ORAL HEALTH NEEDS IN BENTON, LINCOLN AND LINN COUNTIES: AN ASSESSMENT

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INTRODUCTION

This document is an attempt to understand and verify the current and emerging oral health needs of people residing in Linn, Benton and Lincoln counties. Despite making significant progress toward oral health, especially among children and the insured, our region still has significant disparities and inequities in oral health access and outcomes, especially with regard to race/ethnicity, age, income, insurance, geographic location and English language skills. There is also a growing need to expand care to the homeless population, undocumented residents, seniors, people with special needs, and people living in foster homes and in long-term care facilities.

Oral health is inseparable from bodily health. As such, it is fundamental to our well-being, happiness, productivity and quality of life. Oral diseases affect what we eat, how we look, the way we communicate, and how we feel about ourselves. They also affect academic success and economic productivity by limiting our ability to learn, work and succeed. The toll of oral disease on tri-county residents is all the more tragic because these diseases are almost entirely preventable, and the cost of prevention is far lower than the cost of treatment. In particular, the cost of promoting optimal oral health care at every stage of life is much lower than the cost of treating oral disease in dental offices and emergency rooms. However, it will require coordination, as well as valid and reliable data, to accomplish lasting improvements in community-wide oral health.

This report shed lights on the challenges we currently face, while also highlighting the many resources and opportunities available to us as Oregon's transformation of its health care system moves forward. Ideally, this information will guide policymakers, funders, local coalitions, and other motivated stakeholders as they work together to improve access to affordable, equitable and timely care for all tri-county residents.

LIMITATIONS

This assessment identifies and attempts to quantify the burden of oral diseases, their common risk factors, and their social determinants in the tri-county region. However, this effort is hampered by a lack of relevant epidemiological data for oral diseases, especially at the county and city levels. Even when relevant data are available, they tend not to be stratified by income level, race/ethnicity, English language skills, insurance status, education level or ZIP code. Important data on the social and economic costs associated with oral disease in the tri-county region—including lost worker productivity, absenteeism in public schools, and impact on quality of life for seniors—are also missing or incomplete, because no reliable system for gathering this information currently exists.

Given these unavoidable limitations, this document should not be viewed or used as a formal scientific study or research paper. Rather, it should be considered as evidence of an urgent need to gather and validate these missing data so that we can better understand and address the complex interrelations between oral diseases, other chronic diseases, and their overlapping social determinants. Policymakers, oral health advocates, providers and other stakeholders will need ongoing access to these data in order to identify problems, design evidence-based interventions, and measure outcomes.

I. OVERVIEW OF ORAL HEALTH

Although Oregon's oral health status has improved in recent years, too many Oregonians of all ages still lack access to timely, affordable and appropriate oral health care. The burden of oral disease is particularly severe among low-income, disadvantaged, and rural or geographically isolated residents.

The following conditions account for most of the social and economic costs of oral disease in Oregon:

Dental caries (tooth decay) is a chronic infectious disease caused by bacteria living in a biofilm called plaque. These bacteria produce acid that demineralizes tooth enamel, eventually causing cavities. Tooth decay is the nation's most common chronic childhood disease, with an incidence significantly higher than that of asthma.[1]

- **Periodontal diseases** are caused by bacterial infection of the gums, tissue and bone around the teeth. They typically begin with gum inflammation, or gingivitis, resulting from a buildup of plaque. Untreated gingivitis may progress to periodontitis, which can result in tooth loss. Gum diseases are also associated with systemic diseases such as diabetes; poor pregnancy outcomes such as low birth weight;[2] and heart diseases such as infective endocarditis, especially in older adults and other immunocompromised people.[3]
- **Oral cancers** include cancer of the lips, tongue, mouth and gums. Risk factors relate primarily to lifestyle, and include sexually transmitted human papilloma virus (HPV) infections, which are currently the foremost cause of oral cancers among healthy nonsmokers ages 25 to 50.[4] In addition, the 2014 U.S. Surgeon General's report emphasizes that "tobacco use is a risk factor for oral cavity and pharyngeal cancers."[5] Thus, educational campaigns that target high-risk behaviors are fundamental to preventing oral cancers.

COMMON RISK FACTORS FOR ORAL DISEASES

Major risk factors for oral disease include poor diet, consumption of sugary drinks, tobacco use and alcohol abuse. These risk factors overlap with those of other lifestyle-related chronic illnesses, including cardiovascular diseases and diabetes. For example, a high-sugar diet is associated with a higher risk of tooth decay and diabetes, while diabetes and tooth decay are both associated with a higher risk of periodontal disease.

The most common oral diseases share the following risk factors:

- **Poor diet and nutrition.** The association between poor nutrition, frequent consumption of sugars, and oral diseases is well known, and accounts in part for the link between lower socioeconomic status and higher rates of oral diseases.[6]
- **Poor oral hygiene.** The most common oral diseases are preventable through good oral hygiene, regular dental visits and other preventive care, including water fluoridation.
- **Tobacco use** is associated with periodontal disease, dental caries and oral cancers. It's also associated with diabetes, which is in turn associated with oral health problems.[7]
- **Alcohol consumption.** There is a significant association between heavy alcohol use (especially with tobacco) and oral cancer. People who consume alcohol in excess may also be more prone to diabetes.[8] At the same time, people with chronic tooth pain may be more likely to self-medicate with alcohol.[9]

SOCIAL AND ECONOMIC EFFECTS OF POOR ORAL HEALTH

In addition to serious medical issues such as pain, infection and tooth loss, poor oral health can cause significant emotional and financial stress. It can affect appearance and self-esteem, reduce employment opportunities, and increase absenteeism at school and work. Often, the result is a vicious circle in which poverty leads to poor oral health, and poor oral health reinforces poverty by interfering with educational and employment opportunities. In some cases, these stresses may reinforce the behavioral risks associated with oral diseases. Financial and emotional stress may increase high-risk behaviors such as alcohol or tobacco use, or reduce positive behaviors such as healthy eating and regular oral hygiene.

Stress on individuals inevitably results in social stresses. For example, people who can't afford regular dental care often visit hospital emergency rooms for acute oral pain. In Oregon, this is the second most common cause of emergency department visits, costing an estimated $8 million per year. Not only is ER treatment far more expensive than standard dental care, but it also tends to be palliative rather than curative. A patient with an abscess may receive painkillers and antibiotics, but because ERs are not equipped to treat dental problems, the underlying cause of the abscess is not addressed (which often leads to a recurrence of the problem and another ER visit).[10] Ultimately, unpaid emergency room and urgent care visits lead to significant community medical costs, as the following table shows.

InterCommunity Health Network CCO: Samaritan Health Services Dental ER and UC Claims, 2014

Urgent Care	IHN/OMAP	Self-pay	Total	Estimated Cost
Samaritan UCWI Clinic - Geary St.	155	—	155	$30,070
Samaritan UCWI Clinic – Corvallis	88	—	88	$17,072
Samaritan UCWI Clinic – Lebanon	302	—	302	$58,588
Samaritan UCWI Clinic – N. Albany	38	—	38	$7,372
TOTAL	583	—	583	$113,102
Emergency Department	**IHN/OMAP**	**Self-pay**	**Total**	**Estimated Cost**
Albany General Hospital	182	143	325	$112,125
Good Samaritan Regional Medical Center	84	43	127	$43,815
Lebanon Community Hospital	157	57	214	$73,830
Samaritan North Lincoln Hospital	62	53	115	$39,675
Samaritan Pacific Communities Hospital	147	56	203	$70,035
TOTAL	632	352	984	$339,480

Source: InterCommunity Health Network, 2014 Statistics

THE NEED FOR COMMUNITY-BASED SOLUTIONS

Because dental caries and periodontal diseases are almost entirely preventable through education and behavior modification, lifelong education is essential to improving oral health in the tri-county region. However, it's also crucial to identify and address the social determinants at the root of oral disease risk factors, disparities and inequities. The World Health Organization notes that "in all countries, the oral disease burden is significantly higher among poor and disadvantaged population groups."[11] Strategic planning that fails to recognize and address this larger issue is likely to be inadequate. Although one-on-one clinical interventions will always be essential to good oral health, lasting change requires a community-based approach that dismantles barriers to access and delivers equitable and culturally appropriate education, prevention and treatment across the lifespan of every resident.

In particular, the recognition that oral health is inseparable from general health must drive medical/dental integration at every level of the health care system. This integration will require close collaboration between social services, health care providers, and educators at the state, county and local levels.

II. DISPARITIES IN ACCESS TO ORAL HEALTH CARE

Many risk factors for oral diseases—and for common chronic diseases associated with poor oral health, such as diabetes—are strongly associated with low income, lack of education and ethnic/racial status.[12]

Race/ethnicity, age, socioeconomic status, education level, employment status and geographic factors also strongly affect access to timely oral health care, including preventive care. In Oregon, children from low-income families have higher cavity rates than those from high-income families (63 percent vs. 38 percent); about twice the rate of untreated decay (25 percent vs. 13 percent); and more than twice the rate of rampant decay (19 percent vs. 8 percent). Further, African American and Hispanic/Latino children have substantially higher rates of cavities, untreated decay and rampant decay than white children.[13]

Inequality also persists with respect to the distribution of Oregon's dentists and dental hygienists, most of whom are located in urban rather than rural areas.[14] The availability of affordable child care, transportation and free time typically plays a major role in determining accessibility for patients in rural areas.[15]

People with physical, mental or developmental disabilities (including autism spectrum disorders, or ASDs), and chronic health conditions such as diabetes, are also more likely to have poor oral health.[16] This is of particular concern given the state's dramatically increasing rate of both diagnoses: Oregon has the nation's second-highest rate of autism diagnosis,[17] and the incidence of diabetes in our state has doubled since 1990. Like oral disease itself, diabetes is strongly associated with income, education level and race/ethnicity: Adults with less than a high school education are twice as likely as adults with a college degree to have diabetes. African American, Native American, and Hispanic/Latino people are two to three times more likely than white people to have diabetes.[18] And Oregonians with incomes at or below the federal poverty level have a higher rate of diabetes (9.7 percent) than those with higher incomes (5.7 percent).[19]

SOCIOECONOMIC STATUS, INSURANCE AND ACCESS TO CARE

The connection between household income, education level, and access to dental care is well known. In 2013, the Centers for Disease Control and Prevention found that only 17 percent of adults earning at least $50,000 per year had not visited a dentist in the previous year, compared to more than 50 percent of adults earning $24,999 or less. Further, only 16 percent of adults with college degrees went without dental care, compared to 56 percent with less than a high-school education.[20]

In recent surveys of disadvantaged residents of Benton and Lincoln counties, lack of income and lack of insurance were the most commonly cited reasons for going without dental care. Although some private dentists in the region will take uninsured patients, most do not offer payment plans. Thus, uninsured patients must save or borrow hundreds or thousands of dollars to receive care. For low-income patients with poor or no credit, this may be difficult or impossible.

The following factors can also limit the availability, scope or effectiveness of care:

- Most private dental practices do not currently accept Medicaid.
- An insurer's definition of "medically necessary dental care" may limit oral health coverage.
- The complexity of determining eligibility for care, completing paperwork, finding a provider and arranging transportation may be discouraging or unmanageable for the patients who need care most.
- Undocumented residents are not eligible for public safety-net programs, and they may avoid seeking other forms of dental care because of their immigration status.
- Some tri-county residents earn too much to qualify for the Oregon Health Plan (OHP), but not enough to cover the high cost of dental care.
- Dental services targeting low-income patients typically offer free or reduced-price services only for urgent or emergency needs; curative and restorative services are often unavailable.
- Dental offices and clinics are not open on weekends and many dental offices are closed on Fridays, making them much harder to access for parents, rural residents and the working poor.
- Medicare does not currently cover dentures or dental care for seniors.
- Certain patients—including those with autism and other developmental disabilities—may require general anesthesia even for routine dental procedures. This is usually not covered by dental insurance. Without such coverage, the cost of care in a hospital setting may be unfeasibly high, resulting in higher than average rates of untreated oral disease among these populations.[21]

As a result of the Affordable Care Act of 2010, demand for oral health services is increasing. Oregon's uninsured rate dropped by 63 percent between June 2013 and June 2014 according to a study released by Oregon Health & Science University; this reduction was primarily due to an increase in OHP/Medicaid enrollment.[22] Expanded primary care coverage will inevitably increase the diagnosis of oral diseases, and of systemic diseases with oral symptoms or effects. This influx of new, lower-income patients—many of whom may require immediate dental care—underscores the need to strengthen infrastructure and systems of care while addressing inequities in access and outcome for vulnerable and underserved populations.

Even among tri-county residents with dental insurance, out-of-pocket costs may be high enough to discourage patients from seeking timely care. Despite being nominally insured, lower-income patients may be unable to pay their assigned share of the treatment costs; such patients may put off seeking care until pain or a serious infection drives them to an emergency room or urgent care facility. When such patients do seek care, cost concerns may cause them to choose partial or otherwise less than optimal treatments, or to spread treatment over a period of months or years, which often leads to worse outcomes.[23]

WORKFORCE CAPACITY AND DISTRIBUTION

Although Oregon's population continues to grow, the number of licensed dentists serving residents is shrinking. In 2013, Oregon ranked as the 10th worst state for dentist shortages, with an underserved population of 17.3 percent.[24] As the size and diversity of Oregon's population grows, our dental workforce continues to consist mostly of white (78 percent), male (79 percent) general dentists (88 percent) who are older than 55 (40 percent) and work in private practice (89 percent).[25] Statewide, 1,700 practicing dentists out of 2,335 speak English only.[26]

The distribution of providers is another serious concern. About 38 percent of the state population lives in rural areas, but only about 27 percent of Oregon's dentists practice in those areas. Also, dentists in rural areas tend to be closer to retirement age; roughly 48 percent are 55 or older, compared with 39 percent statewide.[27]

TRANSPORTATION

Lack of transportation can be a significant burden for tri-county residents seeking dental care. Rural, geographically isolated and low-income residents may not have the means or the time to travel the distance required for treatment. Seniors and people with disabilities may not be capable of driving themselves. The difficulties of travel may be compounded by poor weather, road closures and other factors beyond the patient's control. Difficulties relating to transportation result in a higher than average rate of no-shows, reinforcing the image that many providers have of disadvantaged patients as unreliable.

Under recent Oregon Administrative Rules (Chapter 410, Division 136), coordinated care organizations (CCOs) have assumed responsibility for non-emergency medical transportation for their members, including rides to medical appointments via bus, taxi or wheelchair transport; reimbursement for members' fuel and expenses; and ambulance transport. Dental appointments are covered under this new policy, which will hopefully reduce or eliminate this longstanding barrier to care for OHP/Medicaid patients.

Lack of transportation can also affect oral health by limiting food choices. For example, residents of rural Lincoln County towns like Siletz or Eddyville may need to travel 20 miles to reach the nearest full-service grocery store.[28] This may result in higher consumption of low-cost, high-sugar processed foods that are associated with an elevated risk of dental caries and other chronic illnesses, including diabetes.

STATE AND REGIONAL RESOURCES FOR UNDERSERVED AND AT-RISK POPULATIONS

The following resources are broadly available in the tri-county area; the county profiles in the next section will discuss local programs, as well as the local impact of the regional programs listed here (where applicable).

- **Advantage Dental Services, LLC.** This dental care organization (DCO) serves private, Medicaid and uninsured clients through its provider network, which includes the Advantage Dental Clinics, LLC locations in Corvallis, Lebanon, Newport and Albany. Reduced fees and payment plans are available for qualifying patients.
- **Capitol Dental Care** is a DCO serving OHP/Medicaid clients, with members and providers in 18 counties. It provides care through staff-affiliated offices as well as through community dentists.
- **The Children's Program.** The Oregon Educators Benefit Board (OEBB) and Oregon Dental Service (ODS) created the Children's Program in partnership with Willamette Dental Group, Kaiser and Oregon dentists to give uninsured children ages 5 to 18 access to basic dental services. Coverage lasts for a year and includes prevention, diagnosis, pain relief and basic restorative services up to a $500 maximum.
- **Donated Dental Services (DDS)** provides free, comprehensive dental treatment to people with permanent disabilities, the elderly, and patients who qualify as medically fragile. The program serves patients who can't afford necessary dental treatment or get public aid. Currently, DDS is available only in Benton County; due to long waiting lists in Linn and Lincoln counties, new applicants are no longer being accepted.
- **Exceptional Needs Dental Services (ENDS)** is a partnership between Capitol Dental Care, Managed Dental Care of Oregon, MultiCare Dental, and Willamette Dental Group. It serves seniors and people with severe disabilities who are unable to be treated in an office setting. Services include exams, screenings, cleanings, x-rays, extractions and restorations. Mobile and hospital-based services are provided to eligible OHP members based on referral from a participating DCO. Services not covered by OHP are self-pay.
- **First Tooth Project** is a collaboration between the Oregon Oral Health Program, the Oregon Oral Health Coalition (OrOHC) and the Early Childhood Cavities Prevention Committee (ECCP). It offers continuing education training for medical and dental providers to implement preventive oral health services for children ages 0 to 3. The free training takes approximately two hours, and is available in person, in print or online. The training is also available to Head Start programs and similar entities.
- **Head Start / Early Head Start** are national programs that promote school readiness by enhancing the social and cognitive development of children from low-income families. Enrolled children receive oral health screenings and fluoride varnish three times a year. They also receive dental hygiene supplies and education at an annual health fair. Dental health education is incorporated into classroom and parenting education.
- **InterCommunity Health Network (IHN-CCO).** This coordinated care organization (CCO) is a local network of providers and community members tasked with comprehensively integrating oral health with overall health for the tri-county Medicaid population.
- **Medical Teams International (MTI).** This faith-based nonprofit partners with other organizations and nonprofits to sponsor mobile clinics staffed by volunteer dentists, hygienists and assistants. MTI's 38-foot dental vans feature two dental operatories and a small waiting area. Services are free or low-cost to qualifying patients, and include extractions, fillings and palliative care.

- **ODS.** This DCO is the dental arm of Moda Health (formerly ODS Health), which retains the ODS name for dental plans offered in Oregon. ODS group and individual plans are available to adults and children, including OHP/Medicaid patients.
- **Oregon Health Plan (OHP)** provides dental coverage for children and teens under 19, including fluoride and sealants; biannual checkups and cleanings; x-rays, fillings and extractions; and urgent problems such as severe tooth pain or dental injuries. OHP works with eight dental plans. However, many providers do not accept OHP/Medicaid clients due to concerns over no-show patients and low reimbursements.
- **Oregon Health Plan Plus** is for people eligible for Medicaid or the Children's Health Insurance Program (CHIP), such as children, pregnant women, seniors, and people with disabilities. Services include cleaning, fillings, extractions, root canals and urgent care. No premiums are required, but patients may have to cover copayments and prescription costs. Coverage for children includes biannual checkups and cleanings, as well as fluoride varnish and sealant applications.
- **Oregon Healthy Kids.** Oregon Health Authority's all-inclusive health plan for children lasts at least a full year after enrollment. Eligibility and cost are based on family size and income. Coverage includes checkups and cleanings, fluoride varnish and sealants, x-rays, fillings, extractions and urgent care.
- **School-based sealant program.** This state program serves schools where at least 50 percent of the students are eligible for free and reduced-price lunches. Students who have parental permission receive a free dental screening and (if necessary) sealants placed by a registered dental hygienist and dental assistant.
- **The Tooth Taxi.** This mobile dental office visits schools to provide free dental care and education to uninsured and underserved children. The program has served more than 10,000 children since 2008.
- **Willamette Dental Group** is the Pacific Northwest's largest multi-specialty provider that offers long-term, affordable dental care for OHP/Medicaid patients.
- **Women, Infants and Children (WIC)** provides federal grants for supplemental food, health care referrals, and nutrition education for low-income pregnant and postpartum women, and to children 0 to 5 who are at nutritional risk. Because WIC sites serve families at a high risk for oral disease, they're a logical place to provide culturally and linguistically targeted education and preventive services.

Additional Programs Under Development

- **Dental-Medical Integration Pilot.** A project coordinated by four DCOs and IHN-CCO to educate the 10 clinics with the highest number of diabetic IHN members on the link between oral health and diabetes. Ideally, clinics will participate in a dental referral network for diabetic members, and they will also ask members about the last time they saw a dentist and whether they're in dental pain. The goal is to improve coordination between medical and dental providers, improve diabetes outcome measures such as A1C, and improve periodontal health for at-risk members.

MOMENTUM FOR CHANGE

Despite the challenges we face in achieving optimal oral health for all tri-county residents, a convergence of positive developments makes this an ideal time to solve the region's oral disease problems.

- **CCOs and DCOs are providing crucial infrastructure for improving statewide access to dental care.** These local, patient-centered entities coordinate physical, mental and oral health care for Oregonians who receive health coverage under the Oregon Health Plan. CCOs support the Oregon Health Authority's "Triple Aim" of *better health, better care and affordable costs* by coordinating care between previously isolated providers, with a focus on accountability for lifelong wellness and disease prevention.
- **The First Tooth Program** is now being administered by the Oregon Oral Health Coalition and expanded to meet the needs of pregnant women.
- **National, state and regional health improvement plans**—ranging from Healthy People 2020, to OHA's *Five-Year Health Promotion and Chronic Disease Prevention Strategic Plan*, to the strategic community health plans underway in each county—have set ambitious oral health goals, while also addressing problems that contribute to poor oral health, including tobacco use; poor nutrition; the prevalence of diabetes; and health disparities based on such factors as race/ethnicity, income, education level, geographical isolation, and mental or physical disabilities.
- **Volunteerism and philanthropy.** Volunteers and charitable nonprofits are on the front lines of the battle against oral disease, and they have a vital role to play not just in providing disadvantaged populations with care, dignity and respect, but also in providing policymakers, oral health coalitions and other stakeholders with information that will help in building a more equitable and effective public health system.

III. COUNTY PROFILES

The following overview draws from client and provider surveys, as well as from state and federal demographic data. One of its most significant findings is the lack of current, reliable data for underserved populations in the tri-county region. Improvements in county-level data collection, analysis and sharing will be essential to understanding and reducing the region's burden of oral disease.

BENTON COUNTY

Benton County has an estimated 2013 population of 86,591. Its main population centers are Corvallis (54,462), North Albany (7,258), Philomath (4,584), and the small incorporated townships of Monroe (617) and Adair Village (840).[29] Nearly two-thirds (63.6 percent) of Benton County residents live in Corvallis; one-fifth (20.7 percent) live in unincorporated or rural areas.[30]

The county's population change from April 1, 2010 to July 1, 2013 was 2.5 percent. The population under 5 years old is 4.2 percent; under 18 years is 17 percent. Residents 65 years and older make up 13.7 percent of the population, compared to 15.5 percent statewide. The Office of Economic Analysis estimates that residents 65 and older will account for 16 percent of the county's population by 2020, and 18 percent by 2030.[31]

As of 2013, 376 adults and 128 children with developmental disabilities were enrolled in case management with Benton County Developmental Disabilities Services.[32]

Based on 2014 County Health Rankings, Benton County is Oregon's healthiest county, with a rank of 1/33 for health outcomes and health factors.[33]

Selected Data for Benton County Cities

Subject	Alsea	Corvallis	Monroe	Philomath
Urban / Rural	Rural	Urban	Rural	Rural
Population (2013)	164	54,462	617	4,584
Population below poverty level	—	29.5%	16.7%	12.3%
• Under 18 years	—	19.6%	21.3%	10.4%
• 18 to 64 years	—	35.4%	15.7%	13.8%
• 65 years and older	—	5.9%	14.9%	6.3%
Unemployed	—	8.1%	6.8%	7.4%
25+ without high school diploma	9.6%	2.7%	7.2%	3.3%
Noninstitutionalized population with disability	11.3%	9.2%	19.6%	11.3%
• Under 18 years	0%	4.6%	1.4%	2.0%
• 18 to 64 years	12.1%	6.8%	18.6%	11.4%
• 65 years and over	50.0%	33.6%	41.8%	36.6%
Rural health clinics	1	0	0	0

Sources: U.S. Census Bureau, 2009-2013 American Community Survey 5-Year Estimates (population); Oregon Office of Rural Health (urban/rural designation and rural health clinics).

Race, Ethnicity and Language

According to 2013 U.S. Census estimates, 88.4 percent of Benton County's population is white. The largest ethnic minority group is Hispanic/Latino (7.0 percent); the largest racial minority group is Asian (5.8 percent).[34] Both populations continue to grow; the Asian population increased by 37.2 percent between 2000 and 2010, while the Hispanic/Latino population increased by 50 percent.[35] These figures are likely to underestimate the total Hispanic/Latino population, which includes undocumented residents.

Roughly 12 percent of residents age 5 and older speak a language other than English at home. Of these residents, 28.7 percent report that they speak English less than "very well." Residents who report limited English skills most often speak Asian and Pacific Island languages (35.5 percent) or Spanish / Spanish Creole (28.3 percent).[36] The 2012 *Benton County Community Health Assessment* reports that most residents with limited English skills live in or near Corvallis and Philomath.[37]

Unemployment and Socioeconomic Status

The 2009-2013 median household income for Benton County residents ($48,604) was slightly lower than for Oregon as a whole ($50,229).[38] As of 2012, minority income as a percentage of white income was 59.5 percent.[39]

After bottoming out in July 2009, Benton County's unemployment rate has largely recovered from the worst of its recession-era losses, with a December 2014 unemployment rate of roughly 5.4 percent, compared to 6.7 percent for Oregon. This was the lowest unemployment rate recorded among Oregon's 36 counties.[40]

Poverty and homelessness

As of 2013, 22.5 percent of Benton County residents were living below the federal poverty level, compared to 16.2 percent statewide. The population below the poverty level was 29.5 percent in Corvallis alone. The poverty rate is highest among populations identifying as Native Hawaiian and Other Pacific Islander (92.7 percent); Black or African American (54.1 percent); Asian (38.5 percent) and Hispanic/Latino (26.9 percent).

Approximately 16.6 percent of the population living below the poverty level is less than 18 years old.[41] The Oregon Department of Education reports that in the 2013-14 school year, 40.1 percent of children (3,479 students) were eligible for free or reduced-price lunches, with the highest percentage at Alsea SD 7J (79.7 percent) and the lowest at Corvallis SD 509J (37.3 percent). Although Corvallis SD had low eligibility rates overall, individual schools have high eligibility, including Garfield Elementary (73.0 percent) and Lincoln Elementary (67.6 percent).[42] In the 2013-14 school year, 228 K-12 students were homeless.[43]

In June 2014, the Oregon DHS Office of Forecasting, Research and Analysis identified two "high-poverty hotspots" in Benton County,[44] noting that "20 percent of the county's population, 25 percent of its poor, and 36 percent of its SNAP clients live in one of these areas":

- **North Corvallis.** Census tracts 6 and 10.01 comprise an area north of Beca and Cornell and east of Highland/13th. On the west side of Highway 99W, the area lies south of Conifer. On the east side of 99W, the area extends to the Willamette River and north to NE Granger. Tract 6 has a poverty rate of 26.4

percent, and tract 10.01 has a poverty rate of 34.6 percent; the combined poverty rate for this area is 30 percent. Tract 6 has a higher percentage of Hispanic/Latino residents (12.4 percent, compared to 6.6 percent for Benton County) and Native American residents (1.9 percent, compared to 0.8 percent for the county). It also has a higher percentage of adults 65 and older with a disability (47.7 percent, compared to 31.6 percent for the county). Tract 10.01 has a higher population of Black or African American residents (3.9 percent, compared to 1.0 percent for the county) and Hispanic/Latino residents (24.2 percent).[45]

- **South Corvallis.** Census tract 1 is bounded by the Marys and Willamette rivers, the railroad tracks, the West Fork of Bonneville Channel, and Airport Road. The poverty rate for this area—which includes Lincoln Elementary School—is 21 percent. Tract 1 has a higher percentage of Hispanic/Latino residents (10.4 percent) than Benton County (6.6 percent). It also has a significantly higher percentage of children under 18 with a disability (14.6 percent, compared to 3.7 percent for the county).[46]

Transportation

Public transportation is available throughout much of the county, but cost and schedule restrictions may pose challenges to residents with limited resources and time.

- **Benton County Dial-a-Bus** provides ADA-accessible, curb-to-curb transportation for Benton County seniors (60+) and people with disabilities. Passengers must pass an application process to be eligible. Areas served include Corvallis, Lewisburg, Philomath, Adair Village, North Albany, Wren, Alsea, Bellfountain, Blodgett, Kings Valley, Monroe and Summit. Available Monday through Saturday from 8 or 8:30 a.m. to 7 p.m., and on Sunday from 8 a.m. to 3 p.m.
- **Cascades West Ride Line** coordinates transportation for eligible OHP/Medicaid clients traveling to and from covered medical services. Available Monday through Friday from 8 a.m. to 5 p.m. Due to high demand, advance reservations are recommended.
- **Coast to Valley Express** runs between Corvallis and Newport, serving communities along State Highway 20. Buses are ADA-accessible and have a wheelchair lift. Service runs every day from 6:20 a.m. to 7 p.m. Fares for longer rides are $10 for adults and $7 for seniors and youth.
- **Corvallis Transit System** is a fareless bus system operating primarily within city limits. Times and days vary by route. CTS also operates the Philomath Connection, which provides weekday service between Philomath and Corvallis. All CTS buses are equipped with ramps or lifts.
- **Linn-Benton Loop** provides service between Albany and Corvallis, Monday through Friday from 6:30 a.m. to 7 p.m. and Saturdays from 8 a.m. to 6 p.m. Service is free for riders with a Samaritan Health Services card. Vehicles accommodate wheelchairs, walkers, and passengers traveling with a service animal.
- **99 Express/Rural Transit** provides four round trips between Corvallis and Adair Village every weekday from 7 a.m. to 6 p.m. The bus serves Samaritan medical facilities, and it will make route deviations for passengers if given 24-hour notice. All buses are equipped with lifts.
- **Valley Retriever** is a private bus service running between Corvallis and Newport, with stops in Philomath, Blodgett, Burnt Woods and Toledo. The service's primitive website offers little information on fares, schedule or accessibility.

Oral Health in Benton County

The 2012 *Oregon Smile Survey* found that cavity rates among 6- to 9-year-old children in the tri-county region were generally at or above 51 percent.[47] The 2013 *Oregon Healthy Teens* survey found that Benton County's percentage of 8th-grade (63.6 percent) and 11th-grade youth (71.0 percent) who have ever had a cavity is lower than statewide rates (70.1 and 74.0, respectively). However, these rates remain well above the Healthy People 2020 target of 48.3 percent. Benton County teens were also more likely than teens statewide to have visited a dentist in the past year.[48]

Emergency room statistics for Benton County hospitals show a need for timely, lower-cost oral health interventions. For example, Samaritan Health Services reports that in the 2014 calendar year, 127 people went to the emergency room at Good Samaritan Regional Medical Center in Corvallis for nontraumatic dental pain at a total cost of $43,815 (approximately $345 per visit).[49]

Client survey results

According to the 2011 *Assessment of Dental Care Need in Benton County Adults*, which surveyed agency staff and disadvantaged dental care clients, the most commonly reported dental needs were cleaning (36 percent), tooth pain (30 percent) and regular checkups (19 percent). About 31 percent of clients surveyed had not seen a dentist in the previous year, and 33 percent had not seen a dentist in more than five years. The most commonly sought treatment sites were private dentists (20.6 percent), dental vans (18.6 percent) and the Linn-Benton Community College dental clinic (4 percent). However, ER treatment is also common; in 2010, 10 percent of respondents made at least one visit to a hospital emergency room for dental pain, and 4 percent made three or more visits.[50]

Insurance coverage

As of 2013, 17 percent of adults and 7 percent of children in Benton County lacked dental coverage,[51] and 7.8 percent of residents (6,697 people) lacked health insurance of any kind. The majority of uninsured residents (10.2 percent) fall into the 18 to 64 age group. Also, 16.6 percent of Asian residents and 8.6 percent of Hispanic/Latino residents were uninsured, compared to 7.0 percent of the white population. Approximately 15.6 percent of the unemployed were uninsured, compared to 11.1 percent of those currently employed.[52]

In 2014, 16.7 percent of residents were eligible for Medicare, and 17 percent were eligible for OHP/Medicaid.[53] The Oregon Department of Human Services and the Oregon Health Authority forecast a significant increase in eligibility due to expansion of coverage through the Affordable Care Act (ACA). An estimated 5,020 new clients in Benton County will be eligible for OHP/Medicaid by 2016.[54]

Community water fluoridation

Corvallis and Philomath both have fluoridated water. Corvallis has fluoridated its water since 1952, and Philomath began fluoridating in the early 1980s. In 2011, the Philomath City Council voted to end fluoridation. Voters reversed the Council's decision and restored the program in a special election the following year. Factoring in North Albany's water system, about 96 percent of the county's population has access to fluoridated water, compared to roughly 27 percent for Oregon as a whole.[55]

School-based oral health programs

Community Health Centers of Benton and Linn Counties launched a school-based oral health program in April 2010 with funding from Kaiser Permanente Northwest, The Ford Family Foundation and The Oregon Community Foundation. As of January 2015, the following schools participate in this program:

- Alsea Elementary School (Alsea SD)
- Blodgett Elementary School; Clemens Primary School; Philomath Elementary School (Philomath SD)
- Garfield Elementary School, Lincoln Elementary School, Mt. View Elementary School, Wilson Elementary School (Corvallis SD)
- Monroe Grade School (Monroe SD)

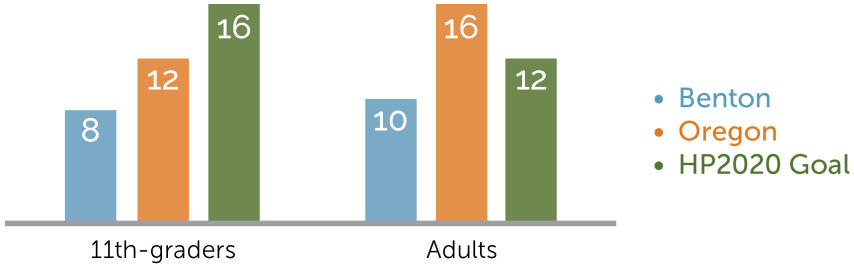
Children receive annual, age-appropriate dental hygiene education from dental assisting students at Oregon State University (OSU) or Linn-Benton Community College (LBCC). They also receive a dental screening to identify cavities and other oral health issues. All children who have at least one tooth eligible for sealants are referred to this service. A licensed dental hygienist confirms the findings of the dental screening and authorizes the placement of sealants. Children receive fluoride varnish to help prevent cavities. Students who require additional dental services are referred to their dentist or to the Johnson Dental Clinic for dental treatment, with parental permission.

In February 2015, a grant from The Oregon Community Foundation will allow Community Health Centers of Benton and Linn Counties to expand school-based screening, sealant and fluoride varnish programs to eligible sixth- and seventh-grade classes in Alsea, Corvallis, Kings Valley, Monroe and Philomath.

Tobacco use

The Tobacco Prevention and Education Program reports that as of 2013, tobacco use in Benton County was well below the state average for 8th-graders, 11th-graders and adults.[56] The county's smoking rate is also below Healthy People 2020 goals,[57] as the following chart shows:

Cigarette smoking in Benton County



Diabetes

The age-adjusted prevalence of diabetes for 2008–2011 was approximately 6.8 percent for Benton County residents, compared to 7.2 percent statewide. The incidence of diabetes is higher among adults over 65, low-income populations and racial/ethnic minority groups.[58]

Local oral health providers, programs and resources

As of 2012, 40 dentists and 58 dental hygienists were practicing in Benton County.[59] Based on these statistics, the county's population-to-dentist ratio was 1,476:1, compared to a 2012 state ratio of 1,446:1. In the same year, the population-to-dental-hygienists ratio was 1,476:1 (state ratio: 1,540:1).[60]

Benton County is a federally designated dental health professional shortage area (HPSA)[61] for low-income residents and migrant farmworkers. Corvallis Census tracts 11.01, 11.02, 106.00 and 107.02 are federally designated as medically underserved areas (MUA), while residents of Monroe Census tracts 103.00 and 104.00 are federally designated as a medically underserved population (MUP).[62] The Oregon Office of Rural Health identifies Alsea and Monroe as areas with unmet health needs.[63]

Apart from private dentists, hospital emergency departments, and urgent care facilities, the following oral health resources are available or under development (see Appendix A for a full listing):

- **Advantage Dental Services, LLC.** The Advantage Dental Clinics, LLC location in Corvallis offers all dental and preventive services, as well as emergent care. Reduced fees and payment plans are available for qualified patients. The Corvallis clinic participates in the Benton County Oral Health Coalition Adult Dental Emergency Voucher Program. It also works with Community Outreach, Inc. (COI) to provide Advantage Smile Days; every four to eight weeks, Advantage sees approximately eight low-income patients who were referred from COI for urgent dental concerns. COI pays $20 for a $99 limited exam, radiograph, and filling or extraction for each patient.
- **Albany InReach Services** provides exams, x-rays, cleaning and simple extractions once per week to uninsured, low-income adults who live or work in Albany, Jefferson, Millersburg or Tangent; Benton County residents living in North Albany are also eligible. No controlled substances are prescribed. Clients are asked to contribute $10 for dental extraction and $20 for dental cleaning, but no one is refused services due to inability to pay. Clients must pass a background check for crimes against children prior to any scheduled appointments at the Boys & Girls Club of Albany Dental Clinic.
- **Assistance League of Corvallis** has created a video called *The Power of Healthy Teeth* to accompany a hands-on dental education presentation for sixth-graders, who also receive a dental hygiene kit .
- **Benton County Oral Health Coalition Adult Dental Emergency Voucher Program.** Community Health Centers of Benton and Linn Counties screens uninsured, low-income clients age 19 and older for dental pain, infection, income eligibility and dental coverage. They then refer eligible clients to a participating dental practice or dental van, assist the client with paperwork, and issue a dental voucher. Coordinators assist in arranging transportation, translation services and child care when necessary, and also make appointment reminder calls to reduce the number of no-show clients. A $10 contribution is requested. The program is available through Benton Health Center on first and third Tuesdays. Harrisburg (Linn County) residents are served through Monroe Health Center.
- **Community Outreach, Inc. (COI)** partners with the Linn-Benton Community College Dental Assisting Program to serve low-income and uninsured adults 18 and older. Urgent care services (e.g., exams, x-rays, fillings and extractions) are provided for a $30 fee. Services are provided Wednesday evenings in Corvallis from October through May.

- **Johnson Dental Clinic at the Boys & Girls Club of Corvallis.** This clinic provides exams, fillings, cleanings, sealants, fluoride varnish, simple extractions, and stainless-steel crowns for Benton County children age 3 to 18 and pregnant women. A $20 contribution is requested from uninsured patients.
- **KIDCO Head Start/Early Head Start** is a free infant/toddler and preschool program serving children ages 0 to 4 and pregnant mothers. Head Start sites are located in Corvallis and Philomath; an Early Head Start site is located in Corvallis. KIDCO provides oral health information at its parenting education night. Three times a year, a hygienist from Capitol Dental conducts screenings, applies fluoride varnish and makes referrals.
- **Love INC of Benton County.** This locally run faith-based organization partners with MTI and local volunteer dental staff to offer three to five dental clinics per year. On every day that these clinics operate, they provide $5,000 to $8,000 in dental services to low-income and uninsured adults in dental pain. There is no cost for qualifying patients.
- **Medical Teams International (MTI) dental vans.** In 2014, MTI vans served 168 adults through clinic locations in Alsea (sponsored by Alsea Rural Health Care) and Corvallis (sponsored by Love INC). Strengthening Rural Families sponsored additional clinics in Monroe, Adair, Kings Valley and other areas. Volunteers donated almost 195 hours; the total value of these services was $81,632.[64] MTI also partners with COI when funding is available.
- **Samaritan Pediatrics hygienist co-location project.** Medical assistants at Samaritan Pediatrics work with the First Tooth population (ages 0 to 3), providing oral risk assessments and education, placing sealants, applying fluoride varnish and referring Medicaid patients to a dental home. Capitol Dental Care sends a co-located hygienist once per month. Children ages 3 to 18 receive an oral screening and are either referred to the co-located hygienist or provided with a dental handout.
- **SmileKeepers.** This Capitol Dental Care office in Corvallis provides dental, preventive and emergent care to uninsured and OHP-insured adults and children. CareCredit is available for qualified patients.
- **Federally qualified health centers (FQHCs).** Adult preventive services are available at Alsea Rural Clinic (third Thursdays), Monroe Health Center (fourth Thursdays), and Benton Health Center (Wednesdays).
- **WIC.** In 2013, the WIC clinics in Corvallis and Monroe served 38 percent of pregnant women in Benton County, along with 1,734 children ages 0 to 5.[65] These sites offer oral health education services to parents on a drop-in or appointment basis, as well as weekly screenings, fluoride varnish and referrals (Mondays 8:30 to noon and 1 p.m. to 4 p.m.).
- **Willamette Dental Group.** The Corvallis office offers full dental care for adults and children, including uninsured, commercially insured, OHP-Willamette and HealthyKids-Willamette. Uninsured patients pay at time of service.

Service gaps and barriers to access

The *Assessment of Dental Care Need in Benton County Adults* found that the most commonly cited barriers to accessing dental care in Benton County were low income (44 percent) and lack of insurance (38 percent).

Lack of awareness of options is also a significant problem: "Nearly three quarters of participants had never sought treatment from a dental van, despite the fact that the majority of those same people are without dental coverage." Other reasons cited for not visiting the dentist include transportation problems, language barriers and inability to take time off from work.[66]

LINCOLN COUNTY

Lincoln County has an estimated 2013 population of 46,350. Roughly 58 percent of its residents live in the coastal communities of Newport (10,150), Lincoln City (8,040), Waldport (1,996), Depoe Bay (1,398) and Yachats (759), or the inland communities of Toledo (3,465) and Siletz (1,375).[67] Almost 43 percent of the population lives in unincorporated or rural areas.[68]

The county's population change from April 1, 2010, to July 1, 2013 was 0.7 percent. The population under 5 years is 4.9 percent; under 18 years is 17.2 percent. Residents 65 years and older make up 23.8 percent of the population, which is significantly higher than Oregon's rate of 15.5 percent.[69] Roughly 16.2 percent of seniors live below the poverty level, and 38.8 percent have at least one disability. The largest senior population is in southern Lincoln County, near Seal Rock and Waldport.[70] The Office of Economic Analysis estimates that residents 65 and older will account for 26 percent of the county population by 2020, and 30 percent by 2030.[71]

As of 2013, 193 adults and 96 children with developmental disabilities were enrolled in case management with Lincoln County Developmental Disabilities Services.[72]

According to Oregon's 2014 County Health Rankings, Lincoln County has a rank of 21/33 for health outcomes and 24/33 for health factors.[73]

Selected Data for Lincoln County Cities

Subject	Lincoln City	Newport	Siletz	Toledo	Waldport	Depoe Bay	Yachats
Urban / Rural	Urban	Urban	Urban	Rural	Rural	Rural	Rural
Population	8,040	10,150	1,375	3,465	1,996	1,398	759
Population below poverty level	20.1%	18.5%	22.8%	15.0%	13.3%	17.7%	13.0%
• Under 18 years	30.5%	16.4%	15.5%	30.3%	34.9%	32.8%	66.0%
• 18 to 64 years	17.7%	18.5%	20.4%	15.1%	15.1%	22.9%	11.7%
• 65 years and older	6.1%	5.6%	4.6%	9.2%	12.2%	2.6%	6.6%
Unemployed	10.9%	9.5%	13.9%	18.4%	9.1%	10.6%	12.2%
25+ without high school diploma	8.4%	6.2%	11.9%	12.3%	9.0%	6.9%	2.4%
Noninstitutionalized with disability	18.5%	14.0%	22.4%	24.7%	31.8%	18.3%	25.6%
• Under 18	3.4%	2.5%	9.5%	8.2%	24.2%	0	0
• 18 to 64 years	17.6%	12.5%	23.5%	27.6%	27.9%	11.6%	21.5%
• 65 years and over	39.6%	32.5%	47.5%	46.1%	41.9%	36.8%	35.0%
Rural health clinics	4	0	0	0	0	0	0

Sources: U.S. Census Bureau, 2009-2013 American Community Survey 5-Year Estimates (population); Oregon Office of Rural Health (urban/rural designation and rural health clinics).

Race, Ethnicity and Language

According to 2013 U.S. Census estimates, 88.1 percent of Lincoln County's population is white. The largest ethnic minority group is Hispanic/Latino (8.1 percent), except in Siletz, where Native Americans constitute the largest minority group (11.6 percent). The largest racial minority group is Asian (1.4 percent). Lincoln City is home to the county's largest Hispanic/Latino population (12.8 percent), followed by Newport (11.1 percent).[74] Between 2000 and 2010, the county's Hispanic/Latino population increased by 72 percent.[75] These figures may underestimate the total Hispanic/Latino population, which includes undocumented residents.

About 7 percent of residents age 5 and older speak a language other than English at home. Of these residents, 43.2 percent reported that they speak English less than "very well." Residents who report limited English skills most often speak Spanish or Spanish Creole (49.1 percent) or Asian and Pacific Island languages (38.1 percent).[76] According to the county's 2013 *Community Health Assessment*, most families with limited English skills live in or near Lincoln City and Newport.[77]

Unemployment and Socioeconomic Status

The 2009-2013 median household income for Lincoln County residents ($42,365) was lower than for Oregon as a whole ($50,229).[78] As of 2012, minority income as a percentage of white income was 56.9 percent.[79]

According to the Oregon Employment Department, the unemployment rate in Lincoln County was 7.6 percent in December 2014, compared to 6.7 percent statewide.[80]

Poverty and Homelessness

As of 2013, approximately 16 percent of county residents were living below the federal poverty level, compared to 16.2 percent statewide. The poverty rate is highest among Native Hawaiians and Other Pacific Islanders (48.3 percent), Black or African Americans (45.2 percent), Asians (29.7 percent), Hispanics/Latinos (23.6 percent), and Native Americans (18.3 percent).

Approximately 28 percent of the population living below the poverty level is less than 18 years old.[81] The Oregon Department of Education reports that in the 2013-14 school year, 14 of 15 listed schools had more than 50-percent eligibility for free or reduced-price lunches. Schools in Siletz had the highest number of eligible students (82.4 to 89.2 percent); only Isaac Newton Magnet School in Newport had less than 50-percent eligibility. In total, 67.5 percent of students were eligible.[82] In the 2013-14 school year, the Oregon Department of Education also estimated that 519 K-12 students were homeless. Sixty-nine of these students were considered unaccompanied minors, or were "in a homeless living situation without the supervision of a parent or legal guardian."[83]

In June 2014, the Oregon Department of Human Services' Office of Forecasting, Research and Analysis identified two "high-poverty hotspots" in Lincoln County,[84] noting that "10 percent of Lincoln County's population, 14 percent of its poor, and 14 percent of its SNAP clients live in these areas":

- **Census tract 9510** covers the north side of Newport. It lies between the Pacific Ocean and Highway 101 and extends along the coast from NW 10th to the north jetty at Yaquina Bay. Its poverty rate is 27 percent.

Tract 9510 has a considerably higher Black or African American population (2.5 percent) than Lincoln County (0.3 percent), as well as a higher Hispanic/Latino population (10.4 percent, compared to 8.1 percent for the county).[85]

- **Census tract 9514** covers the central and eastern portions of Toledo, between Highway 20 and Siuslaw National Forest. It's bounded on the west by N. Main, and on the east by Elk City and Harlan roads. Its poverty rate is 20 percent. Tract 9514 is 97.6 percent white, with a lower population of all racial/ethnic minority groups than Lincoln County as a whole.[86] For all age groups, this tract has a significantly higher disability rate than the county: under 18 is 10.0 percent, compared to 5.1 percent for the county; 18 to 65 years is 26.1 percent, compared to 18.1 percent for the county; and 65 and older is 51.8 percent, compared to 31.8 percent for the county.[87]

Transportation

Public transportation is available in and between major population areas, but cost and schedule restrictions may pose challenges to residents with limited resources and time.

- **Cascades West Ride Line** coordinates transportation for eligible OHP/Medicaid clients traveling to and from covered medical services. Available Monday through Friday from 8 a.m. to 5 p.m. Due to high demand, advance reservations are recommended.
- **Coast to Valley Express** runs between Corvallis and Newport, serving communities along State Highway 20. Buses are ADA-accessible and have a wheelchair lift. Service runs every day from 6:20 a.m. to 7 p.m. Fares for longer rides are $10 for adults and $7 for seniors and youth.
- **Lincoln County Transit** offers transportation to and from Rose Lodge, Otis, Lincoln City, Depoe Bay, Siletz, Toledo, Newport, Waldport, Yachats and Corvallis. Service typically runs from about 6 a.m. to 8 p.m., and is not available on Sundays or major holidays. Their Dial-A-Ride bus offers curb-to-curb service within Lincoln City and Newport from 8 a.m. to 3:30 p.m., Monday through Friday. Reservations are taken on a first-come, first-served basis; due to high demand, two-day advance reservations are recommended. Although the vehicles are ADA-compliant, drivers can provide only limited assistance in boarding and exiting buses.
- **Valley Retriever** is a private bus service running between Corvallis and Newport, with stops in Philomath, Blodgett, Burnt Woods and Toledo. The service's primitive website offers little information on fares, schedule or accessibility.

Oral Health In Lincoln County

The 2012 *Oregon Smile Survey* found that cavity rates among 6- to 9-year-old children in the tri-county region were at or above 51 percent.[88] According to the 2013 *Oregon Healthy Teens* survey, the proportion of eighth-grade (73.2 percent) and 11th-grade students (78.2 percent) in Lincoln County who have ever had a cavity is higher than the statewide rates (70.1 and 74.0, respectively). These rates are also significantly higher than the Healthy People 2020 target of 48.3 percent. Lincoln County eighth-graders were also less likely than eighth-graders statewide to have visited a dentist in the past year (65.0 percent for the county, compared to 72.8 percent for the state).[89]

Emergency room statistics for Lincoln County hospitals show an urgent need for timely, lower-cost oral health interventions. For example, Samaritan Health Services reports that in the 2014 calendar year, 203 people went to the emergency room at Pacific Communities Hospital in Newport for nontraumatic dental pain, while 115 people went to the emergency room at North Lincoln Hospital in Lincoln City. The total cost was $109,710, or approximately $345 per visit.[90]

Client Survey Results

According to the 2012 *Assessment of Dental Care Needs in Lincoln County*—which surveyed low-income, uninsured or underinsured people waiting for a dental van appointment or receiving treatment at Advantage Dental in Newport—the most commonly reported dental needs are cleaning (32 percent), filling (28 percent), extraction (12 percent) and crowns (12 percent). About 36 percent of clients surveyed had not seen a dentist in the previous year, and 21 percent had not seen a dentist in more than five years. The most commonly sought treatment sites were Advantage Dental (46 percent), dental vans (18 percent) and private dental offices (14 percent).[91]

Insurance coverage

As of 2013, 23 percent of adults and 10 percent of children in Lincoln County lacked dental coverage,[92] and 17.9 percent of residents (8,194 people) lacked health insurance of any kind. The majority of uninsured residents fall into the 18 to 64 age group. Also, 34.3 percent of American Indian and Alaska Native residents, 31.6 percent of Hispanic/Latino residents, and 24.6 percent of Asian residents were uninsured, compared to 16.9 percent of the white population. About 52 percent of the unemployed were uninsured, compared to 23 percent of those currently employed.[93]

As of March 2014, 28 percent of residents were eligible for Medicare. As of November 2014, 31.7 percent were eligible for OHP/Medicaid.[94] The Oregon Department of Human Services and the Oregon Health Authority forecast a significant increase in Medicaid eligibility due to expansion of coverage through the Affordable Care Act (ACA). An estimated 3,113 new clients in Lincoln County will be eligible for Medicaid by 2016.[95]

Community water fluoridation

Newport began fluoridating its water supply in 1962 and is the only community in Lincoln County with a history of public water fluoridation. In 2006, the Water Division of Newport discontinued water fluoridation due to the age and condition of the fluoridation equipment. A new water plant was completed in 2012. It includes a fluoride injection system, but this system is not being used pending legislative approval from the city council. Thus, none of Lincoln County's 28 public water systems currently provides fluoridated water.

School-based oral health programs

First- and second-graders in eligible schools receive dental screenings and sealants as long as they have a signed permission slip. Local coordination occurs through the District Health Assistant for Lincoln County School District.

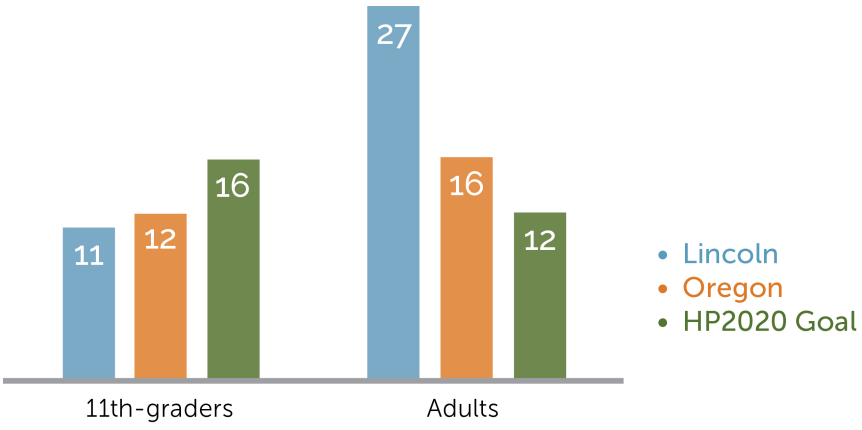
The following Lincoln County schools have sealant programs: Lincoln City Career Technical Charter High School; Eddyville Charter School; Oceanlake Elementary School (Lincoln City); Sam Case Primary School/Early Childhood Center (Newport); Siletz Valley Charter School (served by IHS); Taft Elementary School (Lincoln City); Taft High 7-12 (Lincoln City); Toledo Elementary School; Toledo Junior/Senior High School; Waldport High School; Crestview Heights School (Waldport); Newport High School/Newport Preparatory Academy; Newport Intermediate School/Isaac Newton Magnet School.

Dental screenings are provided at the following SBHCs: Newport High School, Taft High School, Toledo High School and Waldport Middle School. Dental vans visit these SBHCs for children who require treatment. Advantage Dental vouchers are also available through Lincoln Community Health Center.

Tobacco use

Tobacco use continues to be a serious public health concern in Lincoln County. The Tobacco Prevention and Education Program reports that as of 2013, adult cigarette smoking in Lincoln County is almost twice the state average, as the following chart shows.[96]

Cigarette smoking in Lincoln County



Furthermore, an estimated 23.3 percent of mothers smoke during pregnancy. This percentage is almost twice the state average of 12.8 percent, and greatly exceeds the Healthy People 2020 target of 1.4 percent.[97]

Diabetes

The age-adjusted prevalence of diabetes for 2008–2011 was 7.8 percent for Lincoln County residents, which is similar to Oregon's rate of 7.2 percent.[98] However, the prevalence of risk factors for diabetes—such as overweight/obesity, poor nutrition, smoking and lack of exercise—is higher in Lincoln County than in Oregon as a whole.[99]

Oral health providers, programs and resources

As of 2012, 21 dentists and 23 dental hygienists were practicing in Lincoln County.[100] Based on these statistics, the county's population-to-dentist ratio was 2,104:1, which is higher than the 2012 state ratio of 1,446:1. In the same year, the population-to-dental-hygienists ratio was 2,001:1 (state ratio: 1,540:1).[101]

Lincoln County is a federally designated dental health professional shortage area (HPSA)[102] for low-income residents. Yachats is a federally designated medically underserved area (MUA); low-income residents of Depoe Bay (90884), Lincoln City (91674), Eddyville (91020) and Toledo (93230) are federally designated as a medically underserved population (MUP).[103] The Oregon Office of Rural Health identifies Blodgett-Eddyville, Lincoln City, Newport, Siletz, Toledo, Waldport and Yachats as areas with unmet health needs. The 2014 report *Areas of Unmet Health Care Need in Rural Oregon* notes that Blodgett-Eddyville and Yachats have no primary care providers.[104]

Apart from private dentists, hospital emergency departments, and urgent care facilities, the following oral health resources are available or under development (see Appendix B for a complete listing):

- **Advantage Dental Services, LLC.** The Advantage Dental Clinics, LLC location in Newport offers all dental and preventive services, as well as emergent care. Reduced fees and payment plans are available for qualified patients. The Newport location also participates in the Lincoln Community Health Center Voucher Program to provide low-income, uninsured and Medicaid patients with emergency and preventive care at a discount flat rate.
- **Babies First Home Visits.** This screening program serves children ages 0 to 3 who are at risk for developmental delays. Services are available through Lincoln County Health and Human Services, and are usually based on a hospital referral. Dental screenings and oral health education are provided, as is support for smoking cessation.
- **Bremer's Denture Center** has offices in Newport and Lincoln City. It offers seniors 65 and older a free consultation on full or partial dentures, as well as reduced rates for new dentures, metal partials and relining. OHP/Medicaid and Medicare patients are not accepted.
- **Head Start of Lincoln County** has locations in Lincoln City, Newport and Toledo. Capitol Dental Care sends a dental hygienist to each site three times per school year. The hygienist does visual screenings, applies fluoride varnish and makes referrals to a dental home. Diana Warren at Head Start reports that the need for treatment in Lincoln County is higher than in other Oregon Head Start programs, and that fewer children receive treatment due to the lower number of local pediatric dentists who accept OHP. This constitutes an important service gap in Lincoln County.

- **HRSA Rural Health Development Grant.** In 2016, Samaritan Health Services will use funds from this grant to place EPDHs in Samaritan clinics in Lincoln County.
- **Lincoln Community Health Center (LCHC).** This federally qualified health center (FQHC) works with Advantage Dental to provide low-income, uninsured and Medicaid patients with emergency and preventive care at a discount flat rate through its voucher program. The voucher program is also available to qualifying students through school-based health centers (see below).
- **Medical Teams International (MTI) dental vans.** In 2014, MTI vans served 164 adults and 37 children through eight clinic locations sponsored by Coast Vineyard Christian Fellowship, Dr. Bob Health Centre in Lincoln City, Inter-Christian Outreach, Lincoln County Health and Human Services, and Project Homeless Connect. Clinic sites included Toledo High School, Sam Case Elementary School and Taft High School. Volunteer staff donated 236 hours; the estimated value of these services was $92,411.[105]
- **Project Homeless Connect.** This annual event offers free services to the homeless, including dental services and dental kits provided by MTI and Advantage Dental.
- **School-based health centers (SBHCs)** in Lincoln City, Newport, Toledo and Waldport are open to all K-12 students for any health concern, regardless of their ability to pay. If a student has a health plan, the insurance will be billed. Students 15 and older do not need parental permission for services. Because all SBHCs are Lincoln Community Health Center Clinics, qualified students are eligible for the Advantage Dental voucher program described above.
- **SmileKeepers.** This Capitol Dental Care office in Lincoln City provides full dental care to adults and children, including OHP/Medicaid and uninsured. Financing is available for qualified patients.
- **WIC.** In 2013, WIC clinics in Newport and Lincoln City served 62 percent of pregnant women, along with 1,675 infants and children under 5.[106] Advantage Dental staff see pregnant women, postpartum women, and children 0 to 5 at these sites once a month, providing oral health screenings, fluoride varnish, education and dental home referrals.
- **Willamette Dental Group.** The Lincoln City office offers full dental care for adults and children, including uninsured, OHP/Medicaid and HealthyKids-Willamette. Uninsured patients pay at the time of service.

Service gaps and barriers to access

The 2011 *Assessment of Dental Care Needs in Lincoln County* found that lack of insurance (44 percent), low income (34 percent) and transportation problems (6 percent) are the primary barriers to access. Transportation problems are exacerbated in winter, when coast and mountain roads may be treacherous or impassable.

Other factors cited in this report include language barriers; citizenship and documentation concerns; inadequate awareness of options and resources; and gaps in service (e.g., lack of providers, limited or inconvenient clinic hours, and the "very small number of dental offices able to participate in government-funded dental plans or programs that offer free or reduced-cost services to low-income patients").[107]

LINN COUNTY

Linn County has an estimated 2013 population of 118,765. Albany is the county's largest city, with an estimated population of 51,583. Other incorporated cities include Lebanon (15,930), Sweet Home (9,052), Harrisburg (3,648), Brownsville (1,686) and Scio (851).[108] Approximately 32 percent of Linn County residents live in unincorporated or rural areas.[109]

From April 1, 2010 to July 1, 2013, the county's population grew by 1.8 percent. The population under 5 years is 6.3 percent; under 18 years is 23.5 percent. Residents 65 years and older make up 16.8 percent of the population, compared to 15.5 percent statewide.[110] This population is projected to increase to 19 percent by 2020, and to 21 percent by 2030.[111]

As of 2013, 193 adults and 96 children with developmental disabilities were enrolled in case management with Lincoln County Developmental Disabilities Services.[112]

According to Oregon's 2014 County Health Rankings, Linn County has a rank of 22/33 for health outcomes and 20/33 for health factors.[113]

Selected Data for Linn County Cities

Subject	Albany	Harrisburg	Brownsville	Lebanon	Sweet Home	Scio
Urban / Rural	Urban	Rural	Rural	Urban	Rural	Rural
Population (2013)	51,583	3,648	1,686	15,930	9,052	5851
Population below poverty level	19.5%	12.0%	11%	20.2%	24.9%	15.1%
• Under 18 years	30.5%	16.4%	15.5%	30.3%	34.9%	24.1%
• 18 to 64 years	17.7%	10.9%	11.2%	24.7%	24.7%	13.8%
• 65 years and older	6.1%	5.6%	4.6%	9.2%	12.2%	0
Unemployed	11.7%	12.7%	7.6%	9%	13.3%	5.1%
25+ without high school diploma	7.3%	7.2%	8.6%	7.3%	9.4%	6.6%
Noninstitutionalized with disability	15.6%	11.0%	15.5%	16.7%	20.9%	11.9%
• Under 18 years	9.0%	3.6%	3.8%	5.1%	3.0%	5.9%
• 18 to 64 years	14.0%	10.5%	15.1%	14.8%	19.8%	7.5%
• 65 years and older	36.0%	44.6%	32.3%	43.2%	49.3%	44.6%
Rural health clinics	0	0	0	0	0	0

Sources: U.S. Census Bureau, 2009-2013 American Community Survey 5-Year Estimates (population); Oregon Office of Rural Health (urban/rural designation and rural health clinics).

Race, Ethnicity and Language

According to 2013 U.S. Census estimates, 93.5 percent of Linn County's population is white. The largest ethnic minority group is Hispanic/Latino (8.2 percent), while the largest racial minority groups are American Indian and Alaska Native (1.5 percent) and Asian (1.1 percent).[114]

Roughly 7.2 percent of Linn County residents age 5 and older speak a language other than English at home. In 4.5 percent of households speaking a language other than English, no one over 14 speaks English only or speaks English "very well." Of residents with limited English ability, 26 percent speak Asian and Other Pacific Island languages, 23.2 percent speak Spanish, and 16 percent speak other Indo-European languages.[115]

Unemployment and Socioeconomic Status

Linn County's estimated median household income for 2009-2013 was $46,939, which is slightly below the state figure of $50,229.[116] As of 2012, minority income as a percentage of white income was roughly 55.8 percent.[117] The Oregon Employment Department reports that the unemployment rate was 8.3 percent in December 2014, compared with 6.7 percent statewide.[118]

Poverty and Homelessness

According to U.S. Census data for 2009-2013, 17.8 percent of Linn County's population lives below the federal poverty level, compared to 16.2 percent statewide. The poverty rate is highest among populations identifying as Native Hawaiian and Other Pacific Islanders (86.6 percent); Hispanic/Latino (32.4 percent); Black or African American (27.9 percent); and Asian (25.4 percent).

Approximately 28 percent of the population living below the poverty level is less than 18 years old.[119] The Oregon Department of Education reports that in the 2013-14 school year, 45.5 percent of children were eligible for free or reduced-price lunches, with the highest percentage in Sweet Home SD 55 (65.0 percent), Santiam Canyon SD 129J (63.0 percent) and Lebanon Community SD 9 (60.3 percent). The schools with the highest percentage of eligible students were Green Acres School in Lebanon (83.2 percent), Waverly Elementary School in Albany (80.8 percent), and Foster Elementary School in Sweet Home (79 percent).[120]

In the 2013-14 school year, 859 K-12 students were homeless. Of these, 143 were considered unaccompanied minors or were "in a homeless living situation without the supervision of a parent or legal guardian."[121]

In June 2014, the Oregon Department of Human Services' Office of Forecasting, Research and Analysis identified three "high-poverty hotspots" in Linn County,[122] noting that "17 percent of the county's population, 30 percent of its poor, and 23 percent of its SNAP clients live in these areas":

- **Central Albany.** Census tract 204 covers most of central Albany. It is bounded on the north by the Willamette River, on the east by the Waverly Lake outflow, on the south by Pacific Boulevard, and on the west by the Calapooia River, the Albany-Santiam Canal, SW Broadalbin and SW 10th. This tract has a higher percentage of Native American residents (5.8 percent, compared to 1.9 percent for the county) and Hispanic/Latino residents (24.3 percent, compared to 8 percent for the county).[123] Among children under 18, the disability rate is 16.6 percent, compared to 6.0 percent for the county. The disability rate for residents 18 to 64 is also higher than average (19.5 percent, compared to 14.3 percent for the county).[124]
- **Queen and Hill.** Census tracts 208.01 and 208.02 are immediately south of tract 204, and are centered around the intersection of SE Queen Avenue and SE Hill Street. The area is bounded on the north and west by Pacific Boulevard, on the east by Geary Street, and on the south by SE 28th and SW 34th streets.

The poverty rate is 43.6 percent in tract 208.01 and 34.7 percent in tract 208.02. DHS notes that "combined, the poverty rate is the sixth-highest among all Oregon hotspots." This area has the state's third-highest percentage of single-mother households and the 20th-highest child welfare participation rate. It also has a higher percentage of Hispanic/Latino residents (20.8 percent in tract 208.01 and 22.3 percent in tract 208.02, compared to 8.0 percent for Lincoln County). Tract 208.02 has a higher percentage of Native American residents (4.7 percent, compared to 1.9 percent for the county),[125] while tract 208.01 has a higher percentage of people with disabilities (24.9 percent, compared to 16.5 percent for the county, with residents in the 18 to 64 age group rising to 29 percent).[126]

- **South Albany.** Census tract 207 lies directly south of tract 208.02. It is bounded on the west by Highway 99E, on the south by Ellingson Road, on the east by Geary and Columbus streets, and on the north by SE 28th and SW 34th streets. The poverty rate for this tract is 25 percent. The disability rate for all age groups is higher than that of the county, with the largest difference seen among children under 18 (12.0 percent, compared to 6.0 percent for Linn County). Overall, the disability rate for this tract is 21.8 percent, compared to 16.5 percent for the county.[127] Census tract 207 also has a higher than average percentage of residents identifying either as Asian (2.3 percent, compared to 1.0 percent for the county), or as Native Hawaiian and Other Pacific Islander (3.2 percent, compared to 0.3 percent for the county).[128]

Transportation

Public transportation is available primarily within urban areas. Cost and limited schedules may pose challenges to those with limited resources and time.

- **Albany Call-a-Ride** and **Lebanon Dial-a-Bus** provide inexpensive, curb-to-curb, ADA-compliant transportation for senior (60+) and disabled citizens within their respective city limits. Available Monday through Saturday, 7 a.m. to 6 p.m.
- **Albany Transit** provides inexpensive bus service within city limits (including North Albany), Monday through Saturday from 6:30 a.m. to 6:30 p.m. Buses include wheelchair lifts.
- **Cascades West Ride Line** coordinates transportation for eligible OHP/Medicaid clients traveling to and from covered medical services. Available Monday through Friday from 8 a.m. to 5 p.m. Due to high demand, advance reservations are recommended.
- **Linn-Benton Loop** provides service between Albany and Corvallis, Monday through Saturday. Vehicles accommodate wheelchairs, walkers, and passengers traveling with a service animal.
- **Linn Shuttle** is a transportation service based at the Sweet Home Senior & Community Center. Shuttles run Monday through Friday from roughly 6:30 a.m. to 5 p.m., connecting Sweet Home, Lebanon and Albany. Unscheduled stops require 24-hour advance approval. A Dial-A-Bus service is also available from 7 a.m. to 4 p.m. Monday through Friday, with preference given to the elderly and disabled.

Oral Health in Linn County

The 2012 *Oregon Smile Survey* found that cavity rates among 6- to 9-year-old children were generally at or above 51 percent.[129] Due to a low response rate, data from the 2013 *Oregon Healthy Teens* survey are not available for Linn County.[130]

Emergency room statistics for Linn County hospitals show an urgent need for timely, lower-cost oral health interventions. For example, Samaritan Health Services reports that in the 2014 calendar year, 325 people went to the emergency room at Albany General Hospital for nontraumatic dental pain, and 214 people went to the emergency room at Lebanon Community Hospital, at a total cost of $185,955 (approximately $345 per visit).[131]

Insurance coverage

As of 2013, 22 percent of adults and 8 percent of children in Linn County lacked dental coverage,[132] and 13.4 percent of residents (15,799 people) lacked health insurance of any kind. The majority of uninsured residents fall into the 18 to 64 age group. Also, 20.1 percent of American Indian and Alaska Native residents, and 24.7 percent of Hispanic/Latino residents, were uninsured, compared to 13.5 percent of the white population. About 38 percent of the unemployed were uninsured, compared to 15 percent of those currently employed.[133]

As of March 2014, 19.2 percent of residents were eligible for Medicare. As of November 2014, 28.6 percent were eligible for OHP/Medicaid.[134] The Oregon Department of Human Services and the Oregon Health Authority forecast a significant expansion in Medicaid eligibility through the Affordable Care Act (ACA). An estimated 7,076 new clients in Linn County will be eligible for Medicaid by 2016.[135]

Community water fluoridation

Albany, Lebanon and Sweet Home have fluoridated public water systems. Sweet Home's water has been fluoridated since 1964, Albany's has been fluoridated since 1969, and Lebanon began fluoridating in 2001. Together, these systems reach approximately 82 percent of the county's population.[136] All three systems have faced organized challenges from anti-fluoridation activists in recent years, and such challenges are likely to continue.

School-based oral health programs

As of 2015, there are no school-based health centers in Linn County. The following Linn County schools currently have sealant programs:

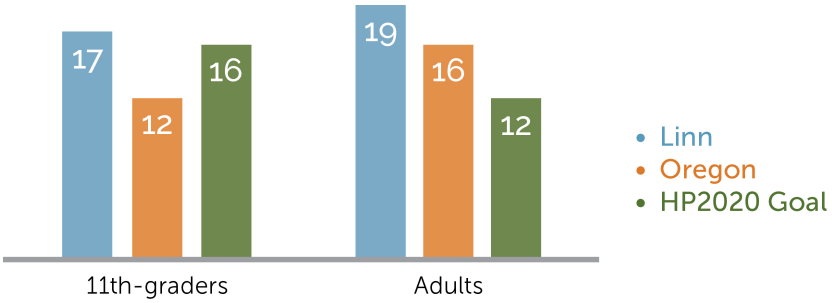
- Cascade Elementary School; Green Acres School; Hamilton Creek School; Lacomb School; and Pioneer School (Lebanon School District)
- Periwinkle Elementary School; Riverview High School; South Shore Elementary School; and Sunrise School (Albany School District)
- Foster Elementary School; Holley Elementary School; Oak Heights Elementary School (Sweet Home School District)

Starting in February 2015, a grant from The Oregon Community Foundation will help Community Health Centers of Benton and Linn Counties to expand school-based prevention services in the Lebanon School District. It will also expand these services to seventh-graders in eligible schools in east Linn County.

Tobacco use

Tobacco use continues to be a serious public health concern in Linn County. The Tobacco Prevention and Education Program reports that as of 2013, tobacco use in Linn County is well above the state average. For 11th-graders and adults, it's also above Healthy People 2020 targets, as the chart below shows.

Cigarette smoking in Linn County



Furthermore, approximately 18 percent of pregnant women smoke during pregnancy, compared to only 11 percent statewide.[137]

Diabetes

The age-adjusted prevalence of diabetes for 2008–2011 was 7.3 percent for Linn County residents, which is close to the state average of 7.2 percent.[138] However, the prevalence of risk factors for diabetes—such as overweight/obesity, poor nutrition, and tobacco use—is higher in Linn County than in Oregon as a whole.[139]

Oral health workforce, programs and resources

As of 2012, Linn County had 51 practicing dentists and 51 practicing dental hygienists,[140] resulting in a population-to-provider ratio of 1,631:1 for each provider type. In the same year, the state ratio was 1,446:1 for dentists and 1:1,520 for dental hygienists.[141]

Linn County is a federally designated dental health professional shortage area (HPSA)[142] for low-income residents, migrant farmworkers and the homeless. Low-income residents and migrant farmworkers in Sweet Home Census tracts 304.01 and 304.02 are federally designated as a medically underserved population (MUP), as are low-income residents of Albany Census tracts 202.00, 204.00, 205.00, 207.00, 208.01 and 208.02.[143] The Oregon Office of Rural Health identifies Brownsville, Harrisburg, Lebanon, Scio and Sweet Home as areas with rural unmet health needs. The 2014 report *Areas of Unmet Health Care Need in Rural Oregon* notes that Harrisburg is one of only nine Oregon service areas with no primary care providers.[144]

Apart from private dentists, hospital emergency departments, and urgent care facilities, the following oral health resources are available or under development (see Appendix C for a complete listing):

- **Advantage Dental Services, LLC.** The Advantage Dental Clinics, LLC locations in Albany and Lebanon offer all dental and preventive services, as well as emergent care. Reduced fees and payment plans are available for qualified patients.

- **Affordable Dental Care.** This Capitol Dental Care office in Albany provides full dental care to adults and children, including OHP/Medicaid and uninsured. CareCredit is available for qualified patients.
- **Albany InReach Services** provides exams, x-rays, cleaning and simple extractions once per week to uninsured, low-income adults who live or work in Albany, Jefferson, Millersburg or Tangent. No controlled substances are prescribed. Clients are asked to contribute $10 for dental extraction and $20 for dental cleaning, but no one is refused services due to inability to pay. Clients must pass a background check for crimes against children prior to any scheduled appointments at the Boys & Girls Club of Albany Dental Clinic.
- **Boys & Girls Club of Albany Children's Dental Clinic** provides dental services to qualified uninsured and OHP (through ODS and Capitol Dental) children ages 5 to 18, at no cost to their families. If necessary, transportation is provided to and from schools in the Albany area. In 2014, the clinic served 387 children with 350 volunteer hours and $114,000 in donated treatment.
- **Community Outreach, Inc. (COI) — East Linn Community Clinic** partners with the Linn-Benton Community College Dental Assisting Program to serve low-income and uninsured adults 18 and older. Urgent care services (i.e., exams, x-rays, extractions and fillings) are provided for a $30 fee. COI also partners with MTI when funding is available.
- **HRSA Rural Health Development Grant.** In 2016, Samaritan Health Services will use funds from this grant to place EPDHs in Samaritan clinics in east Linn County.
- **KIDCO Head Start/Early Head Start.** Head Start sites include Lebanon, Crawfordsville, Harrisburg and Albany; Early Head Start sites are in Albany and Sweet Home. At an annual dental night, parents receive oral hygiene supplies and education. A hygienist from Capitol Dental Care regularly visits to conduct screenings, apply fluoride varnish and make referrals.
- **Lebanon Dental Choice.** This Capitol Dental Care office in Lebanon provides full dental care to adults and children, including Medicaid/OHP and uninsured. CareCredit is available for qualified patients.
- **Linn County Oral Health Coalition Adult Dental Emergency Voucher Program.** The River Center screens uninsured, low-income clients age 19 and older for dental pain, infection, income eligibility and dental coverage. They then refer eligible clients to a participating dental practice or dental van, assist the client with paperwork, and issue a dental voucher. Coordinators assist in arranging transportation, translation services and child care when necessary, and also make appointment reminder calls to reduce the number of no-show clients. A $10 contribution is requested. The program is available every Thursday.
- **Medical Teams International (MTI) dental vans.** In 2014, MTI vans served 145 adults and 18 children through 15 clinic locations sponsored by Central Linn Schools, Harrisburg Schools/H.A.R.T Family Resource Center, Albany InReach Services, Lebanon Soup Kitchen, Mill City Christian Church, and River Center. Volunteer staff donated roughly 193 hours; the estimated value of these services was $66,790.[145]
- **SmileKeepers — Albany.** This Capitol Dental Care office provides dental, preventive and emergent care to children ages 8 to 18 and adults, including Medicaid/OHP and uninsured. CareCredit is available for qualified patients. No ZIP code restrictions.

- **SmileKeepers — Lebanon.** This Capitol Dental Care office provides dental, preventive and emergent care to children ages 0 to 11, including Medicaid/OHP and uninsured. CareCredit is available for qualified patients.
- **Sweet Home Family Medicine** offers on-site dental care—including assessments, cleanings, X-rays, fluoride and sealants—for uninsured children and adults residing in east Linn County. Screenings are offered on a walk-in basis Monday through Friday from 8 a.m. to 5 p.m.; other services may be scheduled by calling 888-905-5082. In addition, the Capitol Dental van will be on site every Tuesday to offer dental treatments such as fillings and extractions. These services are the result of a collaboration with Capitol Dental, and are funded in part by a grant from the Health Resources and Services Administration. Samaritan plans to roll out similar dental services at all of its patient-centered medical homes in Benton, Lincoln and Linn counties over the next three years.
- **WIC.** In 2013, WIC clinics in Albany, Lebanon, Sweet Home and Harrisburg served 49 percent of pregnant women in Linn County. The clinics saw 4,364 infants and children under 5, and 1,657 pregnant, breastfeeding and postpartum women.[146]
- **Willamette Dental Group.** The Albany office offers full dental care for adults and children, including uninsured, OHP/Medicaid and HealthyKids-Willamette. Uninsured patients pay at time of service.

Service gaps and barriers to access

Although the aforementioned programs have accomplished a great deal, resources for vulnerable children and adults in Linn County remain limited. There is an ongoing need for accessible, affordable and flexible programs for the county's low-income population, regardless of age, homelessness, limited English ability, racial/ethnic status, or disability.

Some towns in Linn County, such as Harrisburg and Scio, do not have a dental office. Patients in isolated locations may need to travel 40 miles or more to see a dentist or to access Medicaid services; this constitutes a significant barrier to access, especially for low-income residents.[147] Transportation problems are exacerbated in winter, when rural roads may be treacherous or impassable.

Apart from gaps in services, and barriers imposed by cost and accessibility, inadequate awareness of existing options—especially among residents with limited English skills—often prevents residents from getting help that's available to them. The 2013 *Linn County Community Health Assessment*, conducted by Samaritan Lebanon Community Hospital and Linn County Public Health, reports that language barriers in clinics are "the most commonly cited contributing factor to the declining status of the health in the Hispanic and Latino population."[148]

IV. CONCLUSIONS

A wide variety of oral health programs currently offer oral disease prevention, treatment and educational services to residents of Linn, Benton and Lincoln counties. However, the vulnerable populations who are most in need of these services continue to fall through the cracks. Oral disease remains a major regional problem—especially for adults in general and for low-income, uninsured, senior, undocumented, homeless and racial/ethnic minority populations in particular. Despite ongoing efforts to meet the oral health needs of all tri-county residents, nonwhite race/ethnicity, lower education levels and lower socioeconomic status continue to be strong predictors not just of higher than average rates of oral disease, but also of a persistent lack of access to timely, affordable and appropriate care.

KEY FINDINGS: TRENDS, BARRIERS AND GAPS

- **Current services are not reaching all underserved populations.** Preventive, screening and oral health education programs are widely available to pregnant women and to children ages 0 to 18 years. However, other population segments—including the homeless, seniors, undocumented residents, and people with disabilities or special needs—are more likely to lack equitable access to preventive, educational and treatment resources. Studies consistently show that these populations have different oral health needs and risk factors than the general population and face special obstacles in accessing care. Accordingly, they are more likely to suffer serious oral health problems and less likely to receive necessary treatment.
- **The tri-county population is aging.** In all three counties, the population of residents 65 and older is growing. Between 2000 and 2040, the highest growth will be seen among adults 75 years and older.[149] Statewide, the number of people age 65 and older is expected to increase 48 percent from 2010 to 2020,[150] resulting in an even greater need for accessible dental resources, especially for low-income and mobility-challenged patients. This traditionally underserved population has special oral health risks, which include medication side effects as well as comorbid conditions associated with osteoporosis, diabetes and other chronic diseases. The needs of seniors in assisted-living homes and related facilities are of particular concern.
- **The diversity of the tri-county population is increasing.** As the tri-county region continues to diversify, it must support and strengthen the cultural competence of its dental workforce to address language differences and other cultural barriers to care. Simply increasing options for care is not enough; unless providers and policymakers address the underlying economic and cultural factors that affect dental care utilization and outcomes within specific communities, disparities and inequities will persist. In particular, there is a clear need for skilled medical translators in dental practices and related settings. Although Hispanic/Latino is the largest minority group in the tri-county region, many of the residents who report that they speak English less than "very well" identify as Asians and Other Pacific Islanders. Developing and disseminating linguistically and culturally appropriate oral health education, messaging and services will be crucial to achieving optimal oral health for these residents.
- **Important data on the incidence, medical implications, social effects and economic costs of oral disease in the region are inadequate or unavailable.** The tri-county region needs to improve the collection and sharing of oral health data, both to improve access to care and to avoid local and regional duplication of effort.

There is an urgent need for better data on public and private oral health promotion, treatment and utilization, and for the development of common methodologies for collecting, validating, measuring, sharing and reporting these data.

- **Poor oral health is intimately linked with a wide range of other public health problems.** The risk factors for oral disease, and the social determinants of those risk factors, are deeply interconnected with those of other chronic diseases such as diabetes. Reducing the burden of oral diseases requires looking closely at all the factors that are associated with poor oral health, including tobacco use, HPV infection, poor dietary choices, the lack of healthy foods in specific communities, the inequitable allocation of public health resources and infrastructure, and related social, cultural and political issues.
- **Oral health must be fully integrated with general health.** Dental and medical providers have traditionally worked in relative isolation from one another. Too often, physicians and their support staff receive minimal oral health training. Changing this paradigm requires integrating oral health into the training for all certified primary care workers.
- **Transportation options are limited for vulnerable populations in the tri-county region.** Because most of the region's oral health providers operate in urban areas, rural residents may have to travel a significant distance for care. Geographical barriers, limited public transportation options, and time constraints pose a substantial obstacle to receiving timely care. Also, some people in need may not be able to take time away from work or child care to visit the dentist, while others may have health or disability issues that make driving impossible. All of these burdens limit access to oral health care while also increasing its cost.
- **Underserved and disadvantaged populations often lack awareness of oral health resources in their area.** Although the tri-county region has many oral health resources, and new ones are under development, residents in need of care often lack information on availability, cost and eligibility. Age-appropriate information must be disseminated to specific populations, and it should be targeted culturally and linguistically so that recipients will see it, understand it and act on it. It should also be technologically appropriate for the intended audience; for example, populations who lack a computer or Internet access may not be helped by an informational website.
- **The variety of oral health services, and the lack of coordination between them, can be confusing for people seeking help.** The current patchwork approach to providing dental services for low-income and uninsured patients is complex, making it harder for patients to understand how, where and when to get help. Differing eligibility rules, various limitations on treatment, and shifting hours and schedules require patients with limited time—and in some cases, lower educational status or limited English skills—to research, understand and assess a confusing array of options. Given the tendency among high-risk populations to ignore or put off dental treatment, this can act as a further disincentive to seeking care.
- **The use of hospital emergency departments for nontraumatic dental pain is common, costly and often fails to address underlying oral health issues.** According to a recent study, "ED visits by uninsured Oregonians were eight times more likely to be for dental problems than were visits by commercially insured patients. Compared to commercially insured Oregonians, Oregon Health Plan (OHP) enrollees' visits were four times more likely to be for dental problems." Further, "one quarter of Oregonians who sought care in an ED for a dental problem returned to the ED for further dental care."[151]

RECOMMENDATIONS

The Strategic Plan for Oral Health in Oregon: 2014-2020, which is the result of collaborative effort between the Oregon Health Authority, the Oregon Oral Health Coalition, and the Oral Health Funders Collaborative, identifies three priority areas[152] for improving oral health:

- **Infrastructure** comprises all of the interconnected elements of the system that provides oral health services to Oregonians, including physical and organizational structures; partnerships; and resources.
- **Prevention and systems of care** refers to community-based, community-wide oral health strategies, as opposed to clinical preventive and treatment activities that typically occur in a dental chair.
- **Workforce capacity** includes primary care providers as well as oral health professionals, reflecting the need for full integration between oral health and general health.

In order to align with this plan, which reflects the consensus of nearly 200 oral health advocates from across our state, the following recommendations are grouped by priority area.

Infrastructure

1. **Strengthen oral health coalitions.** Strengthening local infrastructure entails fostering and empowering local leaders while also cultivating oral health coalitions and engaging other coalitions as partners. Local coalitions and their allies should work closely with state and county agencies while also garnering community support and encouraging the development and implementation of local oral health plans.
2. **Support community capacity building.** Mobilize low-income, disabled, minority, rural and other disadvantaged people—along with their advocates and care providers—to assure meaningful input into CCOs, DCOs, public health policy, and regional health transformation efforts.
3. **Improve data collection, analysis and dissemination.** All health information systems should include detailed data on race, ethnicity, language and other characteristics necessary to monitor oral health equity, as required by state law. Standardizing and collecting these data will make it easier to identify, monitor and address disparities in access and outcomes. This strategy will require close cooperation between public and private stakeholders, and should include the following activities:
    - Gather county-level surveillance data to identify demographic and geographic variation, and target interventions appropriately.
    - Create policies for the timely sharing of oral health data between county and state surveillance programs, as well as important research findings and best-practices measures.
    - Monitor and evaluate county-level costs of oral disease, and the estimated benefits of preventive strategies, to quantify achievable systemic savings.
4. **Expand transportation options.** Expand the use of vouchers and volunteer transportation services for low-income, uninsured patients, including children. Where possible, promote the participation of public health experts in transportation planning processes to ensure that the needs of vulnerable and medically underserved populations are taken into account.

Prevention and Systems of Care

1. **Maintain existing water fluoridation, and educate the public and lawmakers on the safety and effectiveness of optimal water fluoridation.** Water fluoridation is a powerful tool for overcoming oral health inequities, because everyone benefits from it regardless of age, income level, race or ethnicity. Crucial goals include maintaining current fluoridation systems; bringing Newport's fluoridation system back online; promoting the benefits of fluoridation in unfluoridated communities; countering anti-fluoride myths and pressure groups with evidence-based science; and increasing access to fluoride varnishes and related treatments among underserved populations (including those who are not served by a public water supply).
2. **Broaden awareness of local oral health resources and options, especially for low-income residents, seniors, communities of color, and people with special needs.** It's not enough to make oral health information available; it must be accessible, trustworthy, motivational and actionable for all populations in the tri-county region, regardless of language, culture, literacy levels or Internet access. Consider implementing the following activities:
    - Expand awareness and use of the 211info call center.
    - Establish community health workers in neighborhoods and schools to improve health knowledge and behaviors; strengthen referral pathways between relevant programs; and help stressed and underserved patients navigate complex health and social service systems.
    - Coordinate local and regional services through a central hub that will connect diverse populations with medically appropriate and culturally competent care and—where possible—referral to a dental home. Engage and train culturally competent volunteer or professional staff to act as navigators for the full range of available services.
3. **Promote access to oral health services and dental home referrals through every point of contact with high-risk populations.**
    - Promote basic oral health literacy and preventive services at all local facilities serving children and their parents, including schools, WIC, Head Start/Early Head Start, child care centers, medical offices, and social service agencies.
    - Expand oral health education, in-service training and mobile outreach at long-term care and nursing home facilities, senior centers, and other focal points for senior care.
    - Expand mobile outreach to homebound seniors.
4. **Expand First Tooth training to all family and pediatric health care providers, and consider expanding it to laypersons such as licensed child care workers.** Primary care settings are a logical access point for preventive oral health services, especially for infants and children ages 0 to 5, who visit primary care providers earlier and more frequently than they visit dental care providers. In 2014, the U.S. Preventive Services Task Force and the American Academy of Pediatrics recommended that primary care teams support the dental care team by providing fluoride varnish to all children ages 0 to 5, and by prescribing a fluoride supplement to all children whose water supply is not optimally fluoridated.[153]

5. **Increase the reach, range and effectiveness of school-based preventive programs.** School-based prevention programs that include fluoride varnish and dental sealants are very effective in reducing childhood tooth decay.
    - Include a dental screening along with mandatory vision and hearing tests at all schools.
    - Strengthen the dental referral component of school-based programs.
    - Encourage healthier nutrition at child-oriented facilities. Because sugary drinks and snacks are a leading cause of childhood tooth decay, schools and other child-oriented facilities should restrict the marketing of sugary drinks and snacks on their grounds, educate students and parents on the risks of consuming these products, and improve access to healthier options.
6. **Investigate options for reducing the use of hospital emergency departments and urgent care clinics for nontraumatic oral pain.**
    - Site after-hours dental safety-net clinics and related resources in communities with high dental ED use. According to *Emergency Department Visits for Non-Traumatic Dental Problems in Oregon State*, "geographic analyses show that most users of EDs for dental conditions live near hospitals." Therefore, increasing alternative oral health services "could reduce the unmet dental care needs in these high-use communities."[154]
    - Implement a voucher program to redirect ED use.
    - Develop a hub of local dental offices that will accept emergency-only patients.
    - Increase school-based oral health access points for high school students in order to prevent dental problems that commonly affect 20- to 39-year-olds, who are the primary users of EDs for dental pain.
    - Recruit and train an on-call dentist staff to provide case management for emergency room staff.
7. **Improve oral health education and risk awareness.** Oral health education should become an integral part of health education across the lifespan, from prenatal and early childhood programs to chronic disease education for adults and seniors. Focusing on these risks has the potential to improve a wide range of costly chronic health problems in addition to oral disease.
    - Include oral health information in relevant health promotion efforts, such as healthy eating, tobacco cessation and HPV awareness campaigns.
    - Include targeted oral health information in prevention and management materials for chronic disease, including cardiovascular diseases and diabetes.
    - Challenge common misconceptions about oral disease so that oral health becomes a recognized component of general health. Far too many patients, policymakers, insurers and providers consider oral disease symptoms to be less important than general health symptoms. For example, an oral abscess may be seen as somehow less serious than an abscess on an arm or leg. Overcoming this irrational belief requires educating the public, policymakers and primary care providers on the clear connections between oral health and general health, so that everyone understands the need for an integrated, coordinated and comprehensive health care system.

Workforce Capacity

1. **Expand dental vans and other mobile dental services.** After private dentists, dental vans are the most commonly utilized service in the tri-county region. Increasing the number of dental van visits—and if possible, the number of dental vans available—would provide more consistent access to care. Ideally, mobile dentistry should also be expanded to reach underserved populations in assisted-living facilities, long-term care facilities and shelters. Promotion of dental van services, eligibility and schedules should be culturally and linguistically targeted to specific at-risk populations.
2. **Mitigate the dental workforce shortage in rural areas, high-poverty hotspots and dental HPSAs.**
   - Make all dental students and oral health professionals aware of financial incentives—such as tax breaks and tuition forgiveness programs—for providers who work in tri-county HPSAs and for retired professionals who work as insured dental volunteers (e.g., in mobile dental clinics or unused group-practice offices).
   - Incentivize EPDHs to work in underserved areas and communities.
   - Work with large group practices to schedule days when retired professionals can work in unused offices.
   - Support teledentistry in underserved areas (e.g., by having dental hygienists in the field receive supervision from a dentist electronically).
3. **Increase the cultural competence of the tri-county region's dental and public health workforce.**
   - Recruit and train a culturally and linguistically diverse dental workforce with expertise in reaching and serving disadvantaged populations.
   - Educate all medical and dental providers on cultural risk factors for oral disease.
   - Recruit and train community health workers, traditional health workers, health navigators, and allied professionals to integrate oral health promotion—including First Tooth—into their work.
4. **Support interdisciplinary collaboration between primary care providers, oral health providers, pharmacists and other professionals.**
   - Develop opportunities and activities that foster interdisciplinary collaboration between the primary care team and oral health care providers.
   - Engage pharmacists and other health professionals in guiding community members toward access points for acute oral care and in providing information on the oral health component of chronic disease prevention and management.

V. APPENDICES

APPENDIX A. ORAL HEALTH RESOURCES IN BENTON COUNTY

Resource	Location	Population	Cost / Terms	Services Available
Advantage Dental	Corvallis	All	OHP, self-pay, financing	Full dental services
Albany InReach Services	North Albany	Uninsured, low-income adults	$10-$20 requested; background check	Exams, x-rays, cleanings, simple extractions; no controlled substances prescribed
Assistance League of Corvallis	Benton County	Children K-12	No cost	Education, oral hygiene supplies
BCOHC Adult Dental Emergency Voucher Program	Corvallis, Monroe	Uninsured, low-income adults 19+	$10 asked	Voucher for dental services; help with transportation, translation, and child care
Community Outreach Inc. (COI)	Corvallis	Low-income, uninsured adults 18+	$30 fee	Exams, x-rays, fillings, extractions
Donated Dental Services (DDS)	Benton County	All ages with qualifying disability	No cost	Full dental services; no emergency care
Johnson Dental Clinic at the Boys & Girls Club	Corvallis	Children 3-18 and pregnant women	$20 asked	Exams, cleanings, fillings, extractions, sealants, fluoride varnish, simple extractions, crowns
Exceptional Needs Dental Services	Benton County	All ages with qualifying disability	OHP, self-pay	Full dental services; DCO referral required for OHP patients
Federally Qualified Health Centers	Alsea, Monroe, Corvallis	Adults	No cost	Adult preventive services are available at Alsea Rural Clinic, Monroe Health Center and Benton Health Center
First Tooth Project	Benton County	Children 0-3	No cost	Screening and education
KIDCO Head Start / Early Head Start	Corvallis, Philomath	Children 0-4 and Pregnant women	No cost	Screenings, education, fluoride varnish, referrals to dental home
Love INC of Benton County	Various	Low-income, uninsured adults	No cost	Emergency and urgent care
MTI Dental Vans	Mobile	All ages; low-income	No cost / low cost	Exams, x-rays, fillings, extractions, palliative care
Samaritan Pediatrics Hygienist Co-Location	Benton County	Children K-12	No cost	Risk assessment, sealants, education, fluoride varnish, referral to a dental home
School Dental Sealant Program	Alsea, Philomath, Corvallis, Monroe	Students in eligible schools	No cost	Screening, sealants, education
SmileKeepers (Capitol Dental)	Corvallis	All	OHP, self-pay, financing	Full dental services
The Tooth Taxi	Mobile	Children K-12; uninsured	No cost	Screening, cleaning, sealants, x-rays, fillings, education, oral hygiene supplies
WIC	Corvallis, Monroe	Children 0-5 and pregnant women	No cost	Screening, education, fluoride varnish, referral to a dental home
Willamette Dental Group	Corvallis	All	OHP, self-pay	Full dental services

APPENDIX B. ORAL HEALTH RESOURCES IN LINCOLN COUNTY

Resource	Location	Population	Cost / Terms	Services Available
Advantage Dental	Newport	All	OHP, self-pay, financing	Full dental services
Babies First Home Visits	Lincoln County	Children 0-3	No cost	Education
Bremer's Denture Center	Newport, Lincoln City	No Medicare or OHP/Medicaid	Reduced rate for adults 65+	Dentures, relining and referral for extractions
Dental-Medical Integration Pilot	Lincoln County	Diabetic OHP patients	No cost	Screening and education
Exceptional Needs Dental Services	Lincoln County	All ages with qualifying disability	OHP, self-pay	Full dental services; DCO referral required for OHP patients
First Tooth Project	Lincoln County	Children 0-3	No cost	Screening and education
Head Start	Lincoln City, Newport, Toledo	Children 0-4 and Pregnant women	No cost	Screening, education, fluoride varnish, dental home referrals
Lincoln Community Health Center (FQHC)	Newport	All	No cost	Preventive and emergency care through Advantage Dental voucher program
MTI Dental Vans	Mobile	All ages; low-income, uninsured	No cost / low cost	Exams, x-rays, fillings, extractions, palliative care
School-Based Health Centers (SBHCs)	Lincoln City, Newport, Toledo, Waldport	Children K-12	No cost for uninsured students	Screenings and education, plus preventive and emergency dental care through the Advantage Dental voucher program
School Dental Sealant Program	Newport, Lincoln City, Siletz, Waldport, Eddyville	Children in eligible schools	No cost	Screening, sealants, education
SmileKeepers (Capitol Dental Group)	Lincoln City	All	OHP, self-pay, financing	Full dental services
The Tooth Taxi	Mobile	Children K-12; uninsured	No cost	Screening, cleaning, sealants, x-rays, fillings, minor oral surgery, education, oral hygiene supplies
WIC	Lincoln City, Newport	Children 0-5 and pregnant women	No cost	Screening and education
Willamette Dental Group	Lincoln City	All	OHP, self-pay	Full dental services

APPENDIX C. ORAL HEALTH RESOURCES IN LINN COUNTY

Resource	Location	Population	Cost / Terms	Services Available
Advantage Dental	Lebanon	All	OHP, self-pay, financing	Full dental services
Affordable Dental Care (Capitol Dental)	Albany	All	OHP, self-pay, financing	Full dental services
Albany InReach Services	Albany, Jefferson, Millersburg, Tangent	Uninsured, low-income adults	$10-$20 requested; background check	Exams, x-rays, cleanings, simple extractions; no controlled substances prescribed
Boys & Girls Club of Albany Children's Dental Clinic	Albany	Qualified uninsured/OHP children 5-18	No cost	Full dental services; transportation to and from area schools
Community Outreach Inc. (COI)	Lebanon	Uninsured, low-income adults 18+	$30 fee	Exams, x-rays, fillings, extractions
Exceptional Needs Dental Services	Linn County	All ages with qualifying disability	OHP, self-pay	Full dental services; DCO referral required for OHP patients
First Tooth Project	Linn County	Children 0-3	No cost	Screening and education
KIDCO Head Start / Early Head Start	Lebanon, Crawfordsville, Harrisburg, Albany, Sweet Home	Children 0-4 and pregnant women	No cost	Screening, oral hygiene supplies, fluoride varnish, education
Lebanon Dental Choice (Capitol Dental)	Lebanon	All	OHP, self-pay, financing	Full dental services
Linn County Oral Health Coalition Adult Dental Emergency Voucher Program	Lebanon (Thursdays at River Center)	Uninsured, low-income adults 19+	$10 requested	Voucher for dental services; help with transportation, translation, and child care
MTI Dental Vans	Mobile	All ages; low-income	No cost / low cost	Exams, x-rays, fillings, extractions, palliative
School Dental Sealant Program	Lebanon, Albany, Sweet Home	Students in eligible schools	No cost	Screening, sealants, education
SmileKeepers (Capitol Dental)	Albany	Children 8-18; adults	OHP, self-pay, financing	Full dental services; no ZIP code restrictions
SmileKeepers (Capitol Dental)	Lebanon	Children 0-11	OHP, self-pay, financing	Full dental services
Sweet Home Family Medicine	Sweet Home (serves east Linn County)	Uninsured children and adults	No cost	On-site assessments, cleanings, X-rays, fluoride and sealants; fillings and extractions through Capitol Dental van
The Tooth Taxi	Mobile	Children K-12; uninsured	No cost	Screening, cleaning, sealants, x-rays, fillings, minor oral surgery, education, oral hygiene supplies
WIC	Albany, Lebanon, Sweet Home, Harrisburg	Children 0-5 and pregnant women	No cost	Screening and education
Willamette Dental Group	Albany	All	OHP, self-pay	Full dental services

APPENDIX D. CLIENT SURVEY RESULTS, BENTON COUNTY

Survey conducted at the *¡Campeones de Salud!* Soccer Tournament, Corvallis, August 12-14, 2011.

For more information, see Jill A. Hill and Cindy Hallet, "Assessment of Dental Care Need in Benton County Adults." *http://www.lwv.corvallis.or.us/Dental%20Needs%20Assessment%209-29-2011.pdf*

	1. Age	2. When was the last time you saw a dentist?			3. Where do you seek dental treatment?		
Benton Co. Analysis per Percentage	Age Average	Under a year	25	40%	I have not sought treatment	23	33%
	25.15	Over a year	19	30%	Dental van	11	16%
		Over five years	14	22%	LBCC Dental Clinic	8	12%
		Never	3	5%	Outside Benton County	6	9%
				0%	Private dentist	15	22%
		Did not answer	2	3%	Emergency room	0	0%
					Other	6	9%
					Did not answer	0	0%
		Answers	63			69	

4. What are the reasons that you tried to get dental services?			5. Have you had, or do you still have tooth pain?			If yes, where did you go to get treatment?		
Regular Check-up	16	19%	Yes	34	54%	I have not sought treatment	13	38%
Tooth pain	25	30%	No	25	40%	Dental van	3	9%
Major treatment	4	5%	Did not answer	4	6%	LBCC Dental Clinic	2	6%
Others	5	6%				Outside Benton County	1	3%
Cleaning	30	36%				Private dentist	10	29%
Cosmetic Treatments	2	2%				Emergency room	0	0%
Did not answer	2	2%				Other	3	9%
						Did not answer	2	6%
Answers	84			63			34	

6. How many times have you used the hospital emergency room for tooth pain in the last year?			7. Why don't you go to a dentist for treatment?		
0	47	71%	Low income	37	44%
1	11	17%	Can't get time off work	2	2%
2	3	5%	Transportation	1	1%
3 or more	3	5%	Not sure which dentist would see me as a new patient	3	4%
Did not answer	2	3%	No Dental insurance	32	38%
			Do not speak my language	1	1%
			Did not answer	9	11%
Answers	66			85	

APPENDIX E. CLIENT SURVEY RESULTS, LINCOLN COUNTY 2012

"Surveys were filled out by 23 patients who were waiting for their appointment on the dental van at various locations and to 18 patients waiting for dental appointments at Advantage Dental in Newport." Source: Holly Terlson and Julia Young-Lorion, "Assessment of Dental Care Needs in Lincoln County" (2012).

General Patient Information

1) What is your gender?

39%	61%
Male	Female

2) What is your age?

4%	14%	21%	21%	29%	11%
18-20	21-30	31-40	41-50	51-60	61+

3) Are you currently employed?

44%	56%
Yes	No

4) In the past year, was there ever a time when you considered yourself homeless?

17%	83%	0%
Yes	No	Other _____

5) When was the last time you saw a dentist?

43%	36%	21%	0%
Under a year	Over a year	Over 5 years	Never

6) Do you have dental insurance or coverage? (If no, please skip next question)

26%	16%	32%	5%	10%	10%
No	Oregon Health Plan Standard	Oregon Health Plan Plus	Private Insurance	Insurance through employment	Other _____

7) If yes, do you know where your insurance is accepted?

14%	43%	43%
No	Yes	I know of some places, but not all

8) What current dental needs and problems do you have? (Check all that apply)

28%	12%	12%	3%	5%	32%	8%
Filling(s)	Extraction(s)	Crown(s)	Dentures	Root Canal	Teeth Cleaning	Other

9) Where do you seek treatment for your dental needs? (Check all that apply)

0%	14%	14%	18%	4%	46%	4%	0%
I do not have dental needs	I have not sought treatment	Private Dentist	Dental Van	Emergency Room	Advantage Dental	Outside Lincoln County	Other

10) How many times in the last year have you used the emergency room for tooth pain?

100%	0%	0%	0%
0	1	2	3+

11) How many times in the last year have you used the Dental Van for tooth pain? (Include today's visit)

81%	19%	0%	0%
0	1	2	3+

12) If you do not go to a dentist for treatment, why is that? (Check all that apply)

34%	44%	3%	0%	6%	0%	13%
No Money	No Insurance	Can't Get Time Off Work	Do Not Speak My Language	Transportation Issues	Don't Like Health Professionals	Other

13) What services would you use if they were provided at an affordable cost? (Check all that apply)

22%	13%	19%	9%	9%	22%	6%
Filling(s)	Extraction(s)	Crown(s)	Dentures	Root Canal	Teeth Cleaning	Other _____

14) Would you be willing to provide a $5-$20 *donation each time you used the dental van or a similar service?

96%	4%
Yes	No

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