evidence of effectiveness in reducing dental cavities across populations. After communities fluoridate their water supplies, the percentage of children in the population with at least one cavity decreases by 15%, on average.[8] In 2010, about 74% of the U.S. population served by community water systems received fluoridated water compared to 23% in Oregon.[9]
    - **School-based fluoride supplement programs in areas without community water fluoridation**
      School fluoride tablet or rinse programs can reduce the rate of cavities by about 20–35% for the children who participate.[10] During the 2013–14 school year, only 11% of the eligible schools in Oregon participated in the Oregon Health Authority's School Fluoride Program.

- **School-based dental sealant programs**
  School-based dental sealant programs are an evidence-based practice recommended by the Community Preventive Services Task Force, Centers for Disease Control and Prevention (CDC), and Healthy People 2020. During the 2014–15 school year, 77% of the eligible schools in Oregon participated in a dental sealant program.

Priorities, strategies and measures

Priority targets

Third graders with cavities in their permanent teeth

Target: 14%

Baseline: 15.5% (2012)

Data source: Oregon Smile Survey

Adolescents with one or more new cavities identified during a dental visit in the previous year

Target: (11th and eighth grades): Pending

Baseline: (11th and eighth grades): Unknown, developmental measure (2015)

Data source: Oregon Healthy Teens Survey

Prevalence of older adults who have lost all their natural teeth

Target: 16%

Baseline: 17.7% (2010)

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

Population interventions

Strategy 1: Increase the number of fluoridated public water districts

Justification: Community water fluoridation is an evidence-based practice recommended by the Community Preventive Services Task Force, Association of State and Territorial Dental Directors, and Healthy People 2020 that reduces dental cavities across populations. It is an effective, affordable and safe way to protect children and adults from tooth decay and is recognized as one of the 10 greatest public health achievements of the 20th century.

Measure 1.1: Percentage of people in Oregon residing in areas served by optimally fluoridated water

Target: 79.6%

Baseline: 22.6% (2012)

Data source: Centers for Disease Control and Prevention, Water Fluoridation Data and Statistics, 2012.

Health equity interventions

Strategy 1: Provide dental sealants in schools that serve students at high risk of tooth decay

Justification: School-based dental sealant programs are an evidence-based practice recommended by the Community Preventive Services Task Force, Centers for Disease Control and Prevention (CDC), and Healthy People 2020 that is effective in preventing tooth decay among children. Most tooth decay (90%) occurs in the molars, and school-based dental sealant programs can reduce tooth decay by 50% in the treated teeth.

Measure 1.1: Percentage of eligible schools served (40% Free or Reduced Lunch [FRL] or greater) (target grades 1 and 2 or grades 2 and 3)

Target: 75%

Baseline: 70.7% (2015)

Data source: OHA Oral Health Unit

Measure 1.2: Percentage of eligible schools served (40% FRL or greater) (target grades 6 and 7 or grades 7 and 8)

Target: 20%

Baseline: 7.8% (2015)

Data source: OHA Oral Health Unit

Measure 1.3: Children aged 6–9 years with dental sealants on one or more permanent molars

Target: 40%

Baseline: 38.1% (2012)

Data source: Oregon Smile Survey

Measure 1.4: Percentage of children aged 6–9 years with untreated decay

Target: 18%

Baseline: 20% (2012)

Data source: Oregon Smile Survey

Strategy 2: Enhance oral health services through community clinics, including SBHCs

Justification: Local oral health infrastructure allows for timely access to oral health prevention, education and care. Oral health services by community clinics may be provided on site or at other locations in the community, and may involve partnerships with local dental providers.

Measure 2.1: Number of SBHCs that provide routine access to a dental provider on site.

Target: 17%

Baseline: 7% (2014)

Data source: PHD School-Based Health Center Program

Strategy 3: Ensure that Oregon has an adequate number of oral health professionals

Justification: Of Oregon's 36 counties, 33 are designated as a Dental Health Care Provider Shortage Area (HPSA). This illustrates both a shortage of qualified and trained dentists and dental hygienists, and a lack of access to oral health care among low-income, rural and other underserved population groups. To meet the oral health needs in Oregon, workforce capacity must be improved to retain and equitably distribute oral health care providers across Oregon.

Measure 3.1: Number of expanded practice dental hygienists practicing in Oregon communities

Target: 300

Baseline: 213 (2013)

Data source: Oregon Board of Dentistry

Strategy 4: Reduce the number of dental-related visits to emergency departments.

Justification: Emergency department visits for dental conditions reflect lack of access to dental care. Uninsured Oregonians and Oregon Health Plan enrollees are more likely to visit the emergency department for dental problems.

Measure 4.1: Number of emergency department visits for nontraumatic dental problems

Target: 7,500 ED visits annually

Baseline: 15,000 ED visits annually (2013)

Data source: Hospital database

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to improve oral health

Justification: Incentive measures and alternative payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for improved oral health outcomes

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate oral health in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Increase early preventive care for children

Justification: Despite being preventable, tooth decay is the most common chronic disease in children in the United States. Increasing access to preventive services can reduce the needless pain and suffering that many children in Oregon experience, as well as decrease the health care costs of oral diseases.

The American Academy of Pediatrics suggests children who are at risk of tooth decay visit a dentist by age 1. The U.S. Preventive Services Task Force and the American Academy of Pediatrics recommend primary care teams provide fluoride varnish to all children aged 0–5 and prescribe a fluoride supplement to all children whose water supply is not optimally fluoridated.

Measure 2.1: Percentage of children who received a preventive dental visit during their first year

Target: 10% increase from baseline

Baseline: Unknown, developmental measure (2015)

Data source: Medicaid administrative claims data

Measure 2.2: Number of children less than 7 years old who receive oral health risk assessment and intervention during the well-child visit

Target: 10% increase from baseline

Baseline: Unknown, developmental measure (2015)

Data source: Medicaid administrative claims data

Measure 2.3: Children aged 0 to 5 with a dental visit in the previous year

Target: 10% increase from baseline

Baseline: Unknown, developmental measure (2015)

Data source: Medicaid administrative claims data

Strategy 3: Include oral health in chronic disease prevention and management models

Justification: There is a link between poor oral health and chronic diseases. Tooth decay in childhood has been linked to increased risk for future decay, and chronic oral infections are associated with an array of other health problems such as heart disease, diabetes and unfavorable pregnancy outcomes.

Measure 3.1 Increase the number of adults aged 18 years or older with diabetes that had a dental visit in the previous year

Target: 61.2%

Baseline: 56.6% (2012)

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

Strategy 4: Ensure dental benefit packages cover care and treatment to ensure optimal oral health maintenance

Justification: Dental benefit packages that align with preventive goals and provide adequate care ensures optimal oral health maintenance and equitable outcomes across the lifespan.

Measure 4.1: Number of adults with any dental visits in the past 12 months

Target: 70.4%; male: 66%, female: 73.7%

Baseline: 63.8%; male: 60%, female: 67% (2010)

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

[1] Oregon Health Authority, Public Health Division, Maternal and Child Health section. Oregon Smile Survey, 2012 Report. revised 2015. Retrieved from: https://public.health.oregon.gov/PreventionWellness/oralhealth/Documents/SmileSurvey2012.pdf.

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[4] Jackson SL, VannWilliam F Jr, Kotch JB, Pahel BT, Lee JY. Impact of poor oral health on children's school attendance and performance. American Journal of Public Health. 2011;101(10):1900-1906.

[5] U.S. Department of Health and Human Services, National Institutes of Health. Oral Health in America: A Report of the Surgeon General; 2000. Retrieved from: http://www.nidcr.nih.gov/DataStatistics/SurgeonGeneral/Documents/hck1ocv.@www.surgeon.fullrpt.pdf.

[6] Shira Davenport E. Preterm low birthweight and the role of oral bacteria. Journal of Oral Microbiology. 2010;2:10.3402/jom.v2i0.5779. doi:10.3402/jom.v2i0.5779.

[7] PEW Center on the States. PEW children's dental campaign. A costly dental destination: hospital care means states pay dearly; 2012. www.pewtrusts.org/en/research-and-analysis/reports/2012/02/28/a-costly-dental-destination.

[8] The Guide to Community Preventive Services. Preventing Dental Caries: Community Eater Fluoridation. 2013. Retrieved from: www.thecommunityguide.org/oral/supportingmaterials/RRfluoridation.html.

[9] Centers for Disease Control and Prevention. (2010). 2010 Water Fluoridation Statistics. Retrieved from: http://www.cdc.gov/fluoridation/statistics/2010stats.htm.

[10] Association of State and Territorial Dental Directors (ASTDD). Best Practice Approaches for State and Community Oral Health Programs. Retrieved from: http://www.astdd.org/bestpractices/BPAFluorideMouthrinseSupplement.pdf.

Reduce harms associated with alcohol and substance use

Alcohol and substance use disorders have a significant social and economic impact on individuals, families and communities. The state health improvement plan addresses harms associated with alcohol and prescription opioid use.

Opioids

Deaths associated with both prescription and non-prescription opioids (e.g., heroin) are among the leading causes of injury death in Oregon. The number of opioid-related deaths has markedly increased over the last 15 years. In 1999, 29 overdose deaths were associated with prescription opioids; 156 occurred in 2013. The number of prescription opioid deaths has begun to decline since 2006, when there were 239 overdose deaths. Deaths associated with heroin overdose increased from 28 in 2000 to 101 in 2013.[1,2]

Opioid overdose can cause depressed respiration (slowed breathing), coma, permanent brain damage and death. It is estimated the abuse of opioid analgesics results in more than $72 billion in national medical costs alone each year.[3]

In 2012, Oregon had the highest rate of nonmedical use of prescription pain relievers in the nation. Data from the National Survey on Drug Use and Health (NSDH) show 5.72% of Oregonians used prescription pain relievers for nonmedical reasons, as compared to 4.57% of Americans overall.[1]

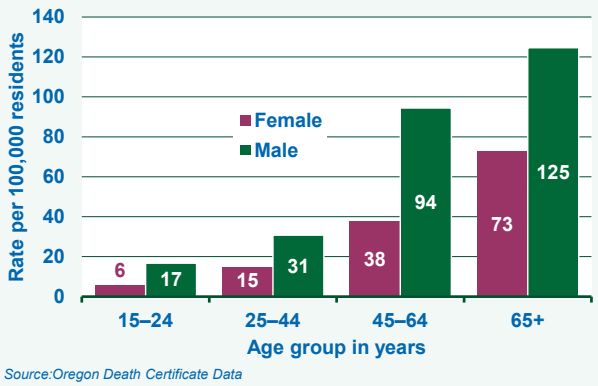
Oregon's Prescription Drug Monitoring Program reports 908,000 individuals in Oregon received at least one prescription for an opioid in 2012.[1]

Alcohol

Excessive alcohol use has significant impacts on individual and family health and well-being, and affects broader social and economic issues such as public safety and worker productivity. Excessive alcohol use, including underage and binge drinking, can increase a person's risk of developing serious health problems such as brain and liver damage, heart disease, cancer, fetal damage in pregnant women and premature death. It is a risk factor for injuries, violence, unintended pregnancy and motor vehicle crashes. In 2010, 1,546 Oregonians (39.7 per 100,000) died from alcohol-related causes, a 27% increase from alcohol-related deaths reported in 2001.[4]

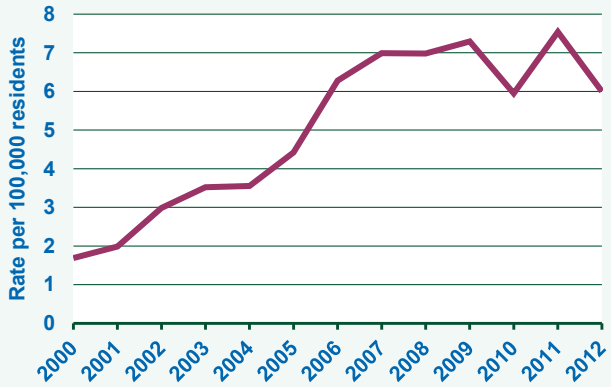
The economic costs associated with excessive alcohol consumption in 2006 were estimated at $223.5 billion, or $1.90 a drink.[5]

Alcohol-related deaths, by age group and sex, Oregon, 2012



Source:Oregon Death Certificate Data

Opioid-related overdose deaths, Oregon, 2012



Source:Oregon Death Certificate Data

Disparities exist for those most affected by opioid and alcohol use disorders in Oregon.

Opioids:

- In 2012, the unintentional opioid overdose death rate in Oregon was 4.2 per 100,000. The highest average death rates (from 2008–2012) occurred among people aged 45–54 years. Males had higher rates of death due to prescription opioid poisoning for all age groups except those aged 45–54 years;[1]
- Rates were higher among non-Hispanic/Latino men and women (6.5 per 100,000 and 1.8 per 100,000 respectively) than Hispanic/Latino men and women (5.1 per 100,000 and 0.7 per 100,000 respectively);[1] and
- Rates were highest among Alaska Native/American Indian females (7.5 per 100,000) and Caucasian males (4.8 per 100,000), and lowest among Asian females and males (0 per 100,000 for females and 0.7 per 100,000 for males).[1]

Alcohol:

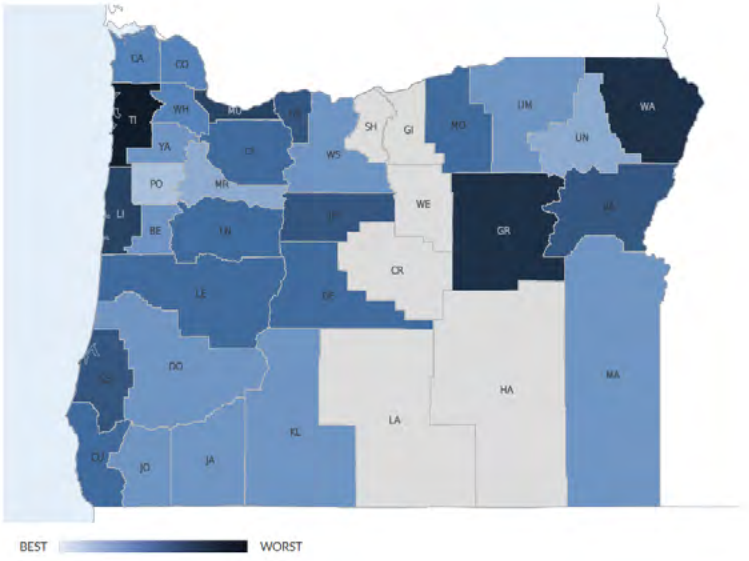
One measure of excessive alcohol use is to track rates of binge drinking. Binge drinking for adults is defined as consuming five or more drinks for men, and four or more drinks for women, during one occasion. For youth, binge drinking is defined as consuming five or more drinks within two hours.

In Oregon:

- Adult males report binge drinking more frequently than women. Male binge drinking peaks in the 25–34 year age group, while female binge drinking is highest in the 18–24 and 25–34 year age groups. In 2012, 15.2% of adults reported binge drinking on at least one occasion within the last 30 days.[6]
- Levels of binge drinking are similar among boys and girls in the eighth grade, but the rate is higher for boys in the 11th grade than for girls. In 2013, 17.7% of 11th graders reported binge drinking on at least one occasion within the last 30 days.[6]
- Among the Medicaid population, 12.1% report one or more days of binge drinking in the last 30 days. Rates of binge drinking were highest among American Indians/ Alaskan Natives (15.6%) and Pacific Islanders (12.7%), and lowest among Asian, non-Pacific Islanders (4.5%).[7]

Strategies to reduce harms associated with alcohol and opioid use

Excessive drinking among Oregon adults, by county, 2006–2012



Source: Robert Wood Johnson Foundation. County Health Rankings & Roadmaps

Oregon will need to focus its efforts on improving the behavioral health of its citizens to reduce harms associated with alcohol and prescription opioid use. Effective approaches to promote positive behavioral health are primary care screenings for substance use disorders and mental health issues, culturally appropriate mental health care, population-based surveillance such as Oregon's Prescription Drug Monitoring Program, and policy interventions, including increased alcohol taxes and enhanced enforcement of laws prohibiting sales to minors.

Priorities, strategies and measures

Priority targets

Prescription opioid mortality

Target: <3 deaths per 100,000

Baseline: 4 deaths per 100,000 (2013)

Data source: Death certificate and medical examiner data, and Oregon Violent Death Reporting System

Alcohol-related motor vehicle deaths

Target: 98

Baseline: 125 (2009–13 average)

Data source: ODOT data

Population interventions

Strategy 1: Increase the price of alcohol

Justification: The Guide to Community Preventive Services[8] strongly recommends raising alcohol excise taxes as an effective strategy for reducing excessive alcohol consumption and related harms. Higher alcohol prices or taxes are consistently related to fewer motor vehicle crashes and fatalities, less alcohol-impaired driving and less mortality from liver cirrhosis.

Measure 1.1: Amount of state tax on alcohol

Target: $24.61/gallon of distilled alcohol (10% increase)

Baseline: $22.37/gallon of distilled alcohol (2015)

Data source: Oregon statute

Measure 1.2: Percentage of youth that report binge drinking

Target: 11th grade: 16%, eighth grade: 5%

Baseline: 11th grade: 17.7%, eighth grade: 5.6% (2013)

Data source: Oregon Healthy Teens Survey

Measure 1.3: Percentage of adults that report binge drinking

Target: 13.7%

Baseline: 15.2% (2012)

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

Strategy 2: Reduce disincentives to report drug and alcohol overdoses

Justification: Good Samaritan laws prevent fatal drug and alcohol overdoses by protecting bystanders who seek medical attention from prosecution. Twenty two states and the District of Columbia have enacted overdose immunity laws for illegal substances. Oregon has a statewide law that offers immunity to bystanders who seek medical attention for alcohol overdoses.

Measure 2.1: Number of communities with bystander Good Samaritan laws for illegal substance overdose

Target: all communities (met, as of 1/1/16)

Baseline: Unknown, 2014

Data source: Oregon statute

Health equity interventions

Strategy 1: Reduce heroin overdose deaths among homeless youth

Justification: Nationally, drug overdose is the leading cause of death among homeless individuals, and the majority of overdose deaths involve opioids. Naloxone rescue programs make naloxone available in a variety of settings to reverse opiate overdoses. The World Health Organization estimates 20,000 deaths could be avoided each year in the United States by making naloxone more widely available.[9]

Measure 1.1: Implement naloxone rescue programs in affected communities

Target: 5 communities

Baseline: 1 community, 2015

Data source: OHA administrative data

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to prevent alcohol and substance use disorders

Justification: Incentive measures and alternative payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for substance use disorder prevention

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate substance use disorder prevention in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Reduce high risk prescribing

Justification: High-risk prescribing, such as opioid-benzodiazepine combinations, and patients receiving opioid prescriptions from four or more providers or pharmacies substantially increases the risk of prescription drug-related death.

Measure 2.1: Percentage of the top 4,000 controlled substance prescribers authorized to use the PDMP

Target: 90%

Baseline: 59% (2013)

Data source: Prescription Drug Monitoring Program (PDMP)

Measure 2.2: Number of patients receiving opioid prescriptions from four or more prescribers and filled at four or more pharmacies over six months

Target: 4,457

Baseline: 5,943 (2013)

Data source: PDMP

Measure 2.3: Number of benzodiazepines and opioid co-prescriptions

Target: 158,684

Baseline: 211,579 (2013)

Data source: PDMP

Strategy 3: Increase the number of health systems that adopt screening and prescribing guidelines

Justification: Opioid prescribing and screening guidelines are essential to reduce the number of patients receiving >120 mg morphine-equivalent doses per day, a substantial risk for opioid overdose death. Screening patients for potential misuse, dependency or abuse allows providers

to transition high-risk patients in to alternative pain treatment therapies that don't involve the potential for dependency or addiction.

Measure 3.1: Number of private and public health plans, health systems and hospitals that adopt model PDMP use guidelines

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 1 CCO (2013), PEBB and OEBB unknown (2015)

Data source: CCO data, PEBB and OEBB contracts

Measure 3.2: Number of private and public health plans, health systems and hospitals that adopt model opioid prescribing guidelines for non-cancer chronic pain

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Strategy 4: Ensure private and public health plans cover evidence-based alternative pain management therapies for patients with chronic non-cancer pain and patients with history of substance use disorder and mental health problems

Justification: Although opioids can be effective for treating pain, the use of opioids for pain treatment can result in poisonings that lead to emergency department utilization, hospitalization and death. Transitioning eligible patients to non-opioid pain therapy is key to reducing the number of people in Oregon who misuse and abuse opioids and the adverse outcomes associated with opioid overuse, misuse and abuse. Alternative pain management therapies, such as acupuncture, mind-body therapies and chiropractic treatment, have demonstrated efficacy in the treatment of patients with chronic pain. Unfortunately, because these therapies are often not covered under private and public health insurance plans, many people do not have access to non-pharmacological pain management options.

Measure 4.1: Number of public health plans offering access to medical benefits that cover non-pharmacological therapy for chronic non-cancer pain

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: PEBB and OEBB contracts, to be determined for CCOs

Strategy 5: Ensure private and public health plans cover a full spectrum of inpatient and outpatient services for alcohol use disorder

Justification: Recovery from alcohol use disorder is most likely to be successful when a range of treatment options are used in tandem and when treatment is tailored to meet the individual's needs.

Measure 5.1: Number of public health plans offering comprehensive inpatient and outpatient services for alcohol addiction.

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: To be determined for CCOs, PEBB and OEBB contracts

Strategy 6: Ensure availability of medication-assisted treatment for opioid use disorder

Justification: Medication-assisted treatment (MAT) for opioid use disorder involves drugs such as buprenorphine, which can help dependent patients transition from opioid addiction.

Measure 6.1: Number of medical professionals certified to administer MAT for opioid dependence

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Measure 6.2: Number of private and public health plans or provider networks that meet a 20:1 ratio of patients in need to certified medical professionals

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Strategy 7: Increase screening for alcohol use in women who are pregnant or considering pregnancy

Justification: Alcohol use during pregnancy increases the risk of miscarriages, stillbirth and fetal alcohol spectrum disorders.

Measure 7.1: Alcohol use during pregnancy

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Measure 7.2: Screening for alcohol use in those women considering pregnancy

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Measure 7.3: Screening for alcohol use in pregnant women

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

[1] Oregon Health Authority, Public Health Division, Injury & Violence Prevention Section. Drug Overdose Deaths, Hospitalizations, Abuse & Dependency among Oregonians. 2014. Retrieved from: http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Documents/oregon-drug-overdose-report.pdf.

[2] Personal communication. Oregon Health Authority, Public Health Division, Injury & Violence Prevention Section. September 23, 2015.

[3] Oregon Health Authority, Public Health Division. Oregon State Health Profile, Opioid-related Overdose Deaths. 2014. Retrieved from: https://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/opioidrelateddeaths.pdf.

[4] Oregon Health Authority, Public Health Division. Oregon State Health Profile, Alcohol-related Deaths. 2014. Retrieved from: https://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/alcoholdeaths.pdf.

[5] Centers for Disease Control and Prevention (CDC). 2015. Alcohol and Public Health. Retrieved from: www.cdc.gov/alcohol/.

[6] Oregon Health Authority, Public Health Division. Oregon State Health Profile. Binge Drinking among Adults and Youth. 2014. Retrieved from: https://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/bingedrinking.pdf.

[7] Oregon Health Authority, Office of Health Analytics. 2014 Medicaid Behavioral Risk Factor Surveillance System (MBRFSS) Survey. Indicators by Race/Ethnicity. 2015. Retrieved from: www.oregon.gov/oha/analytics/MBRFFS%20Docs/2014%20MBRFSS%20Race%20Ethnicity%20Indicators%20Data%20Tables.pdf.

[8] Community Preventive Services Task Force. The Guide to Community Preventive Services. Preventing Excessive Alcohol Consumption: Increasing Alcohol Taxes. 2015. Available at: www.thecommunityguide.org/alcohol/increasingtaxes.html.

[9] World Health Organization. Community Management of Opioid Overdose. 2014. Available at: www.who.int/substance_abuse/publications/management_opioid_overdose/en/.

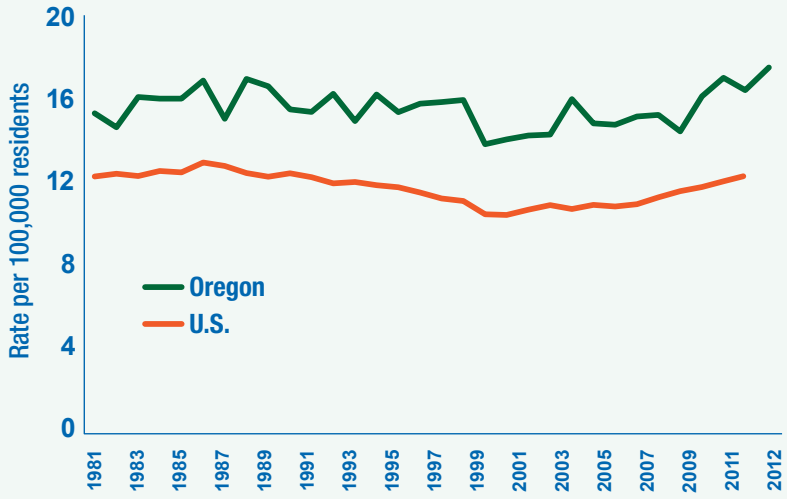
Prevent deaths from suicide

Suicide is among the leading causes of death in Oregon, and is a major public health issue nationally. There are more than 650 suicides in Oregon each year and more than 2,100 hospitalizations due to suicide attempts.[1]

Individuals that attempt suicide, when not fatal, can have lasting health problems that may include brain damage, organ failure, depression and other mental health problems. Suicide also affects survivors and communities. Suicide and other self-inflicted injuries result in an estimated $41.2 billion in combined medical and work loss costs in the United States annually.[2]

Suicide rates in Oregon have been consistently higher than the U.S. for the past 30 years. Both nationally and in Oregon, rates of suicide have steadily increased since 2000. Suicide is one of the five leading causes of death for people in Oregon aged 10–54 years.[3]

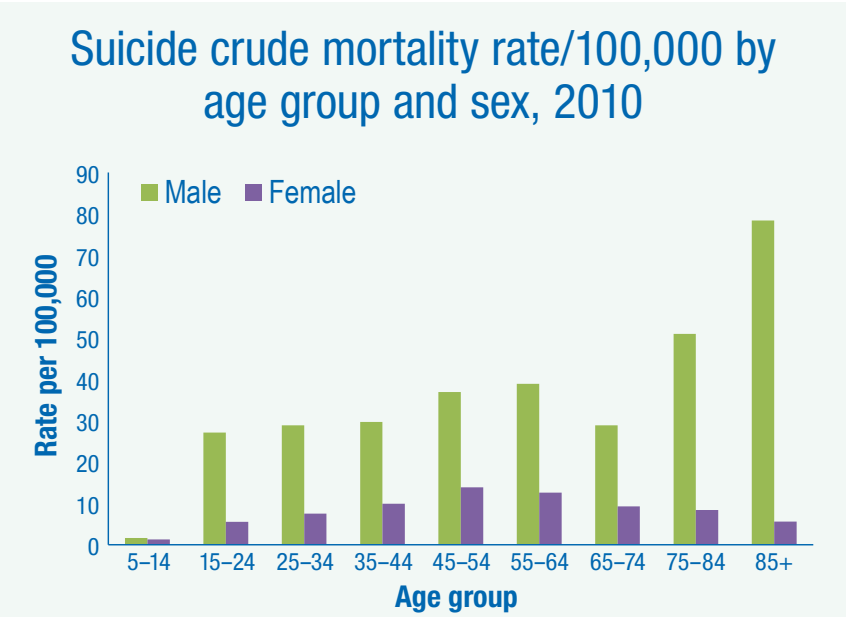
Suicide, Oregon and U.S., 1981–2012



Notes: The national suicide mortality data for 2012 were not available at this time.
Source: CDC's WISQARS and Oregon Violent Death Reporting System

Disparities exist among racial/ethnic groups in Oregon. In 2012, the age-adjusted rate of deaths from suicide was highest among Hispanic and non-Hispanic Whites (18.6 per 100,000). Age-adjusted rates were lowest among Hispanics (5.6 per 100,000) and non-Hispanic Asians (6.3 per 100,000).[4] The overall suicide rate in Oregon was 17.6 per 100,000.

Gender and age disparities also exist. Rates of suicide are higher among men than women. Nationally, although men are four times more likely to die from suicide than women, women attempt suicide three times more often than men and have higher rates of hospitalizations due to suicide attempts. Rates of suicide increase with age. Among men in Oregon, rates more than double between males 55–64 years of age and those 85 years of age and older.[1]



Source: Death certificate data

Suicide is a serious health problem among Oregon veterans. From 2008–2012, veterans made up 8.7% of Oregon's population, but accounted for 23% of suicide deaths.[5] The overall number of suicide deaths among veterans has remained steady since 2001, but the rate of suicide among veterans has increased from 40.1 per 100,000 in 2001 to 48.3 per 100,000 in 2012.

Strategies to prevent deaths from suicide

To prevent deaths from suicide, Oregon must employ evidence-based interventions across sectors, including health care, education and the community, and at all levels from the individual to societal. Suicide prevention strategies must reduce the risk factors for suicide, and increase factors that promote resilience.

Oregon's strategy to prevent deaths from suicide include upstream, protective interventions to improve well-being in childhood and to ensure adequate resources exist to help individuals and families in need.

Priorities, strategies and measures

Priority targets

Rate of suicide

Target: 16.0 per 100,000

Baseline: 17.6 per 100,000 (2012)

Data source: Death certificate data

Suicide attempts among eighth graders

Target: 7.0%

Baseline: 7.9% (2013)

Data source: Oregon Healthy Teens Survey

Emergency department visits for suicide attempts

Target: Pending

Baseline: Unknown developmental measure (2015)

Data source: To be determined

Population interventions

Strategy 1: Promote use of the National Suicide Prevention Lifeline

Justification: The National Strategy for Suicide Prevention (2012) states there is a particular need to increase awareness of the role of crisis lines and other local crisis services in providing services and support to individuals in crisis.[6]

Measure 1.1: Number of callers to the National Suicide Prevention Lifeline

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: National Suicide Prevention Lifeline data

Measure 1.2: Percentage of people who receive telephone follow up after treatment for a suicide attempt

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Strategy 2: Ensure communities implement an array of services and programs to promote safe and nurturing environments

Justification: Communities can promote safe and nurturing environments by making available a spectrum of services and programs to community members, including those for positive youth development, positive parenting and nurse family partnerships. The services and programs available should meet the needs of the community.

Measure 2.1: Percentage of adolescents who meet Positive Youth Development benchmark[7]

Target: Eighth grade males and females: 70%; 11th grade males and females: 75%

Baseline: Eighth grade females: 58%

Eighth grade males: 64%

11th grade females: 64%

11th grade males: 68% (2013)

Data source: Oregon Healthy Teens Survey

Measure 2.2: Percentage of youth reporting depressed mood

Target: Eighth grade females: 20%, eighth grade males: 10%; 11th grade females: 20%; 11th grade males: 10%

Baseline: Eighth grade females: 35%

Eighth grade males: 16%

11th grade females: 34%

11th grade males: 20% (2013)

Data source: Oregon Healthy Teens Survey

Measure 2.3: Percentage of eighth graders who have seriously considered attempting suicide in the past 12 months

Target: 14.5%

Baseline: 16.1% (2013)

Data source: Oregon Healthy Teens Survey

Health equity interventions

Strategy 1: Reduce the disparity of suicide among veterans

Justification: From 2008–2012, veterans made up 8.7% of Oregon's population, but accounted for 23% of suicide deaths.

Measure 1.1: Increase identification, referrals, treatment and follow up for veterans at risk for suicide

Target: Pending

Baseline: Unknown, developmental data (2015)

Data source: To be determined

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to prevent deaths from suicide

Justification: Incentive measures and alternative payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for suicide prevention

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate suicide prevention in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Establish universal screening for individuals at risk of suicide

Justification: Early intervention and linkages to care result in a reduction in suicide attempts

Measure 2.1: Rate of patients identified for suicide risk

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Measure 2.2: Rate of patients identified at risk who are referred for treatment

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Measure 2.3: Rate of follow up for patients screened at risk for suicide and referred for treatment

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Measure 2.4: Rate of follow up for patients after leaving emergency department or discharged from psychiatric inpatient unit

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

Strategy 3: Reduce access to lethal means of suicide

Justification: Restricting access to lethal means for suicidal people prevents death. Reducing access to lethal means that are commonly used has been shown to decrease suicide rates by as much as 30–50% in other countries.

Measure 3.1: Number of counseling encounters to reduce access to lethal means by health care providers (physical, mental and behavioral health) to persons/families at risk of suicide

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Program evaluation data

Strategy 4: Ensure training for health professionals is available to address suicide risk

Justification: Many people who attempt suicide have had recent contact with a health care or behavioral health professional. Training ensures these professionals have the skills and resources to assess individuals for suicide risk and refer to care.

Measure 4.1: Number of private and public health plans, clinics and hospitals that require training for health care workers to identify suicide risk, refer to care, treat and follow up with patients at risk

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: Program evaluation data

Measure 4.2: Number of physical, mental and behavioral health care professionals trained to identify suicide risk, refer to care, treat and follow up with patients at risk

Target: Pending

Baseline: Unknown, developmental measure (2015)

Data source: To be determined

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[1] Oregon Health Authority, Public Health Division, Injury & Violence Prevention Program. Oregon Injury Prevention Plan 2011–2015 2012. Retrieved from: https://public.health.oregon.gov/DiseasesConditions/Injury-FatalityData/Documents/OregonInjuryPreventionPlan.pdf.

[2] Centers for Disease Control and Prevention, Injury Prevention & Control: Division of Violence Prevention. Suicide Prevention. 2015. Retrieved from: www.cdc.gov/violenceprevention/suicide/.

[3] Oregon Health Authority, Public Health Division. Oregon State Health Profile. Suicide. 2014. Retrieved from: https://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/suicide.pdf.

[4] Oregon Health Authority, Public Health Division. Oregon Violent Death Reporting System, 2009–11. 2014. Retrieved from: https://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/suicideRE.pdf.

[5] Oregon Health Authority, Public Health Division. Oregon Violent Death Reporting System. Suicide Among Oregon Veterans. 2014. Retrieved from: https://public.health.oregon.gov/DiseasesConditions/InjuryFatality-Data/Documents/NVDRS/suicide-among-oregon-veterans2008through2012.pdf.

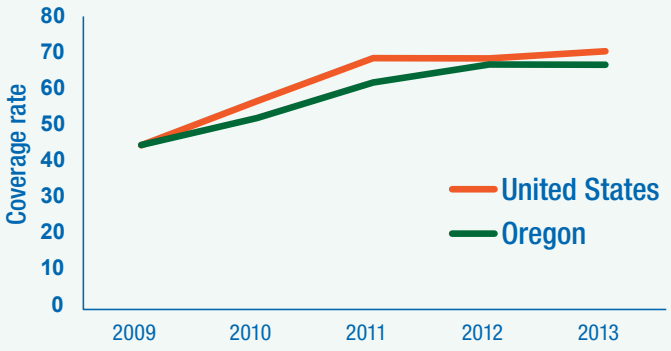
[6] U.S. Department of Health and Human Services (HHS) Office of the Surgeon General and National Action Alliance for Suicide Prevention. National Strategy for Suicide Prevention: Goals and Objectives for Action. 2012. Available at: www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/.

[7] Positive youth development (PYD) provides a holistic view of the physical, psychological and social supports for healthy youth development, and is strongly associated with behaviors that promote physical and emotional health, as well as academic achievement. The PYD benchmark is a composite measure of physical, mental and emotional health status, and protective individual environmental factors drawn from PYD theory.

Improve immunization rates

Immunizations are one of the 10 great public health achievements in the United States. A recent economic analysis estimated that vaccinating the 2009 U.S. birth cohort with the recommended childhood immunization schedule prevented approximately 42,000 deaths and 20 million cases of disease, and resulted in a net savings of $14 billion in direct costs and $69 billion in total societal costs.[1] Oregon has acceptable vaccination rates for many individual vaccines received by 2-year-olds, but much work is required to increase rates among other groups such as adolescents and adults.

Two-year-olds, 4:3:1:3:3:1:4 series, Oregon and United States

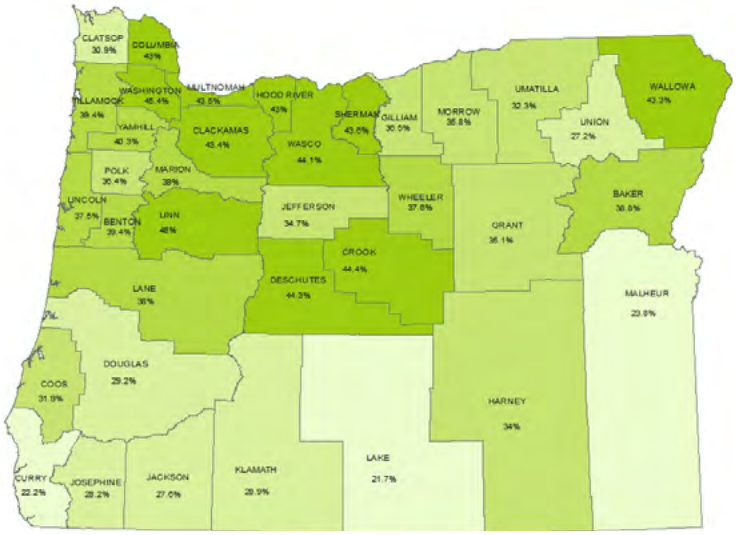


Source: National Immunization Survey, 2009–2013

Communities with high levels of immunization (83–95%) are protected against vaccine-preventable diseases (VPDs) because there is little opportunity for these diseases to spread. This community immunity also protects those who are most likely to experience poor outcomes to VPDs, such as infants or people who cannot be immunized for medical reasons. Pertussis (whooping cough) and seasonal influenza are two examples of diseases that affect the most vulnerable individuals. Since 2003, 214 (35%) of the 609 infants diagnosed with pertussis in Oregon have been hospitalized and five have died.[2] Hospitalizations in the Portland metro region were highest in 0 to 4-year-olds during the 2009–2010 influenza season, and were highest in those aged 65 and older during the 2012–2013 and 2013–2014 seasons.[3]

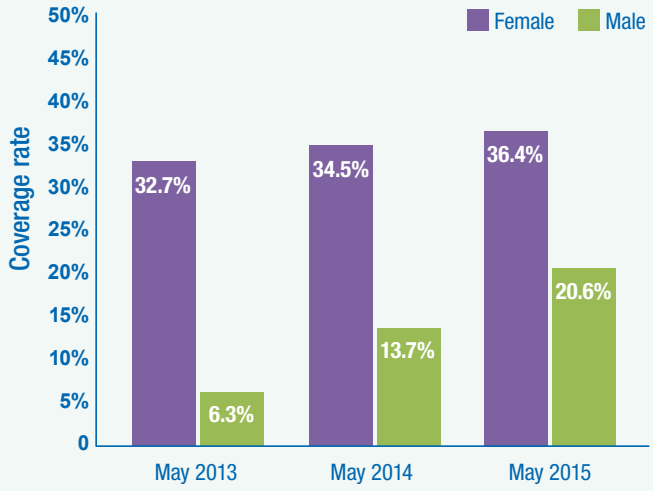
Oregonians enrolled in Oregon Health Plan or WIC have higher rates of immunization than people who do not participate in these programs. Well-educated, high-income White Oregonians are the most likely to resist immunizations. In 2014, Oregon had the highest nonmedical exemption rate (7%) for school-required immunizations, due in part to this resistance.

Oregon estimated all-age county influenza immunization rates, 2013–2014 (average = 39.7%)



Source: ALERT IIS

HPV vaccine rates (3-dose series) among Oregon adolescents aged 13–17 years, 2014



Source: ALERT IIS

Disparities in vaccination rates occur in other groups as well. During the 2013–2014 influenza season, seven of nine southern Oregon counties had seasonal influenza rates of less than 30% compared to the statewide average of 39.7%. Adult men have consistently lower seasonal influenza vaccination rates than women. In 2014, Oregon's rate of immunization for the vaccine that protects people from human papilloma virus (HPV) -related diseases and cancers was lower among adolescent males (13.7%) than females (34.5%) for three or more doses.

Strategies to improve immunization rates

Strategies to increase immunizations for the priority targets are multi-pronged and require partnerships within the public health system. These strategies include:

- Working to ensure all vaccinations administered in Oregon are reported into the ALERT Immunization Information System (ALERT IIS);
- Targeting educational campaigns to individuals living in southern Oregon, men and teens; and
- Giving immunization providers the tools they need to talk with patients about the importance of immunizations.

Priorities, strategies and measures

Priority targets

Rate of 2-year-olds who are fully vaccinated

Target: 72%

Baseline: 58.2% (2013)

Data source: ALERT Immunization Information System (ALERT IIS)

HPV vaccination series rate among 13- to 17-year-olds

Target: 50% for females and males

Baseline: Females: 34.5%, males: 13.7% (2014)

Data source: ALERT IIS

Seasonal flu vaccination rate in people ≥6 months of age

Target: 60%

Baseline: 42% (2014)

Data source: ALERT IIS

Population interventions

Strategy 1: Increase the percentage of school-aged children who are vaccinated

Justification: The Guide to Community Preventive Services recommends school vaccination programs to increase vaccination rates and decrease rates of VPD-associated morbidity and mortality.[4]

Measure 1.1: Nonmedical exemption rate for kindergartners

Target: 5.0%

Baseline: 7.0% (2014)

Data source: Oregon Immunization School Law data

Measure 1.2: Number of vaccines administered by SBHCs

Target: 25,000

Baseline: 20,742 (2014)

Data source: ALERT IIS

Strategy 2: Increase the percentage of adults who receive annual influenza vaccine

Justification: The Guide to Community Preventive Services recommends enhancing access to vaccination services to increase appropriate vaccination.

Measure 2.1: Percentage of flu vaccinations administered by pharmacists

Target: 50%

Baseline: 38% (2013–2014 influenza season)

Data source: ALERT IIS

Strategy 3: Increase the percentage of adolescents who complete the HPV vaccine series

Justification: HPV vaccinations reduce morbidity and mortality by preventing HPV-related cancers and diseases.

Measure 3.1: Percentage of HPV vaccines administered by pharmacists to 11- to 17-year-olds

Target: 5.0%

Baseline: 0.2% (2014)

Data source: ALERT IIS

Measure 3.2: Number of HPV vaccines administered by SBHCs

Target: 3,755

Baseline: 3,129 (2014)

Data source: ALERT IIS

Measure 3.3: Number of independent labs reporting HPV-related dysplasias

Target: 99%

Baseline: 36% (2015)

Data source: College of American Pathologists

Health equity interventions

Strategy 1: Increase flu vaccinations in southern rural and frontier counties with rates below the Oregon average.

Justification: Office of Rural Health 2015 finding: 53 of Oregon's 104 rural service areas have unmet health care needs.[5]

Measure 1.1: Seasonal influenza vaccinations in southern rural and frontier counties

Target: 42%

Baseline: 27.5% (2013–14)

Data source: ALERT IIS

Strategy 2: Increase the percentage of influenza vaccinations given to men ≥19 years of age

Justification: Advisory Committee on Immunization Practices recommends seasonal influenza vaccinations for all adults.[6]

Measure 2.1: Seasonal influenza vaccinations among adult men

Target: 46%

Baseline: 41% (2013–14)

Data source: ALERT IIS

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to increase immunization rates

Justification: Incentive measures and alternate payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for increasing immunization rates

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate increasing immunization rates in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Promote strategies to health care providers to increase delivery of on-time immunizations

Justification: The Guide to Community Preventive Services recommends provider- or system-based interventions to increase appropriate vaccination.

Measure 2.1: Number of statewide reminder recalls for 2-year-olds conducted over five years

Target: 60

Baseline: 12 (2014)

Data source: ALERT IIS

Measure 2.2: Percentage of enrolled and eligible Vaccines for Children (VFC) providers receiving CDC-defined AFIX quality improvement services

Target: 25%

Baseline: 0 (2014)

Data source: Vaccines for Children (VFC) Management Survey

Strategy 3: Increase flu vaccination rates among health care workers

Justification: Joint Commission standard IC.02.04.01 specifies health care organizations set incremental goals to achieve Healthy People 2020 objective of 90% influenza vaccination rates.[7]

Measure 3.1: Seasonal flu vaccination rate for health care workers in long-term care facilities

Target: 90%

Baseline: 56% (2014)

Data source: Acute and Communicable Disease Prevention, Healthcare-Associated Infections Program

Measure 3.2: Seasonal flu vaccination rate for health care workers in hospital settings

Target: 90%

Baseline: 77% (2014)

Data source: Acute and Communicable Disease Prevention, Healthcare-Associated Infections Program

Measure 3.3: Seasonal flu vaccination rate for health care workers in ambulatory surgical centers

Target: 90%

Baseline: 67% (2014)

Data source: Acute and Communicable Disease Prevention, Healthcare-Associated Infections Program

[1] Zhou, F, Shefer, A, Wenger, J et al. Economic evaluation of the routine childhood immunization program in the United States, 2009. Pediatrics 2014;133:577-85.

[2] Oregon Health Authority, Public Health Division, Acute and Communicable Disease Prevention section. Selected Reportable Communicable Disease Summary (Pertussis). 2013. Retrieved from: https://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/Annual-Reports/Pages/2013.aspx.

[3] Oregon Health Authority, Public Health Division. Oregon State Health Profile. Influenza Hospitalizations. 2014. Retrieved from: https://public.health.oregon.gov/ProviderPartnerResources/PublicHealthAccreditation/Documents/indicators/influenzahosp.pdf.

[4] Community Preventive Services Task Force. The Guide to Community Preventive Services. Increasing Appropriate Vaccination: Vaccination Programs in Schools and Organized Child Care Centers. 2014. Available at: www.thecommunityguide.org/vaccines/schools_childcare.html.

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[6] Centers for Disease Control and Prevention (CDC). 2014. Influenza ACIP Vaccine Recommendations. Available at: www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html.

[7] The Joint Commission. Standard IC.02.04.01 Influenza Vaccination for Licensed Independent Practitioners and Staff for CAH, HAP, and LTC Accreditation Programs. 2011. Available at: www.jointcommission.org/assets/1/6/InfluenzVacPres_CAHHAPLTC.pdf.

Protect the population from communicable diseases

The reduction in death and disability due to communicable diseases is one of the great achievements of the 20th century. Despite this overall success, communicable diseases continue to affect the health of individuals and communities throughout Oregon. Disparities exist for populations that are at greatest risk, while emerging communicable diseases pose new threats to everyone.

Oregon's state health improvement plan focuses on protecting the population from:

- Foodborne illnesses;
- Health care-associated infections;
- Sexually transmitted diseases; and
- Hepatitis C infections.

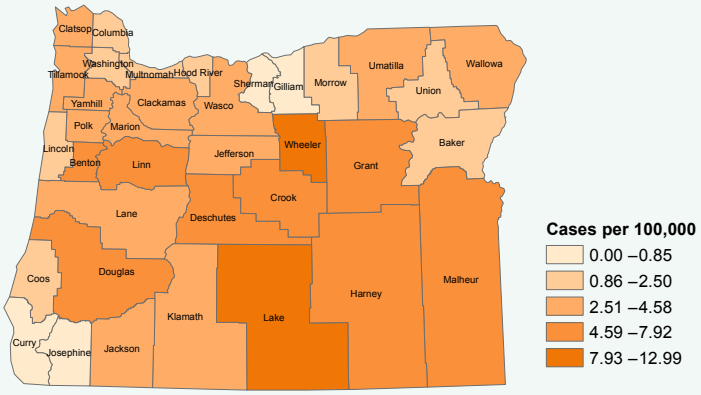
Foodborne illnesses

Foodborne illness affects 1 in 6 Americans (or 48 million people) each year. Most people who become sick with a foodborne illness will recover without any lasting health consequences. However, for some, a foodborne illness will have serious long-term health outcomes, including kidney failure, chronic arthritis, brain and nerve damage, and death. Of the 48 million people who are affected each year, 128,000 are hospitalized and 3,000 will die.[1] The annual economic burden of foodborne illness is $77.7 billion in the United States.[2]

Escherichia coli O157 *(E. coli)* is one of the most dreaded causes of stomach and intestinal irritation and inflammation (infectious gastroenteritis). Bloody diarrhea is a hallmark of this pathogen, but the real risks are anemia and kidney failure (hemolytic uremic syndrome, or HUS), especially among children under 10 years of age. Approximately 6% of people who contract *E. coli* will develop these complications, and 3 to 5% of HUS cases die.[3]

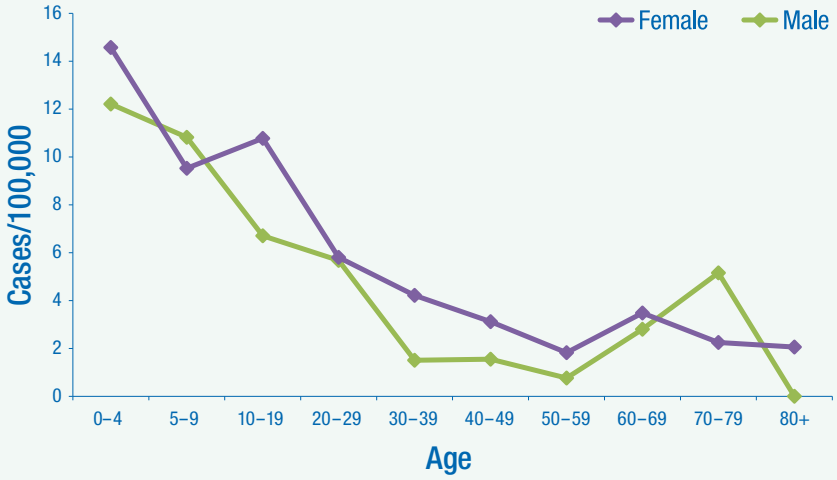
Over the past 10 years, the annual number of *E. coli* cases reported statewide has ranged between 61 and 149. After being relatively steady during 2008–2011, the number increased to 111 cases in 2012 and 106 cases in 2013.[3]

Incidence of STEC infection by county of residence: Oregon, 2004–2013



Source: Orpheus

Incidence of STEC infection by age and sex, Oregon, 2013



Source: Orpheus

Strategies to prevent foodborne illnesses

To improve food safety in Oregon, the public health system must implement and maintain strategies to prevent outbreaks through investigation and routine monitoring. Tracking individual cases and investigating outbreaks requires significant resources and collaboration between the public health and health care systems. Other work includes ensuring health care providers and other partners are adequately trained and have resources to identify and treat cases of foodborne illness. Efforts are also needed to improve food safety in restaurants and other places where people consume food.

Health care-associated infections

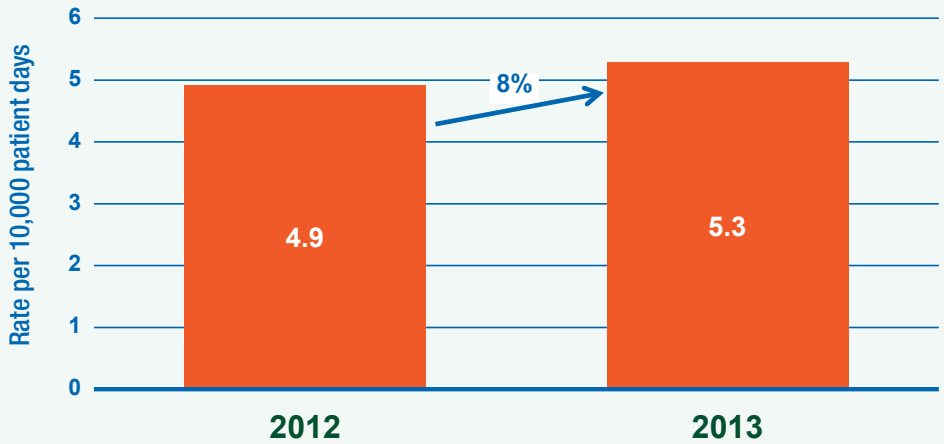
Health care-associated infections affect people who are receiving health care. These individuals often have other health conditions that put them at risk of life-threatening complications if they develop a health care-associated infection. Health care-associated infections can result in the need for additional treatment, more days in the hospital, stronger or more antibiotics, and higher costs to patients and the health care system.

Clostridium difficile infection (CDI) is the leading cause of health care-associated infection and it is spreading into community settings. CDI causes half a million infections and 14,000 deaths annually, and adds more than $1 billion in health care costs in the United States.[4]

CDI is a toxin-producing bacterium that causes diarrhea and more serious intestinal conditions like colitis (bowel inflammation) and bowel perforation. The primary risk factor for developing CDI is recent administration of antibiotics (within the previous three months). The spread of CDI is preventable by hand washing and appropriate antibiotic use.

While Oregon does not have a mechanism for collecting information about the prevalence of CDI across Oregon communities, all hospitals in Oregon report counts of CDI cases monthly as part of Oregon's Mandatory Healthcare-Associated Infection Reporting Program. In addition Oregon is one of ten Emerging Infections Program (EIP) sites participating in a national health surveillance project. The Oregon EIP conducts population-based health surveillance for CDI among residents in Klamath and Deschutes counties.[5]

Reported cases of health care-onset *C. difficile* infections, Oregon, 2012–2013



NHSN does not conduct surveillance for neonatal intensive care units, labor and delivery units, and well-baby nurseries. These are excluded from the rate calculations.

Source: National Healthcare Safety Network (NHSN)

Out of 370,073 patient admissions reported by Oregon hospitals in 2013, 2,039 (0.55%) had CDI present on admission or acquired CDI during that admission.

Of the 2,039 admissions with CDI identified:

- 36% had CDI onset during hospitalization;
- 44% had CDI present on admission with onset in the community; and
- 20% had CDI present on admission with onset associated with a previous admission.[6]

CDI rates are highest in females, Whites and people aged 65 and older. Recurrence is common and occurs in 21% of individuals affected by the infection.[6]

Strategies to prevent health care-associated infections

Ensuring appropriate notification of CDI on transfer and increasing infection control capacity will have a dramatic impact on reducing health care-associated infections, including CDI. Work is also needed to reduce unnecessary prescriptions of antibiotics. This requires a broad array of partners working together and using a multi-disciplinary approach to educate the public about appropriate use of antibiotics.

Sexually transmitted infections

Sexually transmitted infections (STIs) are a significant health problem in the United States. CDC estimates nearly 20 million new sexually transmitted infections occur every year in this country, half among young people aged 15–24.[7] Each of these infections poses a threat to an individual's immediate and long-term health and well-being. In addition to increasing a person's risk for acquiring and transmitting HIV infection, STIs can lead to severe reproductive health complications, such as infertility and ectopic pregnancy. STIs lead to nearly $16 billion in annual health care costs.[7]

Human immunodeficiency virus (HIV)

HIV is a virus spread through bodily fluids that affect specific cells of the immune system (T cells). Over time, HIV can destroy so many of these cells that the body cannot fight off infections and disease. Having HIV can also increase the risk of getting certain cancers. Most people who do not receive treatment will eventually (over years) become ill and die of complications of HIV infection.

With treatment (called antiretroviral therapy), most people with HIV infection can lead long and healthy lives. This is especially true if they start HIV treatment when their immune system is still relatively strong.

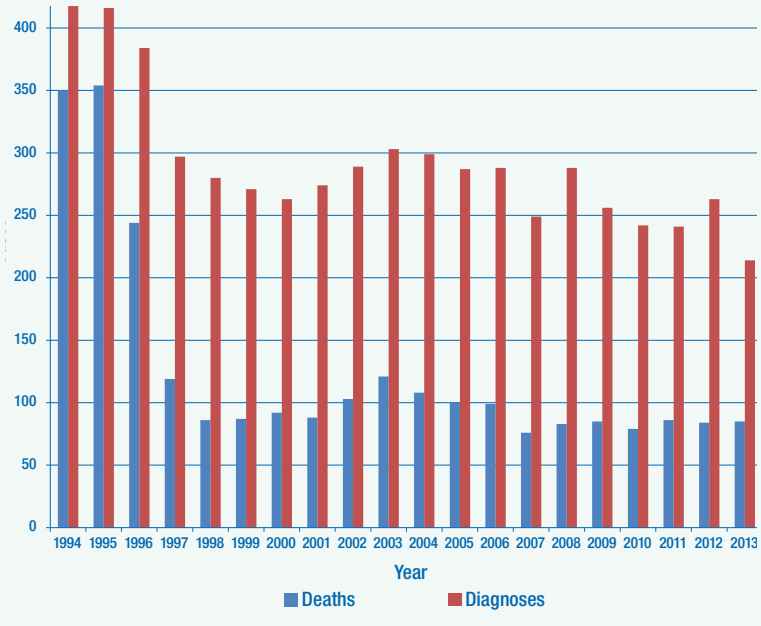
There are approximately 50,000 new HIV infections each year in the United States, and about 1.2 million people currently living with the disease. Approximately 14% of these people do not know they are infected.[8]

HIV/AIDS remains an important public health concern in Oregon. Oregon's decline in new diagnoses of HIV, from 19 cases per 100,000 in 1997 to 7 cases per 100,000 in 2012, is the result of a combination of factors, including earlier diagnosis, behavior changes, reduction in infection from a pregnant woman to her baby, and reduced infectiousness of HIV-infected people who are taking antiretroviral therapy. However, the number of people living with HIV/AIDS continues to grow, presenting new challenges for prevention and clinical services.[9]

In Oregon, men are more likely to be infected with HIV than women. From 2008 to 2012, diagnosis rates were seven times higher for men relative to women (12.1 vs. 1.6 per 100,000). Men who have sex with men account for 72% of all male cases.[9]

African Americans and Hispanics continue to be more likely than non-Hispanic Whites to become infected with HIV. From 2008–2012, diagnosis rates were 3.8 times higher among African Americans and 1.6 times higher among Hispanics compared to non-Hispanic Whites.[9]

Oregon cases of HIV infection infection, diagnoses and deaths, 1981–2013

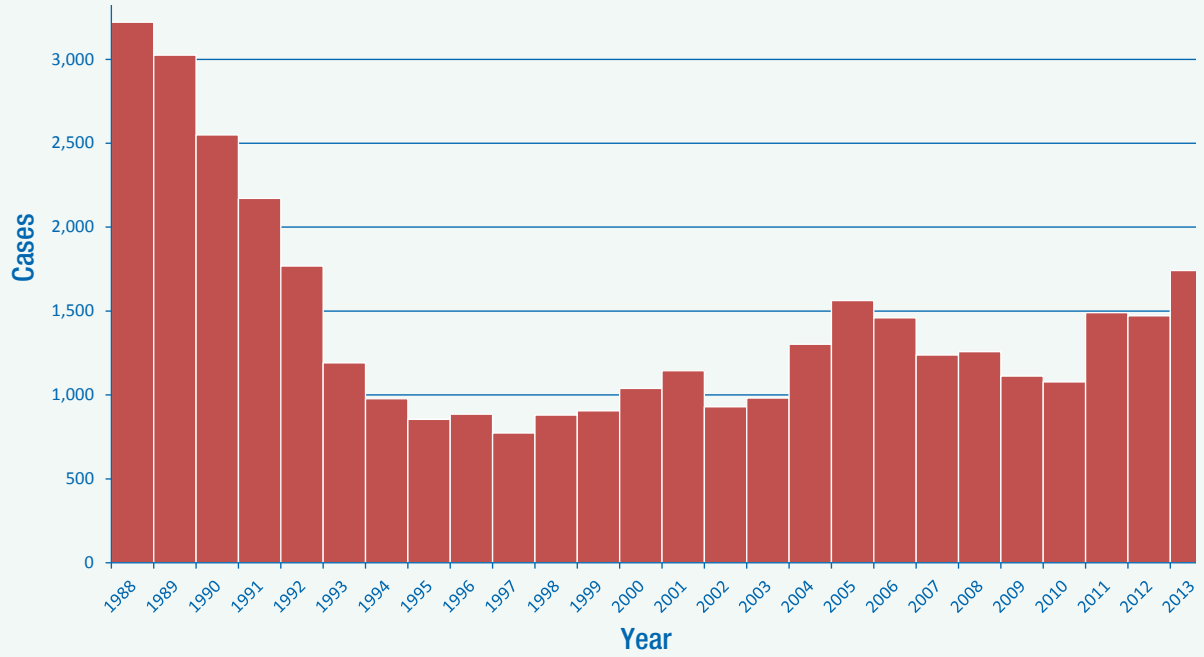


From 2008–2012, the average age at diagnosis was 37.7 years for males and 36.5 for females. New diagnoses have recently increased among younger age groups. Rates of new diagnoses among males aged 20–24 years remained elevated (22.4 per 100,000) compared to the diagnosis rate prior to 2005 (13.1 per 100,000).[9]

Gonorrhea

Women are more likely than men to be infected with gonorrhea, but men are more likely to develop symptoms. Gonorrhea can cause pelvic inflammatory disease or tubal pregnancy in women if left untreated. Because individuals may not experience symptoms, routine screening is essential to prevent further spread of disease.

Gonorrhea by year: Oregon, 1988–2013



Source: Orpheus

Of concern, gonorrhea infections have progressively developed resistance to the antibiotics commonly prescribed to treat the infection.

The incidence of gonorrhea has been increasing in Oregon over the last decade. From 2002 to 2012, between 25 and 45 cases of gonorrhea per 100,000 were reported in Oregon each year.[10]

Racial and ethnic disparities are evident when looking at the proportion of cases of gonorrhea. African Americans (188.3 per 100,000) and American Indians (46.2 per 100,000) in Oregon are disproportionately affected by gonorrhea as compared to Whites (28.7 per 100,000).[10]

Strategies to reduce STIs

Reducing the spread of STIs in Oregon will require a combination of clinical and population interventions, ongoing assessment to monitor trends and discover outbreaks, and policy development. Clinical interventions focus on adhering to current screening and treatment guidelines, including the use of expedited partner therapy, and long-term care for people living with HIV. Population interventions include identifying communities at greatest risk and ensuring adequate resources exist within the community to support prevention efforts.

Hepatitis C

Hepatitis C is an infection of the liver that results from the hepatitis C virus. Hepatitis C is usually spread when the blood from a person infected with the virus enters the body of someone who is not infected. Acute hepatitis C refers to the period of several months after a person is first infected. Symptoms during this time may be mild, or may be severe and require hospitalization.

Approximately 20% of acute hepatitis C infections clear on their own within the first six months; however, the majority of people will become chronically infected. Hepatitis C can cause serious health problems such as liver disease, liver failure and liver cancer. Of every 100 people infected with hepatitis C, about 75 to 85 will become chronically infected. Of those:

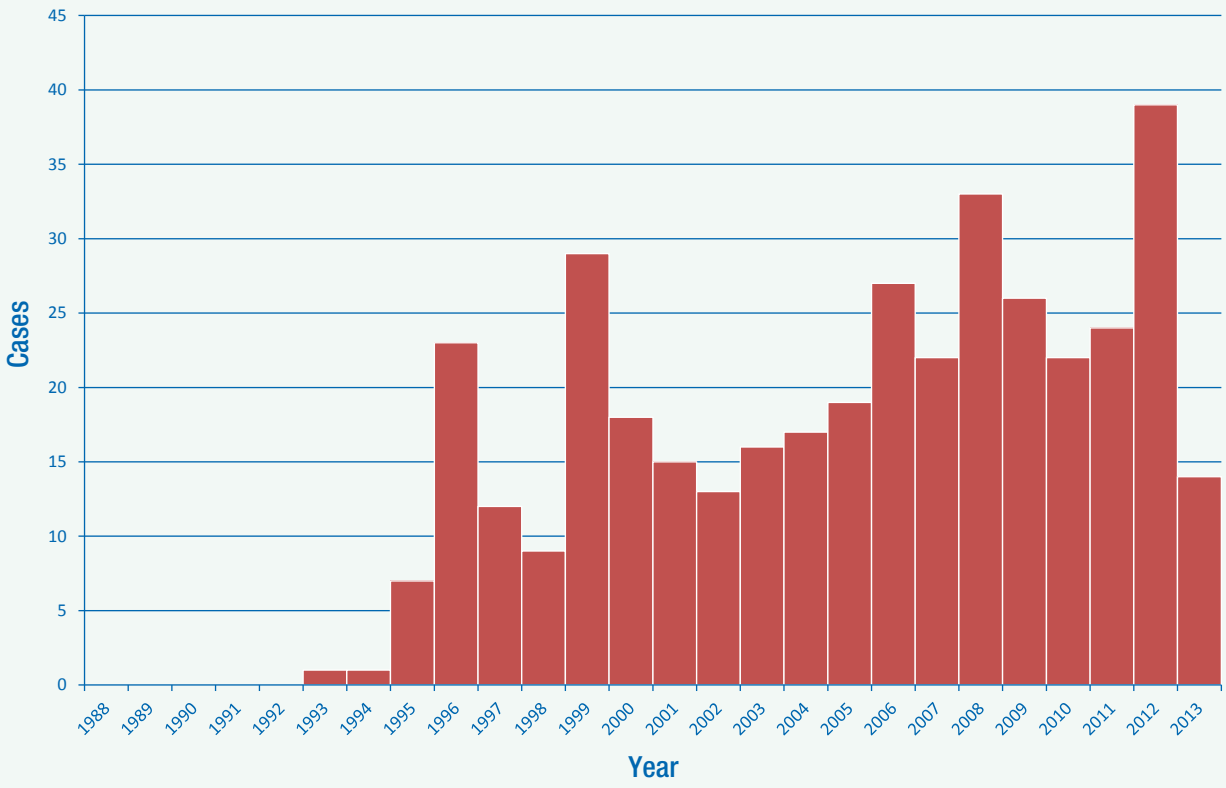
- 60–70 will develop chronic liver disease;
- 5–20 will develop cirrhosis over a period of 20–30 years; and
- 1–5 will die from cirrhosis or liver cancer.[11]

Today, most people become infected with hepatitis C by sharing needles, syringes or any other equipment to inject drugs. Sexual transmission of hepatitis C is possible, although rare. Having a sexually transmitted disease or HIV, sex with multiple partners or rough sex appears to increase a person's risk for hepatitis C.[11]

Positive laboratory results for hepatitis C infection became reportable in Oregon in 2005. Since then, 47,232 persons with hepatitis C have been reported. Studies have estimated 50% of persons living with hepatitis C have not been diagnosed, suggesting as many as 95,000 Oregonians could be infected.

In Oregon, the burden of hepatitis C disproportionately affects African Americans and American Indians compared to Whites. Rates of reported cases of hepatitis C infection are more than twice as high, cases of liver cancer are 50% higher, and hepatitis C-related deaths are twice as high in African Americans (15.7 per 100,000) and American Indians (15.9 per 100,000) compared to Whites (8.6 per 100,000).[12]

Two-thirds of hospitalizations in Oregon due to hepatitis C from 2008–2012 occurred in men.[12]



Source: Orpheus hepatitus C surveillance and American Community Survey, June 2014

Strategies to reduce hepatitis C infections

A multi-pronged approach that includes partners from across the health care and public health sector is needed to reduce and prevent hepatitis C infections. Key strategies include enhancing surveillance activities, expanding capacity for provider and community education, expanding access to testing and treatment, and targeting interventions toward injection drug users.

Priorities, strategies and measures

Priority targets

Gonorrhea in women aged 15–44 years

Target: 86 cases/100,000

Baseline: 96 cases/100,000 (2014)

Data source: Orpheus

HIV infections in Oregon residents

Target: 4.5 cases/100,000

Baseline: 5.5 cases/100,000 (2013)

Data source: Orpheus

Hospital-onset *Clostridium difficile* infections

Target: SIR .57

Baseline: SIR .76 (2013)

Data source: National Healthcare Safety Network

Infections caused by Shiga toxin-producing *Escherichia coli* infections in children less than 10 years old

Target: 1.4/100,000 of laboratory-confirmed *E. coli*

Baseline: 1.6/100,000 (2010–2014)

Data source: Orpheus

Population interventions

Strategy 1: Reduce infections caused by pathogens commonly transmitted through food

Justification: Foodborne illnesses such as *Salmonella* cause disease in the general population, especially threatening young children and the elderly. Twenty one percent of Oregon *Salmonella* infections from 2010–2014 were reported in children less than 10 years of age. Eighteen percent of Oregon *Salmonella* infections from 2010–2014 were reported in people older than 60 years of age.

Measure 1.1: Infections caused by *Salmonella* species commonly transmitted through food

Target: 11.4 cases/100,000

Baseline: 10.3 cases/100,000 (2013)

Data source: Orpheus, FoodNet

Measure 1.2: Maintain the proportion of reference and specialty testing in support of norovirus outbreak investigations

Target: Greater than 90% of qualifying outbreaks are tested, sequenced and reported within seven working days

Baseline: 100% (2014)

Data source: Laboratory Information System

Measure 1.3: Infections caused by *Campylobacter* commonly transmitted through food

Target: 22 cases/100,000

Baseline: 25.8 cases/100,000 per year (2010–2014 average)

Data source: Orpheus

Strategy 2: Reduce non-judicious antibiotic prescriptions

Justification: Overuse of antibiotics when not clinically indicated can lead to antibiotic resistant bacteria. Adverse health outcomes are rare when providers are conservative when prescribing antibiotics, and patient satisfaction increases in proportion to the health care provider's commitment to providing education in place of an antibiotic prescription.

Measure 2.1: Rate of non-judicious prescriptions

Target: 40% prescribing for bronchitis

Baseline: 47% (2012)

Data source: All Payer All Claims database

Health equity interventions

Strategy 1: Identify people living with HIV who have not been receiving HIV-proficient care, and support engagement in care

Justification: People with HIV infection who are treated with anti-HIV medications and have very low numbers of viral copies in circulating blood, rarely, if ever, transmit HIV. While the estimated proportion of people with HIV with evidence of "viral suppression" (viral load <200 copies/ml) in the state is already high relative to the rest of the nation (71% in 2013), Oregon ultimately aspires to achieve viral suppression in 90% of diagnosed cases. State and local staff will search multiple sources for contact information for people with reported HIV

infection but without recent laboratory test results, and attempt to contact them to confirm they are not receiving regular medical care. People who are confirmed out of care will be offered assistance to reestablish care. Reengagement in care will be monitored by evidence of resumption of laboratory testing.

Measure 1.1: Proportion of people living with HIV in Oregon that have a suppressed viral load within the previous 12 months

Target: 90%

Baseline: 71% (2013)

Data source: Orpheus

Strategy 2: Reduce new hepatitis C infections among African Americans, American Indians and other disproportionately affected groups.

Justification: This target is consistent with Healthy People 2020 objective IID-26.

Measure 2.1: New asymptomatic hepatitis C cases per 100,000 reported annually

Target: .25 new cases per 100,000

Baseline: .38 new cases per 100,000 (2013)

Data source: Orpheus

Strategy 3: Reduce norovirus infections in long-term care facilities

Justification: Norovirus is the most common foodborne viral pathogen in the United States. It is often found in Oregon's long-term care facilities (LTCF) afflicting the vulnerable elderly population. In 2010–14, 67% of outbreaks in LTCF were confirmed as norovirus, affecting more than 3,500 Oregonians.

Measure 3.1: Number of norovirus outbreaks reported by long-term care facilities within the previous 12 months

Target: 60 norovirus outbreaks

Baseline: 80 norovirus outbreaks (average, 2010–2014)

Data source: Outbreaks database

Strategy 4: Promote routine syphilis screening for men who have sex with men

Justification: Increasing the frequency of screening and proportion of men who have sex with men who get screened regularly is an effective method to control syphilis transmission. Oregon Health Authority maintains "Oregon Reminders," a free internet-based text, telephone and email automated system that reminds users to test for HIV and other sexually transmitted infections, take prescribed medications on a schedule and complete other health-related tasks. Oregon Reminders is available to everyone but targeted to men who have sex with men.

Measure 4.1: Active Oregon Reminders users receiving periodic reminders to test for sexually transmitted infections

Target: 1,388 users

Baseline: 1,156 users, 2015

Data source: Oregon Reminders

Measure 4.2: Proportion of men with HIV who have sex with other men and participate in the Oregon Medical Monitoring Project with evidence of having been tested for syphilis in the preceding 12 months

Target: 80%

Baseline: 65% (2015)

Data source: Medical Monitoring Project

Health system interventions

Strategy 1: Create incentives for private and public health plans and health care providers to prevent communicable diseases

Justification: Incentive measures and alternative payment methodologies ensure health plans and health care providers are working on a common set of priority areas designed to improve care and access, eliminate disparities and contain health care costs. The measures currently focus on public health plans, but measures will be expanded to include private insurers as data become available.

Measure 1.1: Number of public health plans that receive an incentive or shared savings payment for communicable disease prevention

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: 0 CCOs, PEBB and OEBB unknown (2015)

Data source: OHA Metrics and Scoring, PEBB and OEBB contracts

Measure 1.2: Number of public health plans that incorporate communicable disease prevention in alternative payment methodologies for contracted providers

Target: 16 CCOs, PEBB and OEBB carriers

Baseline: Unknown, developmental measure (2015)

Data source: CCO Transformation Plans, PEBB and OEBB contracts

Strategy 2: Promote annual chlamydia screening of women aged 15–24 by health care providers

Justification: Chlamydia infections are the leading cause of tubal infertility and chronic pelvic pain among U.S. women. Most chlamydia infections are asymptomatic. Diagnosis and treatment hinges on regular screening of women aged 16–24 years who are at highest risk for chlamydia infection and subsequent sequelae that are preventable by early recognition and treatment. Annual screening of sexually active women in this age group is consistent with Healthy People 2020 Objectives STD-3 and STD-4.

Measure 2.1: Proportion of women aged 15–24 years screened annually for chlamydia

Target: 59%

Baseline: 54% (2013)

Data source: All Payer All Claims database

Strategy 3: Promote use of expedited partner therapies by health care providers and local health departments

Justification: Expedited partner therapy includes partner-delivered therapy in which men and women with chlamydia infection or gonorrhea are given medicine or prescriptions to deliver to their sex partners to treat presumed infection without a medical visit. Oregon law permits this practice and the Centers for Disease Control and Prevention list it among effective practices for controlling sexually transmitted disease. This is likely to be most effective for chlamydia infections where reinfection is common and the number of infections far exceeds the capacity of local health departments to elicit, contact and treat all partners of cases.

Measure 3.1: Proportion of women aged 15–44 years diagnosed with chlamydia or gonorrhea that received partner-delivered expedited therapy

Target: 20% of cases

Baseline: Unknown, developmental measure (2015)

Data source: Orpheus

Strategy 4: Improve hospital capacity to detect and prevent health care-associated infections

Justification: The Association for Professionals in Infection Control and Epidemiology (APIC), recommends a 1:100 ratio of infection preventionists to beds to prevent health care-associated infections.

Measure 4.1: Percentage of hospitals that meet the APIC-recommended 100:1 ratio for infection preventionists

Target: 100%

Baseline: 67% (2014)

Data source: National Healthcare Safety Network

Strategy 5: Educate clinicians about foodborne disease assessment and prevention

Justification: Physicians and other health care professionals are likely points of contact for index cases in food-related disease outbreaks. It is important that clinicians and other health care providers have information and tools to recognize suspicious symptoms, disease clusters and etiologic agents.

Measure 5.1: Percentage of CD Summaries distributed that focus on foodborne disease assessment and prevention

Target: 20%

Baseline: 12% (2014)

Data source: Acute and Communicable Disease Prevention section

[1] Centers for Disease Control and Prevention. Estimates of Foodborne Illness in the United States. 2014. Retrieved from: www.cdc.gov/foodborneburden/.

[2] Bottemiller, H. Annual Foodborne Illness Costs $77 Billion, Study Finds. Food Safety News. 2012. Retrieved from: www.foodsafetynews.com/2012/01/foodborne-illness-costs-77-billion-annually-study-finds/#.VUPXQfC3F9k.

[3] Oregon Health Authority, Public Health Division, Acute and Communicable Disease Prevention Section. Communicable Disease Annual Report – 2013. *Escherichia coli* 0157 (STEC) infection. 2013. Retrieved from: https://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/Annual-Reports/Pages/2013.aspx.

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[8] Centers for Disease Control and Prevention. About HIV/AIDS. HIV Basics. 2015. Retrieved from: www.cdc.gov/hiv/basics/whatishiv.html.

[9] Oregon Health Authority, Public Health Division, HIV/STD/TB Program. Epidemiologic Profile of HIV/AIDS in Oregon. 2014. Retrieved from: https://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/HIVData/Documents/EpiProfile.pdf.

[10] Oregon Health Authority, Public Health Division, HIV/STD/TB Program. Gonorrhea in Oregon. 2014. Retrieved from: http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/STD/Documents/9987-STD-Gonorrhea.pdf.

[11] Centers for Disease Control and Prevention. Hepatitis C: General Information. 2015. Retrieved from: http://www.cdc.gov/hepatitis/HCV/PDFs/HepCGeneralFactSheet.pdf.

[12] Oregon Health Authority, Public Health Division. Hepatitis C Infections in Oregon: September 2014. 2014. Retrieved from: https://public.health.oregon.gov/DiseasesConditions/HIVSTDViralHepatitis/AdultViralHepatitis/Documents/Hepatitis-C-in-Oregon.pdf.

Acknowledgments

Oregon's 2015–19 state health improvement plan represents an update to our most recent health improvement plan, Oregon's Healthy Future. Updates to the plan were made based on current state health profile data and on feedback provided by community members at community engagement sessions held across Oregon in 2014.

We acknowledge the time, dedication and effort shown by members of the Oregon's Healthy Future Advisory Group who met in 2012, and the nearly 150 community members who participated in community engagement sessions in 2014. We also thank the staff from across Oregon Health Authority for their ongoing work to develop and implement this state health improvement plan.

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Oregon Health Authority
PUBLIC HEALTH

OHA 9973 (09/2015)