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Person-Centered Behavioral & Physical Health Care **Public Health & Prevention** **Regulatory and Population Health** **Health Management Services**

13 February, 2014

Mr. Jan Kaplan
Office of Community Liaison
Oregon Department of Human Services
800 NE Oregon Street, Suite 930
Portland, OR 97232

Dear Mr. Kaplan,
Enclosed is Benton County's 2014-2015 Local Public Health Authority Plan. Attached to this letter please find the following documents:

- Signed Minimum Standards checklist
- Benton County Health Department budget (hyperlink to Benton County on-line information)
- Benton County 2013 Community Health Assessment
- Benton County 2013-2018 Community Health Improvement Plan
- Benton County Health Department organizational chart

I hope you find these materials satisfactory. Please contact me if your office requires further information or details.

Sincerely,

Mitchell Anderson
Director

Charlie Fautin
Deputy Director / Health Administrator

The Health of Benton County

Community Health Assessment

October 2012

Benton County Health Department

530 NW 27th St

Corvallis, OR 97330

Phone: (541) 766-6835

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The Health of Benton County

2012 Community Health Assessment

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Introduction and Overview

Benton County's 2012 Community Health Assessment (CHA), the first of its kind in over 10 years, provides an overview of the current health of Benton County.

The CHA synthesizes nine months of assessment and data collection conducted by Benton County Health Department in collaboration with numerous community leaders and other agency and organizational partners during 2012.

The World Health Organization defines health as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[1] Health is not just about individuals, but includes families, communities, and systems, and is a result of the interaction of complex networks of conditions and factors. Health starts long before illness occurs and is impacted by where and how we live, learn, work and play.

The CHA incorporates this definition of health by describing a wide array of information about the conditions and factors affecting people's health in Benton County as well as indicators of health status.

Assessment Goals and Objectives

Benton County's Community Health Assessment (CHA):

- Describes the health status of Benton County.
- Defines areas for health improvement, with a focus on identifying health inequities; and
- Identifies organizational and community assets that can be mobilized to improve health for the entire county.

In turn, CHA data informs:

- Community and organizational decision making.
- Prioritization of health problems.
- Development, implementation, and evaluation of a Community Health Improvement Plan.

This process has included:

- Engaging communities and partners within the county including those facing significant barriers to better health in the process of issue identification, data collection, interpretation of data, and dissemination of results.
- Synthesizing existing smaller assessments; identifying areas in which more information is needed; and conducting additional targeted assessments to address gaps.
- Identifying health needs and assets that will inform processes underway, including the Public Health Improvement Plan, Health Services' strategic planning, United Way needs assessment, public health accreditation application, and health care transformation initiatives, among others.

Report Organization

The CHA is presented in five chapters:

Chapter 1: Introduction and Overview of Methodology

Chapter 2: Benton County: People and Place, who we are and our natural environment; the people of the county; and the air, water and land that surrounds us

Chapter 3: Opportunities for Health in Benton County, the social, economic, and community factors that have influence health

Chapter 4: Healthy Living in Benton County, the ways in which individuals and communities act to protect and improve health

Chapter 5: Chronic Disease and health outcomes related to disease and injury

Collaboration and Partnerships

Benton County has a strong history of promoting collaborative approaches to gathering and interpreting health data. Benton County's Community Health Assessment (CHA) process has engaged a diverse array of community leaders and other agency and organizational partners, community coalitions, advisory groups, and grassroots consumer initiatives, with a strong focus on engaging community members facing significant barriers to better health.

Limitations

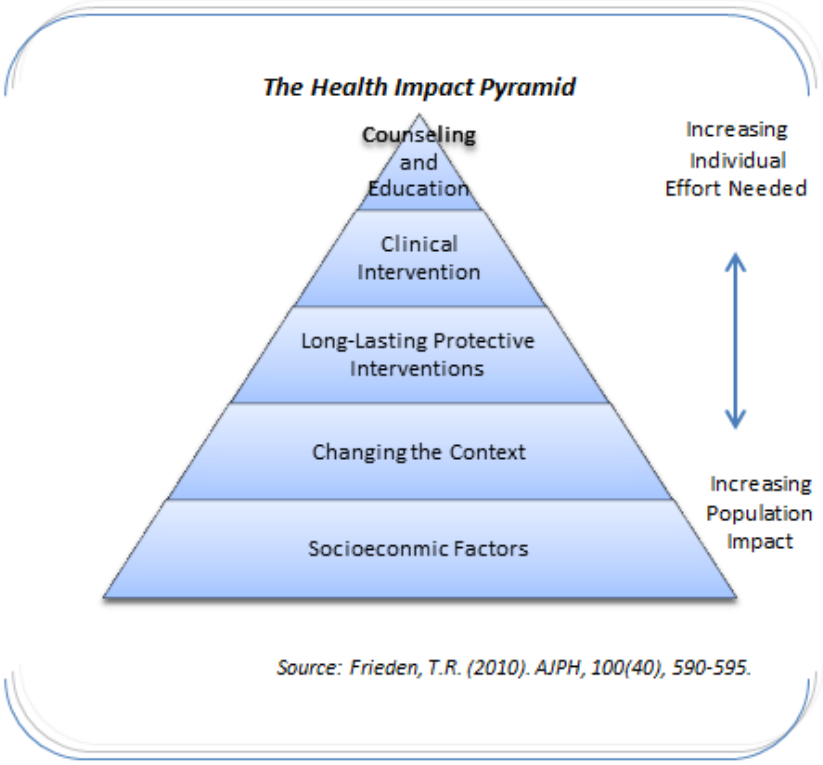
While the CHA identifies many critical issues pertaining to community health, it is not inclusive of all health-related issues. As a result, it should not be considered a formal study or research document investigating the causes of each issue raised or providing a detailed analysis of the data. In many cases, data are not available at the county level, or data are not stratified by race/ethnicity, income, education level, zip code, etc.

When race/ethnicity data are gathered, analysis may be further limited due to a lack of data stratification by more specific racial categories, such as U.S-born vs. Foreign-born for the Latino population, or the many ethnicities and cultures represented in the category of Asian-Pacific Islander. In other cases, especially when it comes to understanding the interactions of the many factors that contribute to health, data are lacking in part because the theoretical models are still being developed.

The need for more detailed local data is one outcome of this assessment. As local partners continue to gather information to inform their practices and services, it is important to collect demographic data (i.e. zip codes, level of education, etc.) so that more accurate information can be used to inform future community health improvement planning and other public health initiatives.

A Framework for Assessing Health

Health is a product of many conditions and factors. Nationally and internationally, a growing body of research reveals how conditions and social and economic opportunity determine health outcomes.[2]



The Health Impact Pyramid.[3]serves as a framework for Benton County's CHA process. This model provides guidance for a comprehensive public health approach to community assessment and program development across multiple domains of behavioral influence. In this 5-tier pyramid, efforts to address socioeconomic determinants are at the base, followed by public health interventions that change the context for health (e.g., smoke-free laws, safe parks, bike lanes), protective interventions with long-term benefits (e.g., immuization, smoking cessation), direct clinical care, and at the top, counseling and education. In general, public action and interventions represented by the base of the pyramid require less individual effort and have the greatest population impact.[4] A similar model, called the ecological or social ecology model, is used in a variety of practice fields in order to better understand the larger forces that impact individuals.[5]

The movement from an understanding of health focusing on the individual to one focused on communities and systems is also evident in the development of *Healthy People,* the national agenda for health developed by the U.S. Department of Health and Human Services.

This framework aligns with the factors that the U.S. Department of Health and Human Services cite as influencing the development of healthy communities:

"A healthy community is one that continuously creates and improves both its physical and social environments, helping people to support one another in aspects of daily life and to develop to their fullest potential. Healthy places are those designed and built to improve the quality of life for all people who live, work, worship, and play within their borders- where every person is free to make choices amid a variety of healthy, available, accessible, and affordable options."

The factors described above inform the selection of indicators Benton County used to describe the health of Benton County residents, the neighborhoods in which they live and the factors that most impact their well-being. Finally, Benton County consulted the following state and national resources for guidance in the development of this community health assessment, including: Oregon Health Authority technical reports (e.g. health equity[6], asthma[7], chronic disease[8]); the Centers for Disease Control and Prevention's data set directory of social determinants of health at the local level[9]; King County's Equity and Social Justice Annual Report[10]; and the Statewide Health Assessment of Minnesota[11].

Healthy People 2020 Overarching Goals

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death
- Achieve health equity, eliminate disparities, and improve the health of all groups
- Create social and physical environments that promote good health for all
- Promote quality of life, healthy development, and healthy behaviors across all life stages

Source: U.S. Department of Health and Human Services, Healthy People 2020 Framework

Methodology

One of only four counties in Oregon with a public health epidemiologist and only one of three that maintains a comprehensive Population Health Unit, Benton County maintains a robust, publicly available county-wide health status report and regularly conducts targeted assessments that explore unmet needs of diverse priority populations.

Benton County's 2012 Community Health Assessment incorporates data from four major data sources, which combined provides a comprehenesive picture of the health of Benton County.

1. **Benton County Health Status Report**

Updated annually, this publically accessible, web-based report synthesizes currently available health data specific to Benton County as well as other measures of community health. See http://www.co.benton.or.us/health/health_status/index.php to access the most current report. It is important to note that the Health Status Report (HSR) and the 2012 Community Health Assessment (CHA) are two, distinct resources. The CHA is not exhaustive and more detail is available by looking at source data available through the HSR.

2. **Targeted Needs Assessments**

Benton's County's 2012 Community Health Assessment summaries over 20 key qualitative and quantitative county-wide and targeted assessments conducted by Benton County Health Department in collaboration with other key community partners over the last five years. These targeted assessments help to better describe the health issues that affect uninsured/low-income, minority, and other priority populations that often are not captured through other standard data collection efforts.

3. **Community Opinion Survey**

To ensure input by the broader public, Benton County conducted an online, eletronic survey to gather input on the highest priority health needs in the county. The survey was made available in both English and Spanish and disseminated widely. Hard copy, paper versions were also distributed for those without access to the internet access or who preferred a written format. Some participants also responded to the survey via electronic voting clickers at community meetings, group presentations, and town halls (see below). In total, 453 surveys were completed.

4. **Community Meetings, Group Presentations, and Town Halls**

Over the course of the assessment process, Benton County shared an informational PowerPoint presentation with over 30 community groups and citizen coalitions. These presentations covered information about county health status, priority populations, and existing assets and challenges. Benton County solicted additional feedback through electronic voting clicker surveys and group discussions, further engaging participants in the CHA process, and setting the stage for future work on Community Health Improvement Planning (CHIP).

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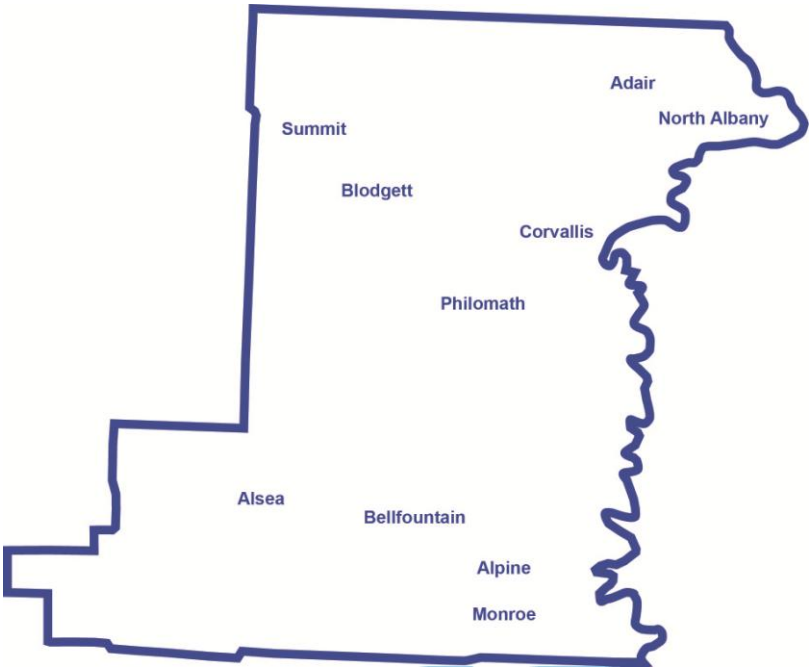
Chapter 2
Benton County: People and Place

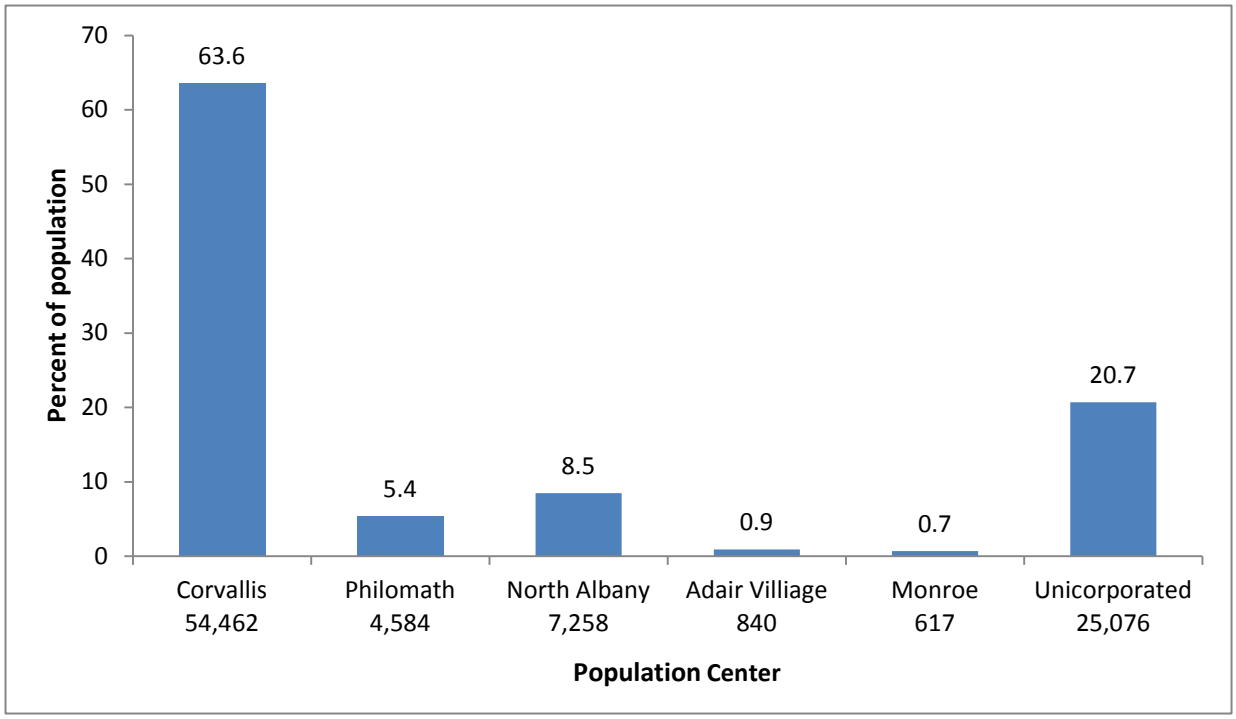
Benton County's rich agricultural and forest land, mountains, valleys, rivers and wetlands are highly prized economically, culturally, recreationally, environmentally and aesthetically. The residents of Benton County value the rural amenities that characterize much of the county. The county's clean air, water and healthy natural systems are important assets, sustaining a high quality of life for current residents, visitors and future generations.

Population Overview



Benton County is home to 85,579 residents. Population centers are Corvallis (pop. 54,462), North Albany (pop. 7,258), Philomath (pop. 4,584), and the small incorporated townships of Monroe (pop. 617) and Adair Village (pop. 840). Another 25,076 people live in unincorporated communities, farms and rural residences throughout the county. Nearly two-thirds (63.6 percent) of Benton County residents live in Corvallis and one-fifth (20.7 percent) live in unincorporated areas.

Benton County population by population center, 2010



Source: Benton County Health Status Report, 2012

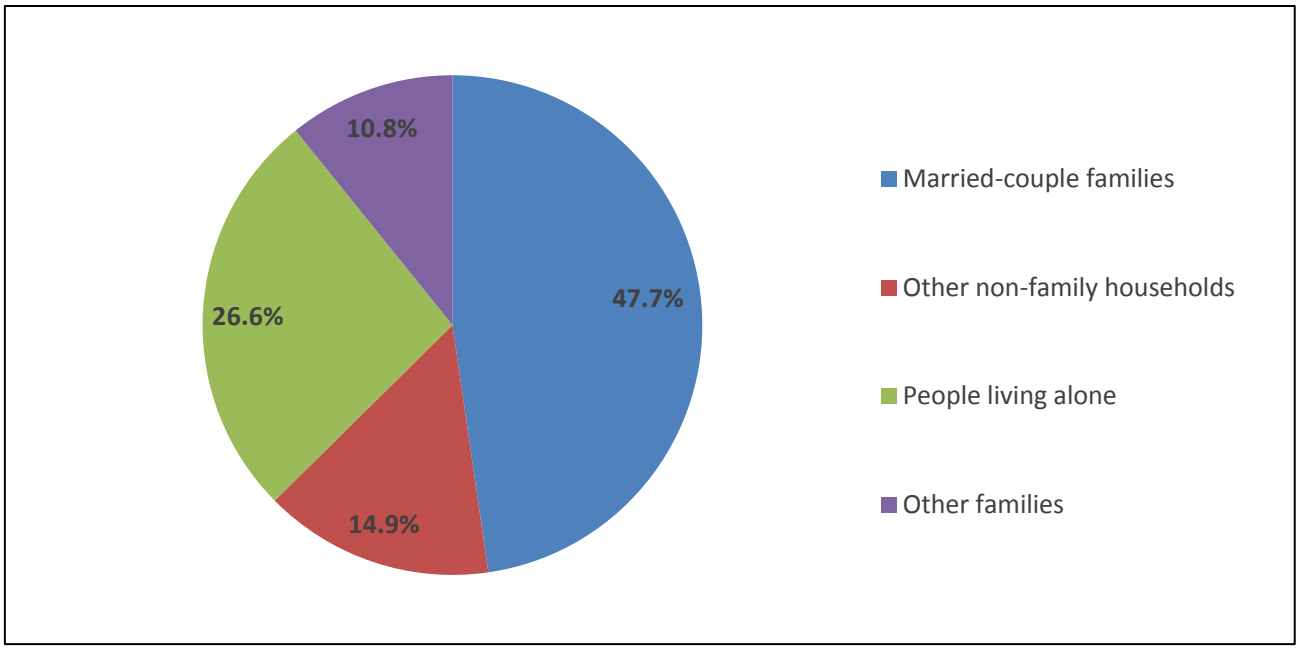
There are 33,000 households in Benton County, Oregon. The average household size is 2.5 people.

Families make up 59 percent of the households. This figure includes both married-couple families (48 percent) and other families (11 percent). Among other families, 6 percent are female-headed including children under 18 years of age, with no husband present.

Nonfamily households make up 42 percent of all homes in Benton County. Most nonfamily households are composed of people living alone, but some are people living in households in which no one is related to the head of household.

In Benton County, 26 percent of all households have one or more people under the age of 18; 23 percent of all households have one or more people 65 years and over.

Types of households in Benton County, 2011



Source: American Community Survey, 2011

Among persons 15 years of age and older, 44 percent of males and 46 percent of females are currently married.

Marriage status in Benton County, 2011

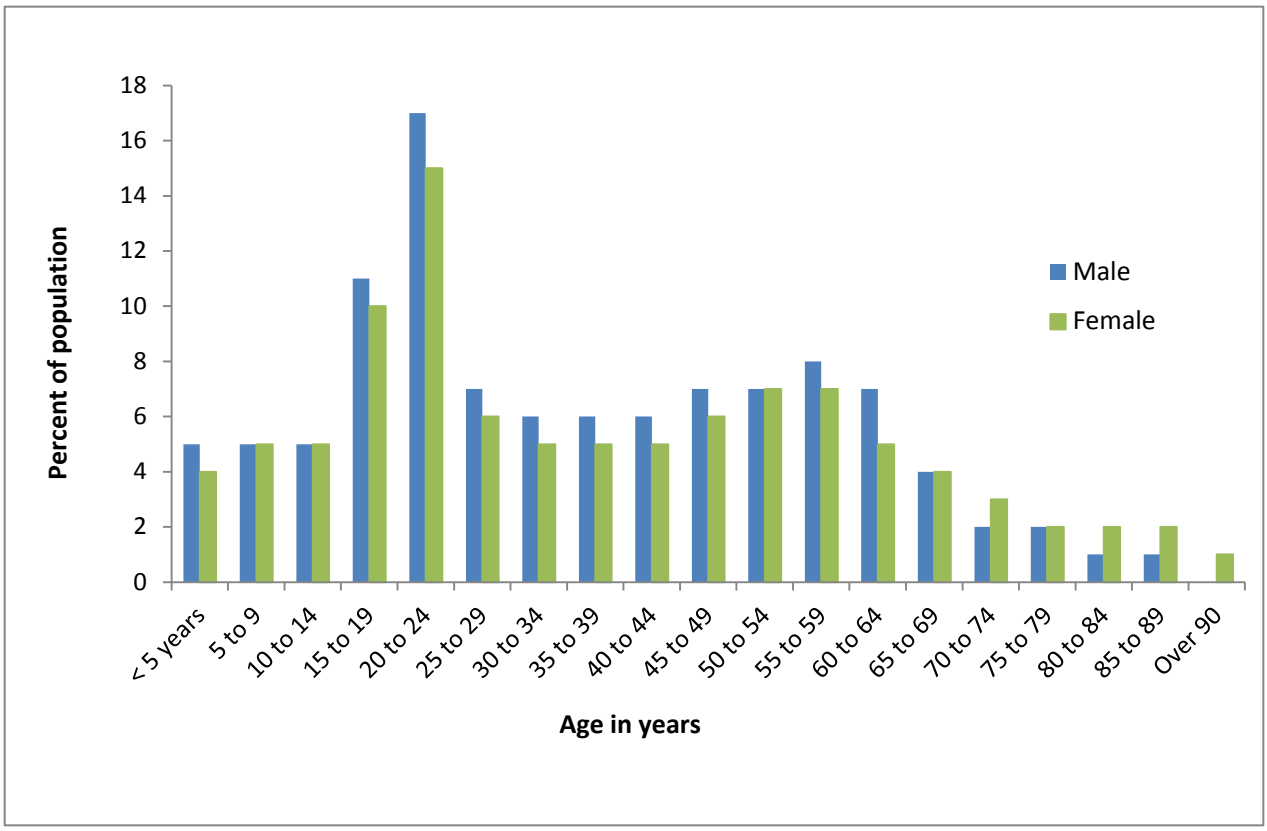
Population 15 years and over	Males	Females
Never married	45.7	37.0
Married but separated	43.7	46.2
Separated	1.3	1.5
Widowed	1.4	5.1
Divorced	7.9	10.2

Source: American Community Survey, 2011

Demographics: Population by age and sex

Based on 2010 U.S. Census data, the percentage of males and females is about the same in most age groups. The 15-19 and 20-24 year age groups are among the largest. This may be due to students attending post-secondary institutions in our region (such as, Oregon State University, Linn-Benton Community College, and Western Oregon University) Overall, from 2000 to 2010, the Benton County population has grown 9.5 percent from 78,153 to 85,579.

Benton County age composition, 2008-2010



Source: Benton County Health Status Report, 2012

Immigration and Growing Diversity

Native and Foreign Born

Ninety percent of the people living in Benton County are native residents of the United States. Forty-three percent of these residents are living in the state in which they were born.

Ten percent of the people living in Benton County are foreign born. Of the foreign born population, 28 percent are naturalized U.S. citizens, and 42 percent have entered the country before the year 2000. Fifty-eight percent of the foreign born entered the country in 2000 or later.[12]

The largest racial minority group in Benton County is Asian and Pacific Islanders (5.4 percent). Benton County's Asian population increased 37.2 percent since 2000. The largest population by ethnicity in Benton County is Hispanic/Latino (6.4 percent). In 2010, the Latino population increased 50 percent from 2000. Oregon's population is slightly more diverse than Benton County's.

Population by race/ethnicity, 2008-2010

Race/Ethnicity	Benton County		Oregon	
	Total population	Percent	Total Population	Percent
White	74,506	87.1%	3,204,614	83.6%
Asian and Pacific Islander	4,642	5.4%	186,281	4.0%
Two or more races	3,060	3.6%	144,759	3.8%
Other	1,985	2.7%	204,625	5.3%
Black	759	0.9%	69,206	1.8%
American Indian	627	0.7%	53,203	1.4%
Hispanic	5,467	6.4%	450,062	11.7%

Source: U.S. Census, 2012

K-12 population

Benton County has four K-12 public School Districts. In 2011, Alsea School District had a total of 134 students with a minority population of 5.2 percent; Corvallis School District had a total of 6,364 students with a minority population of 28.1 percent; Monroe School District had a total of 479 students with a minority population 19.4 percent; and Philomath School District had a total population of 1,631 and a minority population of 11.0 percent.

It is notable that minority school enrollment exceeds overall population percentages in all districts. The percentage of ethnic or racial populations varies greatly among Corvallis School Districts' elementary schools.

Corvallis School District elementary school student population by race/ethnicity, 2010

Elementary School	White	Black	Hispanic	Asian Pacific Islander	American Indian/Alaskan Native	Multi Ethnic	Total Minority
Adams	81.3%	0.6%	4.4%	7.7%	0.0%	6.1%	18.7%
Franklin	68.0%	0.6%	9.3%	12.5%	0.0%	9.6%	32.0%
Garfield	40.7%	1.6%	47.6%	2.1%	1.6%	6.4%	59.3%
Hoover	67.4%	0.5%	4.4%	19.1%	0.0%	8.7%	32.6%
Jefferson	81.8%	0.0%	6.1%	5.4%	1.0%	5.8%	18.2%
Lincoln	55.8%	0.9%	37.1%	0.9%	0.9%	4.6%	44.3%
Mt View	79.9%	1.9%	7.0%	1.6%	2.6%	7.0%	20.1%
Muddy Creek	92.6%	0.0%	1.2%	0.0%	2.5%	3.7%	7.4%
Wilson	74.5%	1.2%	11.6%	4.9%	0.3%	7.5%	25.5%

Source: Oregon Department of Education

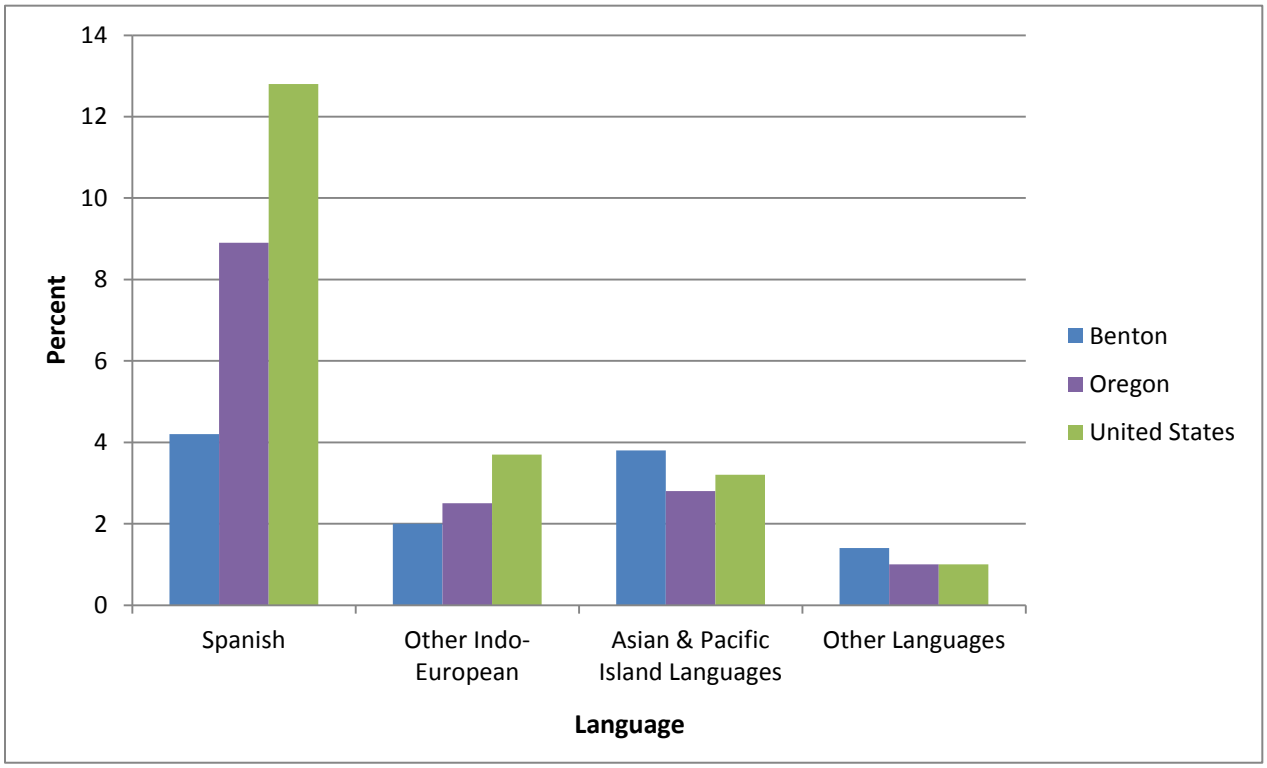
Benton County has five private schools: Ashbrook Independent School, a K-8 with 164 students; Corvallis Montessori School, a K-6 with 110 students; Corvallis Waldorf School, a K-8 with 137 students; Santiam Christian School, a K-12 with 654 students; and Zion Lutheran School, a K-9 with 142 students.

Language spoken at home

Among people at least 5 years old living in Benton County, Oregon in 2008-2010, 11 percent spoke a language other than English at home. Of those speaking a language other than English at home, 38 percent spoke Spanish and 62 percent spoke some other language; 28 percent reported that they did not speak English "very well".

In comparison, 15 percent of Oregon and 21 percent of U.S. residents at least 5 years old speak a language other than English in the home.

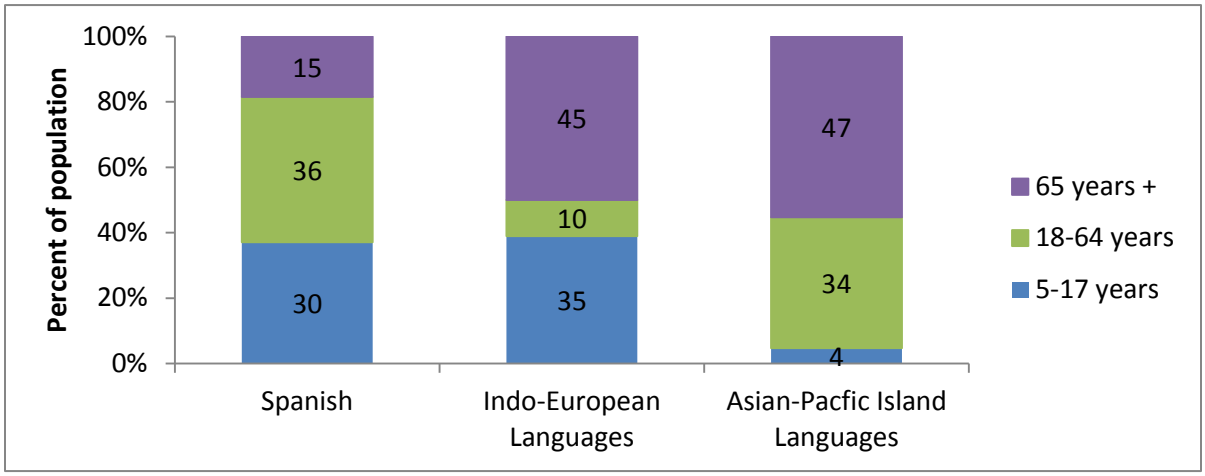
Percentage of the population 5 years and over who speak a language other than English, 2009-2011



Source: U.S. Census Bureau, American Community Survey

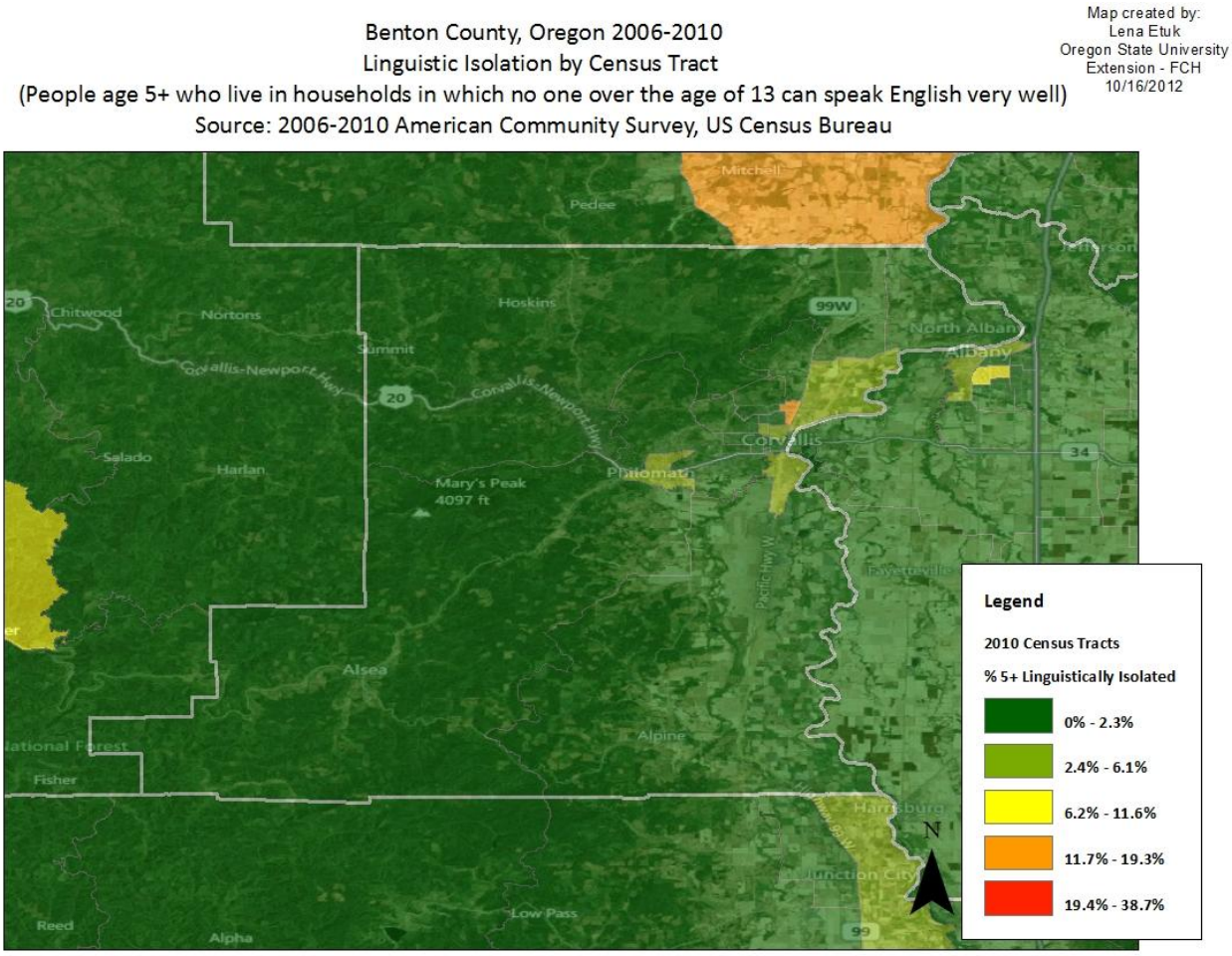
Within Benton County, approximately 20 percent of households speaking Spanish or an Asian Pacific Island language do not have anyone age 14 and over who speaks English only or speaks English "very well".

Percentage of Benton County residents who speak another language and speak English less than "very well", 2008-2010



Source: U.S. Census Bureau, 2008-2010 American Community Survey

As shown in the map below, many of the families with limited English ability are clustered within Corvallis. However, within Philomath approximately 2.4-6.1 percent of households have limited English ability.



Disabilities

In 2011, among the civilian non-institutionalized population, approximately 10.5 percent reported a disability[13] in Benton County. The likelihood of having a disability varied by age - from 7.1 percent of people under 18 years of age; 8.3 percent 18 to 64 years of age; and 33.7 percent of those 65 and over.[1]

The percentage of Benton County population with a disability by ethnicity or race is: white 11.1 percent; Asian 3.5 percent; and Hispanic/Latino 5.3 percent.[1]

Benton County disability characteristics of population 5+, 2008 – 2010

Total civilian non-institutionalized population	10.5%
With a hearing difficulty	4.0%
With a vision difficulty	1.4%
With a cognitive difficulty	4.5%
With an ambulatory difficulty	5.3%
With a self-care difficulty	2.1%
With an independent living difficulty*	3.9%

Source: U.S. Census Bureau, 2008-2010 American Community Survey

** includes only population 18+*

In addition, 453 persons (324 adults; 129 children) with Developmental Disabilities enrolled in case management with Benton County Developmental Disabilities Services.[14]

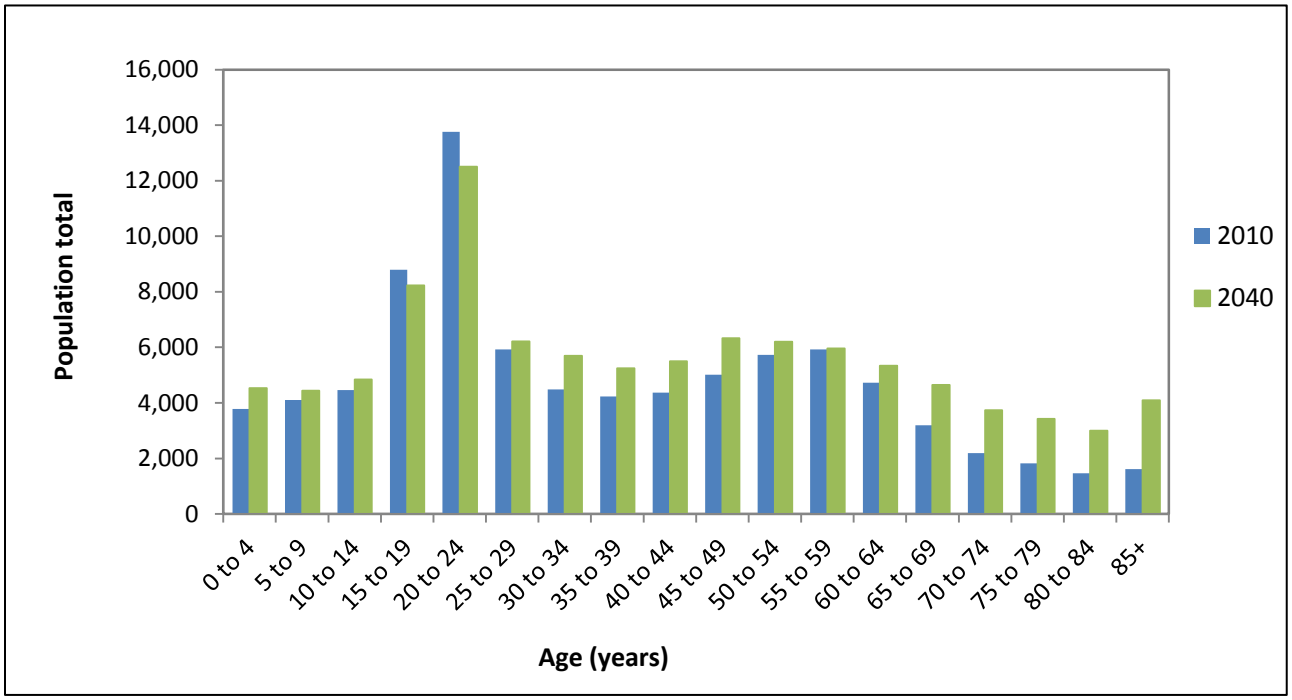
Aging Population

Currently, 12 percent of Benton County residents are 65 and older. This proportion is expected to increase. Based on Portland State University population estimates, all age groups will grow but the largest increase in the Oregon population will occur in the 65 years and older age group. The same is true in Benton County where the largest increase is projected to be among those 65 years and older. The Benton County population also is projected to grow in all age groups except for those 15-24 years of age.

Characteristics of Benton County adults over 65 years of age:

- 33.7 percent have a disability
- 29.9 percent live alone
- 4.5 percent live below poverty level
- 2.5 percent reside in Nursing Homes

Benton County population forecast 2010 and 2040



Source: Portland State University Population Research Center

Oregon State University student population

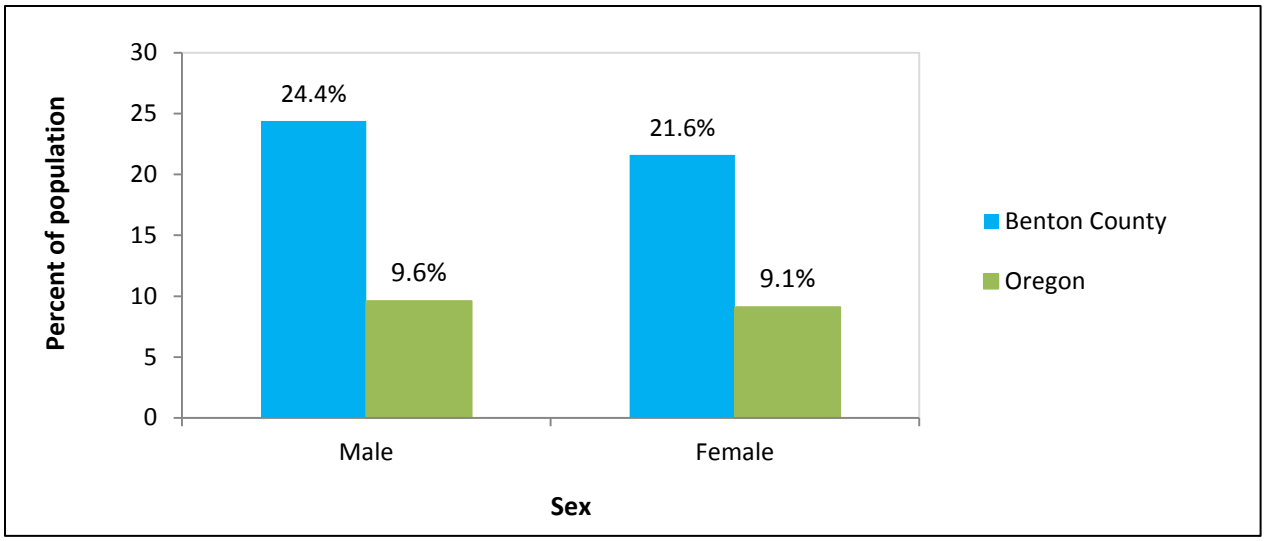
OSU's fall 2012 enrollment is 24,977 undergraduate (82 percent) and graduate students (18 percent) from throughout Oregon and all 50 states, as well as 1,852 international students from over 100 foreign nations. Only 4,316 (17.3 percent) of OSU students live in on-campus residence halls.

Approximately 84 percent of OSU undergraduate students are age 24 and younger, while 16 percent of undergraduates are 25 years or older.

Many undergraduate students receive financial assistance to cover educational and living costs. In 2010-2011, 22 percent of OSU undergraduate students received a Federal Pell Grant and 57 percent received a student loan ($11,996 on average). On average, 56 percent of need was met for full-time undergraduates[15].

The 2011 enrollment at OSU increased 8 percent for the second year in a row and 2012 enrollment growth is projected to be close to 5 percent. The ongoing growth of the student body has put strain on the university and the community, resulting in larger class sizes and an extremely low rental vacancy rate in Corvallis.

18-24 year old population, 2010



Source: Benton County Health Status Report, 2012

Physical Environment

The total land area of Benton County is 679 square miles. Geographically it is the third smallest county in Oregon. Benton County has two distinct ecological regions, the Coast Range and the Willamette Valley. Benton County has many natural resources, including agricultural, forest, rivers and water-ways.

Water Quality

Seventy-eight percent of Benton County residents get their drinking water from a total of 75 public water systems. Benton County Environmental Health in conjunction with the State of Oregon Drinking Water Services administers and enforces drinking water quality standards for public water systems in Benton County. This includes prevention of contamination through source water protection, providing technical assistance to water system operators and providing water system operator training.

Drinking water for residents of the City of Corvallis comes from two surface water sources. Three creeks in the Rock Creek Watershed on the east flank of Mary's Peak (north and south forks of Rock Creek as well as Griffith Creek) supply water for the Rock Creek Water Treatment Plant. The Willamette River supplies the Taylor Water Treatment Plant located in south Corvallis near Willamette Park. Laboratory professionals take samples regularly from 33 sampling stations and from the eight reservoirs. During 2011, Corvallis drinking water met or exceeded all federal and state drinking water standards.

The City of Philomath produced 156.5 million gallons of drinking water in three facilities. Approximately 95 percent came from the treatment plant. Philomath drinking water meets or exceeds all federal and state drinking water standards.

A significant number of Benton County households are located outside of the service areas of municipal water systems. Rural residents rely upon groundwater supplied through private wells (exempt use) to meet their household and irrigation needs. There are approximately 10,000 wells in Benton County.

The Oregon Department of Environmental Quality has designated parts of Benton, Linn, and Lane Counties as a Ground Water Management Area (GWMA) due to elevated nitrates. The purpose of the GWMA is to conduct research, raise awareness about the health risk associated with elevated nitrates, and to put into place voluntary programs to reduce nitrate levels in ground water. For more information on the GWMA go to their website at: http://www.deq.state.or.us/wq/groundwater/swvgwma.htm

Environmental Hazards

Domestic Sewage Systems

The majority of waterborne disease outbreaks are caused by bacteria and viruses present in domestic sewage. Septic tanks contribute the largest volume of wastewater to the subsurface and are the most frequently reported cause of groundwater contamination.

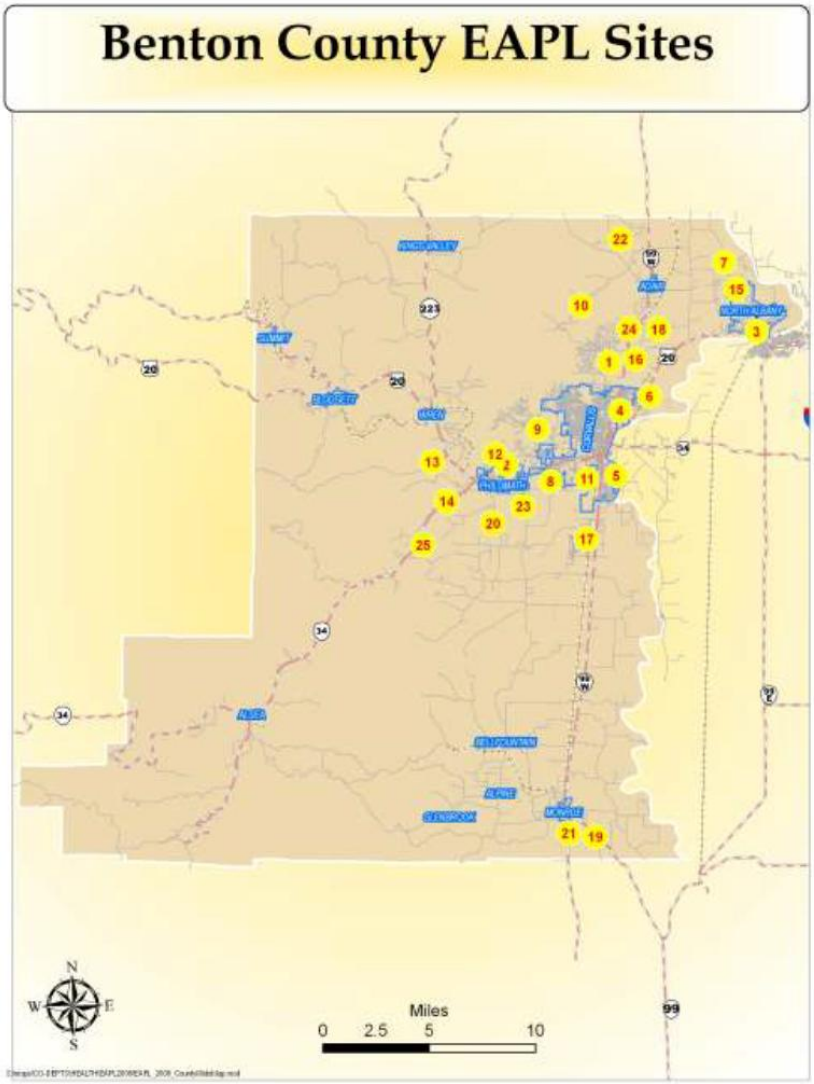
The 2010 Environmental Assessment Priority List (EAPL) describes areas and conditions that have the potential to cause contamination from domestic sewage systems and strategies by which the County intends to deal with the environmental conditions that might affect the health of the community. The sites and projects are prioritized to make the best use of limited County resources.

Benton County's EAPL describes 25 known or suspected health hazards or environmental problems areas. The list is not intended to be all inclusive. Rather, conditions are placed on the list if they have potentially serious impacts on the surrounding community, and the best solution is not known or may require significant time and resources. Generally the full extent and severity of the conditions on the list are unknown and effective management or control of them may not be possible through established programs and environmental permits.

Health risks are higher in areas where older, failing septic systems discharge untreated or partially treated sewage onto the ground surface or into groundwater, potentially contaminating nearby streams and wells.

The criteria for ranking include:

- **Housing Density**. The U.S. Environmental Protection Agency has designated areas with septic tank densities of greater than 40 systems per square mile (1 system per 16 acres) as regions of potential groundwater contamination.
- **Year Built**. Houses built prior to the 1974 Oregon Department of Environmental Quality (DEQ) regulations may be prone to failure or operating less-than-optimally, which can lead to water quality degradation.
- **Soil Type**. Currently site-specific soil evaluations are conducted by Benton County Environmental Health to test soil suitability. Older systems may have been built with less stringent condition for soil suitability.
- **Riparian Area.** Riparian areas are more sensitive to impacts from poorly sited and improperly functioning septic systems, which leads to potential surface water and groundwater contamination. A set-back of 50 to 100 feet from surface waters such as rivers, streams, and lakes protects from a threat of contamination.



Leaking Underground Storage Tanks

Oregon's Leaking Underground Storage Tank Program is part of the Department of Environmental Quality's Land Quality Division. This program handles issues related to cleanup of soil and groundwater contamination from spills and releases from regulated underground storage tanks, contractors working on cleanup of soil and groundwater contamination, and enforcement of state and federal rules. Benton County has 82 sites in active cleanup that have reported releases from petroleum-containing underground storage tanks, including residential heating oil tanks, regulated tanks at gas stations and other commercial facilities, and non-regulated tanks.[16]

Environmental Clean-up Sites

Benton County has 68 environmental cleanup sites listed on the Environmental Cleanup Site Information (ECSI) with known, suspected or cleaned up hazardous substances on the confirmed release list for 2012. The ECSI list database provide a tracking and historical information dating back to the 1980's. Sites in the ECSI comprise a wide variety of sizes, location, features, contaminant profiles and degrees of Cleanup Program information.[17]

The ECSI list includes the United Chrome Products Superfund site. The site is a former chrome-plating facility three miles south of Corvallis Airport Industrial Research Park. Extensive cleanup began in 1987. The site is included in the Corvallis Airport's 20-Year Master Plan, and is zoned for general industrial use. Airport planners see the site as a prime location for additional fuel storage in the future.

Benton County has eight sites on the Oregon DEQ's Confirmed Release List, a formal process in which DEQ notifies site owners and operators of DEQ's proposal to list. The release has been documented by qualified observation, owner/operator admission or laboratory data.

Air Quality

High levels of fine particles and ozone can decrease lung function, trigger asthma attacks and increase emergency department visits.

The Oregon Department of Environmental Quality, through its Air Quality Surveillance Network, monitors air quality throughout Oregon. In Benton County, air sampling is conducted at a single monitoring station in Corvallis, located at Corvallis Fire Station #3. Benton County currently meets all federal ambient air quality standards. In 2007, there were 21 unhealthy air quality days due to fine particulates and zero unhealthy days for ozone.[18]

Waste Management

Coffin Butte Landfill is owned and operated by Valley Landfills, Inc. The municipal solid waste landfill is located approximately ten miles North of Corvallis. The landfill services four counties. Benton County Environmental Health administers the County's franchise agreement with Coffin Butte Regional Sanitary Landfill and Treatment Facility with input from the Solid Waste Advisory Council. As part of Subtitle D, the Environmental Protection Agency (EPA) has developed detailed technical criteria for solid waste disposal facilities, including specific criteria for municipal solid waste landfills. The Coffin Butte landfill is currently in compliance with Oregon Department of Environmental Quality requirements. The total site area is about 700 acres and the landfill footprint is about 100 acres of which approximately 50 acres is currently filled or being filled. Coffin Butte accepts wastes from Benton County's transfer sites and commercial haulers.[19]

Coffin Butte Landfill has permitted airspace of 39,594,002 cubic yards (including consumed). During 2011, the landfill accepted 482,951 tons of solid waste. Based on historical aerial fly-over data, the average effective density of the in-place waste at the Coffin Butte Landfill is 1.0375 tons/cubic yard. Therefore, an estimated 465,495 cubic yards of airspace was used for the year. A total of 14,786,284 cubic yards has been consumed as of December 31, 2011.

The remaining capacity for the entire permitted landfill footprint as of the end of 2011 was approximately 24,807,718 cubic yards. This information is updated annually with aerial flyovers. Using 0.80 tons/cy, the remaining available landfill space expressed in tons is about 19,846,174 tons. Using the current disposal rate of approximately 500,000 tons per year, there are about 39.69 years of landfill space available at a compaction rate of 0.80 tons/cubic yard.

Chapter 3
Opportunities for Health

Opportunities for health among Benton County residents begin within their homes, neighborhoods, places of worship, workplaces, and schools. A growing body of scientific research shows that all people benefit when communities invest in health.

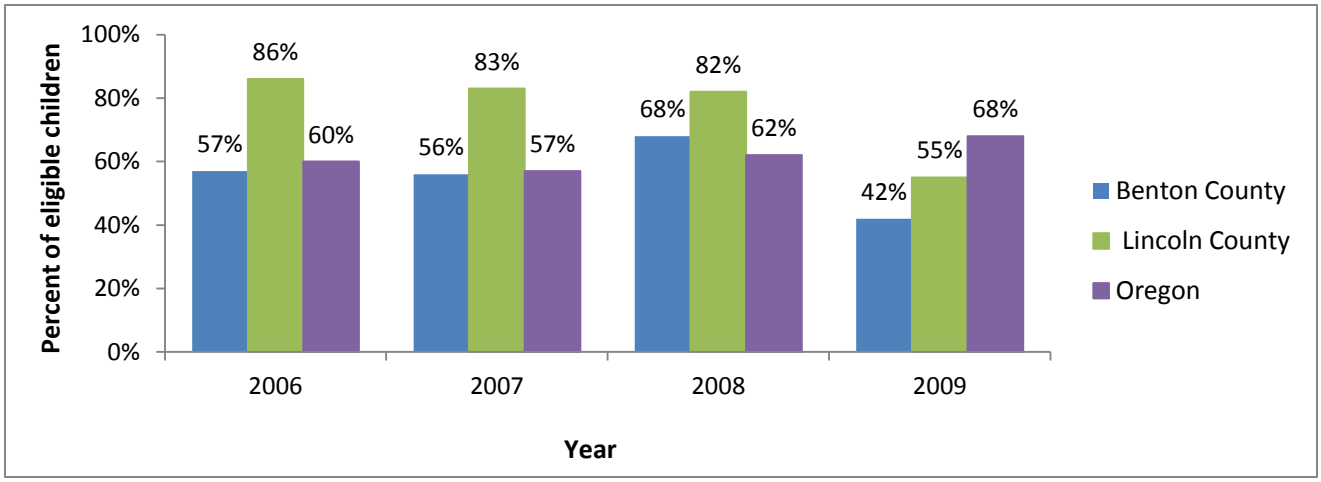
Education and Employment

Education

Health and learning are closely connected. Education is an important predictor of health because it both shapes and reflects multiple factors that affect people's life options and opportunities.

Early Childhood Development supports nurturing relationships and learning opportunities that foster children's readiness for school. The early years are crucial for influencing health and social well-being across a child's lifetime.[20] Research evidence accumulated over the past 40 years supports the conclusion that children who participate in high-quality early childhood development (ECD) programs benefit from a broad range of immediate and long-term health benefits.[21]

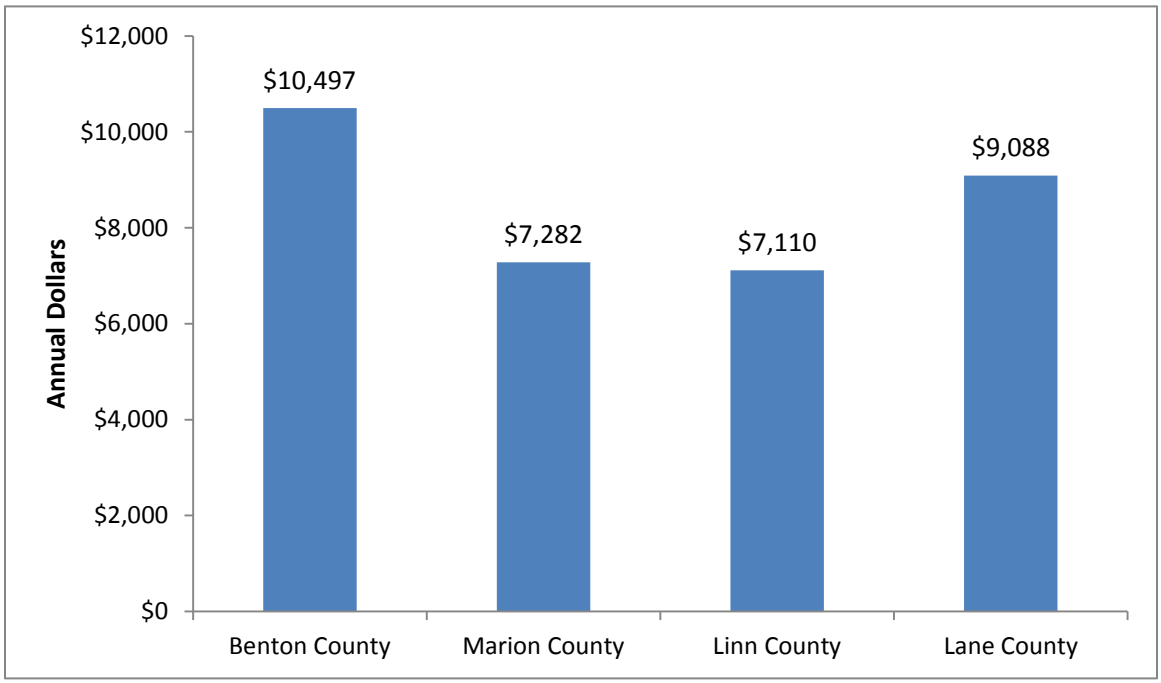
Percent of eligible children served by Head Start or the Oregon Pre-kindergarten Program, 2006-2009



Source: Oregon Department of Education (2012). The Annie E. Casey Foundation- Children First for Oregon.

Despite strong research showing the positive impact of high-quality early education, many families in Benton County who are eligible for Head Start are not being served. In 2009, only 42 percent, or 123 children were enrolled in Head Start in Benton County. Other childcare programs may offer scholarships for lower income families, however the cost of childcare can still be prohibitive for families earning minimum wage. The average annual cost of toddler care in childcare centers in Benton County is $10,497, higher than other Willamette valley counties and higher than the state average (2010). The annual income of a minimum wage worker in Oregon is $17,472 (2010). Therefore the cost of care for a toddler as a percent of annual income of a minimum wage worker can be as high as 60 percent.

County-level annual cost of childcare for a toddler, 2010

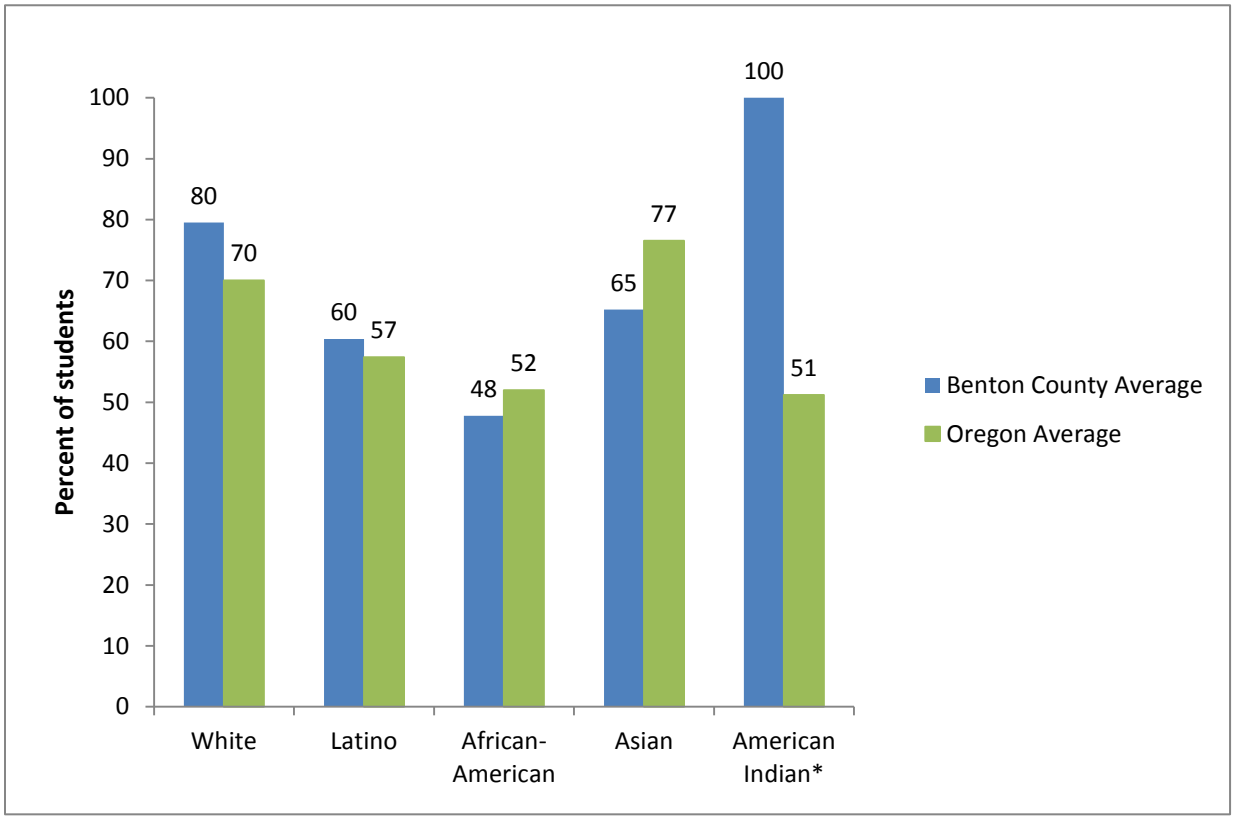


Source: Child Care Resource & Referral Network, 2010

High School Education

High school graduation is a strong predictor of future employment and earnings. Conversely, dropping out of school is associated with lower income, multiple social and health problems,[22] and health risks.[23] For example, 32 percent of Oregonians who do not have a high school degree smoke, compared with 24 percent of high school graduates, 18 percent with some post-secondary education, and 7 percent of college graduates.[24]

Percent of Benton County high school students graduating on time, 2011



Source: Oregon Department of Education (2012)

** Represents only one school district*

In 2011, the rate of high school graduation was highest for white and American Indian populations and lowest for Latino and African-American populations. It is important to note that only one school district reported graduation rate for students identified as American Indian in 2011.

Employment

Stable and secure employment influences health not only by being a source of income, but by providing access to health insurance. In 2011, 57 percent of Benton County residents, or 41,751 individuals 16 years and older were in the labor force, of which, 6 percent, or 4,391 were unemployed.[1]

Percentage of civilian employed population 16 + by business sector, 2008-2010

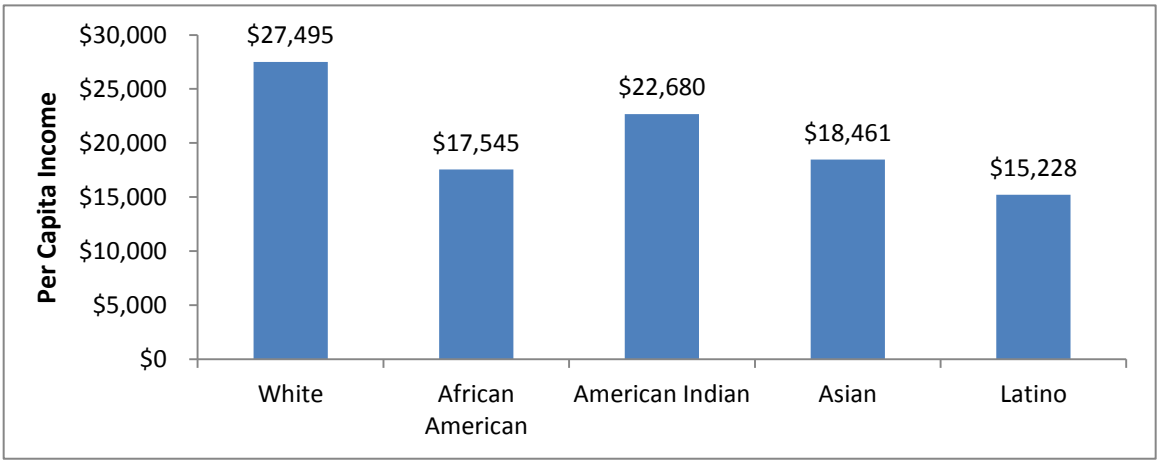
Business Sector	Benton County	Oregon
Educational services	21.4%	8.4%
Health care and social services	13.4%	13.3%
Retail trade	12.2%	12.5%
Manufacturing	10.5%	11.3%
Professional, scientific, and technical services	7.4%	6.1%
Accommodation and food services	5.4%	7.2%
Construction	4.0%	6.4%
Agriculture, forestry, fishing and hunting	3.7%	3.2%

Source: U.S. Census Bureau, American Community Survey, 2008-2010

Income and Poverty

Income involves more than money earned from a job. It also includes assets like a bank account or equity in a home, and access to other economic resources. Income influences people's ability to choose where to live, what food to eat, participation in physical activities (especially those that require fees or special equipment), and availability of leisure time. In Benton County, Latino, African-American and Asian populations have average household incomes that are almost half that of the White population.

Per capita income in Benton County by race/ethnicity, 2008-2010



Source: Benton County Health Status Report, 2012

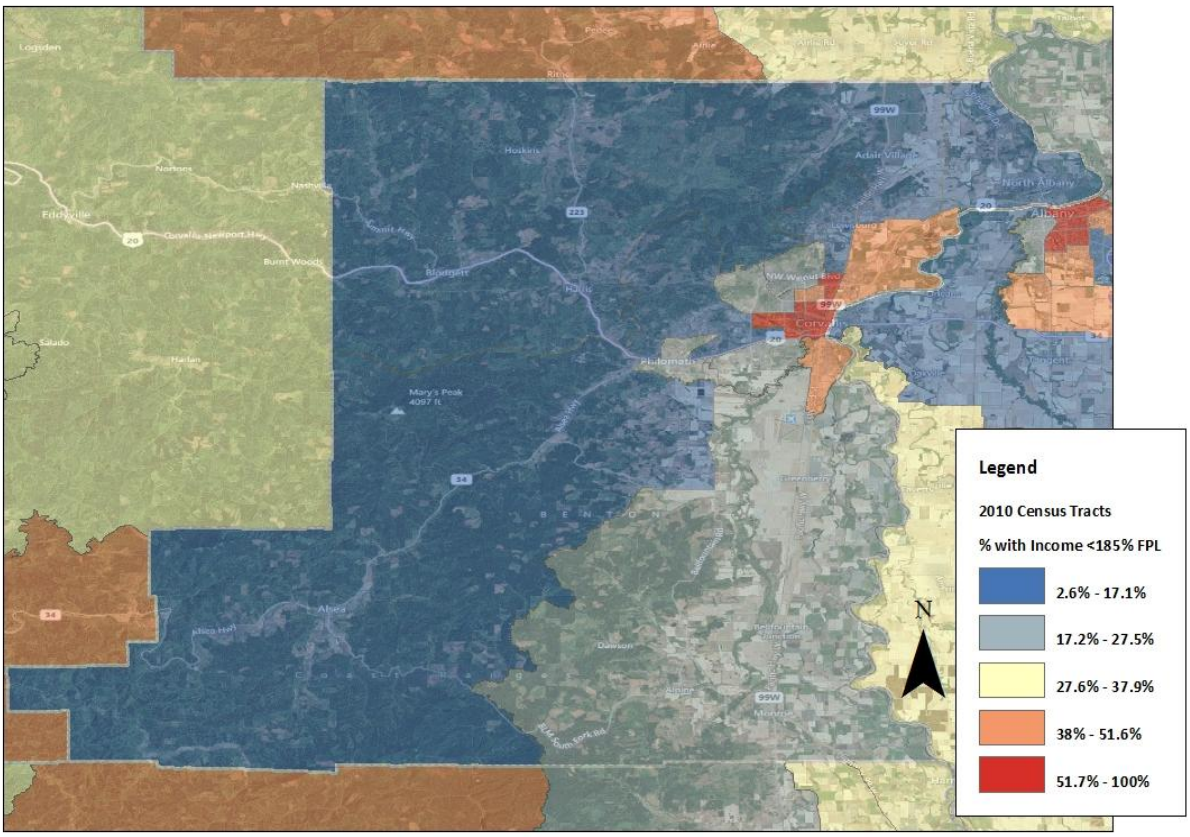
Poverty

Poverty is directly related to worse health outcomes. Poverty related to both limited income and lack of income limits choices in education, employment, and living conditions and reduces access to safe places to live, work, and play. It also frequently hinders choices and access to healthy food. Poverty can contribute to obesity by increasing families' reliance on cheap sources of food, which tend to be higher in calories and lower in nutritional value.

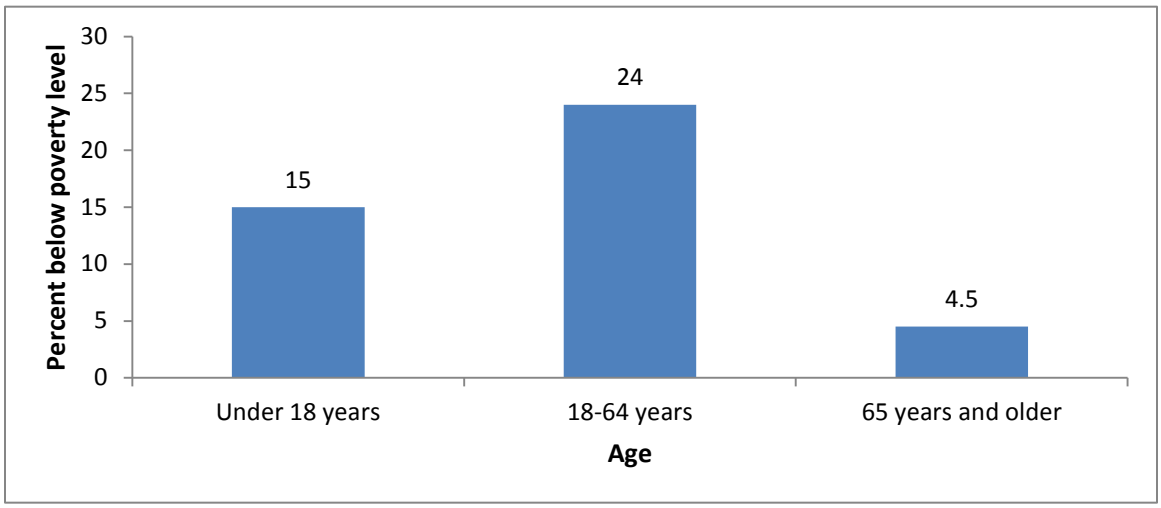
The map below illustrates the geographic distribution of households earning less than 185 percent of the federal poverty line in Benton County. In 2012, this is an annual income up to $42,642 for a family of four ($3,554 a month).

Benton County, Oregon 2006-2010
Percent of Population with Income <185% of Federal Poverty Line (FPL)
Source: 2006-2010 American Community Survey, US Census Bureau

Map created by:
Lena Etuk
Oregon State University
Extension - FCH
10/16/2012



Percent living below poverty level by age in Benton County, 2008-2010

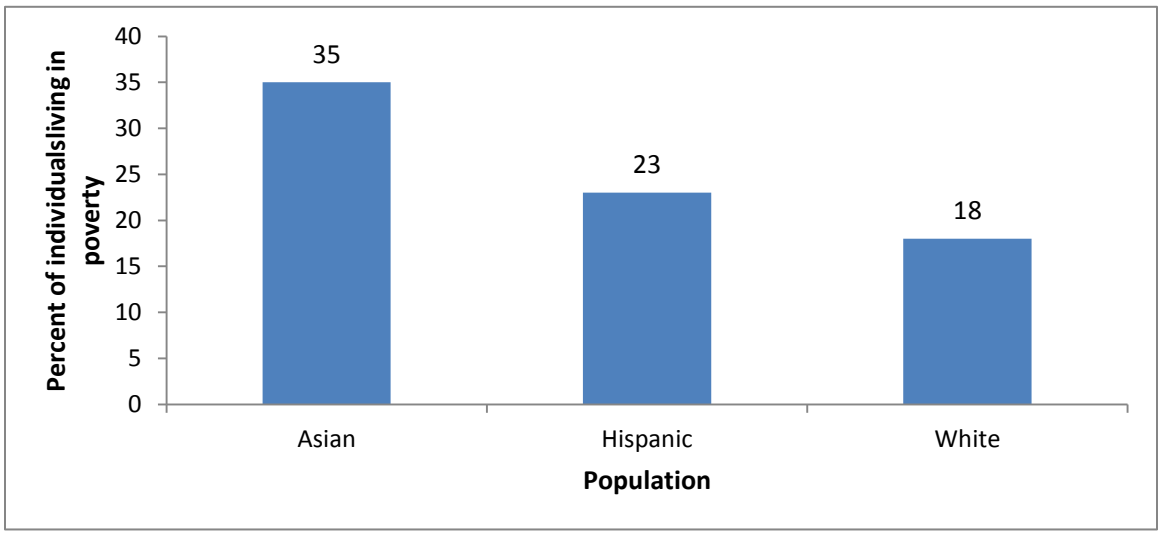


Source: U.S. Census Bureau, American Community Survey, 2008-2011

Approximately 20 percent of the population in Benton County is living below the federal poverty line[25], which is less than annual income of $23,050 for a family of four. The poverty level is a conservative estimate of the threshold below which families or individuals are considered to be lacking the resources to meet the basic needs for healthy living; having insufficient income to provide food, shelter, and clothing needed to maintain health.

In Benton County, almost a quarter of residents ages 18-64 are living below the poverty level. Variation also exists among race/ethnicity. Individuals who identify as Asian (35 percent) or Hispanic/Latino (23 percent) are more likely to be living in poverty than those who are White (18 percent).

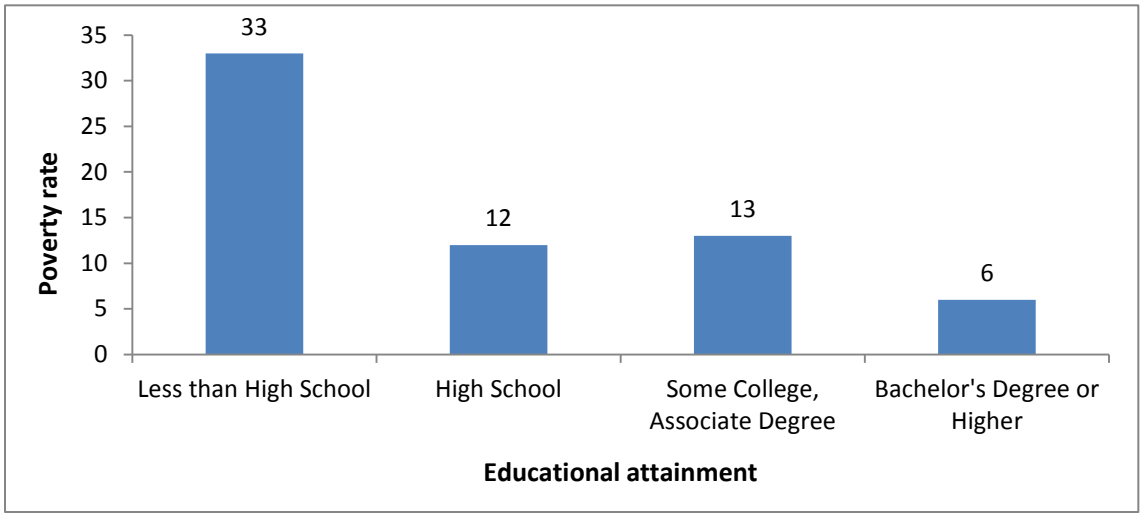
Percent of individuals living in poverty by race/ethnicity in Benton County, 2008-2010



Source: U.S. Census Bureau, American Community Survey, 2008-2010

Earning less than a high school education increases the chances of experiencing poverty. In Benton County, 33 percent of individuals who have not completed high school or a GED are earning wages below the poverty level compared to only 12 percent of those who have a high school degree.[26]

Poverty rate for the population 25 years and over by educational attainment, Benton County, 2008-2010



Source: American Community Survey, 2008-2010

Many Benton County residents earn incomes higher than the federal poverty level but still struggle economically to meet their everyday needs. Thirty-three percent earn less than 185 percent of the Federal Poverty Level ($42,642 for a family of four). This is the threshold that many assistance programs such as the Supplemental Nutrition Assistance Program (SNAP) use for income eligibility. Fully 35 percent earn less than 200 percent of the Federal Poverty Level which research suggests is the minimum income needed to meet basic needs (i.e. not including saving for college or emergencies).

Children Living in Poverty

A growing body of research shows that children who are raised in families experiencing long-term poverty are at greater risk of significant and long-term deficits in health[27]. In 2011, 21.3 percent, (3,014) of children under 18 years of age were living in households earning less than 100 percent of the Federal Poverty Level ($23,050 for a family of four), this is higher than the 3 year average from 2008-2010 in Benton County. In comparison, Oregon (23.6 percent) and U.S. (22.5 percent) are similar to Benton County rates of childhood poverty.

Based on Oregon Department of Education data, 37.4 percent of students were eligible for free/reduced lunch during the 2010-2011 school year with the highest percentage at Alsea School District 7J (75.9 percent eligible) and the lowest at Corvallis School District 509J (34.9 percent eligible). It should be noted that the percentage of students eligible for free/reduced lunch by school varies significantly from school-to-school in Corvallis. For example, Mt. View (49.7 percent), Wilson (51.8 percent), Lincoln (68.2 percent) and Garfield (75.1 percent) have rates higher than the district average.

Percent of K-12 students in Benton County eligible for free and reduced lunch, 2010-2011

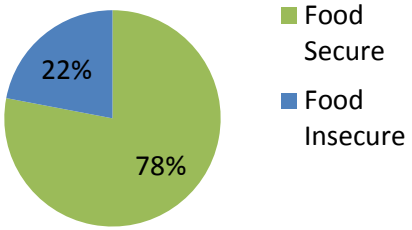
School District	Eligible for free lunch	Eligible for reduced lunch	Percent	Student enrollment	Total eligible
Alsea SD 7J	93	17	75.9%	145	110
Corvallis SD 509J	1,979	299	34.9%	6,520	2,278
Monroe SD 1J	236	34	57.1%	473	270
Philomath SD 17J	530	94	38.2%	1,634	624
Benton County	2,838	444	37.4%	8,772	3,282

Source: Oregon Department of Education

Food Security

Food security is defined here as having enough to eat, and being able to purchase or obtain healthy food in socially acceptable ways[28]. Adequate nutrition is particularly important for children, as it affects their cognitive and behavioral development. Children from food insecure, low-income households are more likely to experience irritability, fatigue, and difficulty concentrating on tasks, especially in school, compared to other children[29].

Child food insecurity rate in Benton County, 2010



In 2010, 15 percent of the Benton County populuation, or over 12,000 individuals, were residing in households that were food insecure.[30] Among those who were food insecure, 36 percent earned incomes above 185 percent of the Federal Poverty Level, making them inelegible to receive government assistance programs.

Recent targeted asessements suggest that food insecurity is higher among certain populations,such as Latinos, and households in rural areas.[31] [32]

The food insecurity rate is higher among children. In 2010, over 3,200, or 22 percent of children were living in food insecure homes, half of which (53 percent) were inelegible to receive federal nutrition programs[33].

Supplemental Nutrition Assistance Program participation, 2010

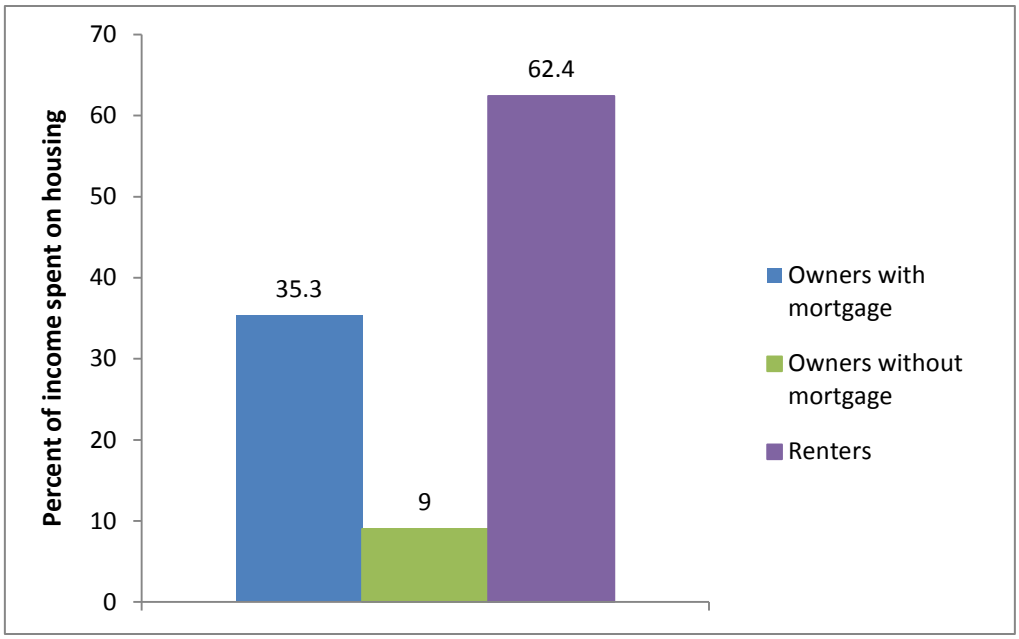
The Federal Supplemental Nutrition Assistance Program (SNAP) is the largest domestic food and nutrition assistance program for low-income Americans in the U.S. In Benton County, 42 percent of individuals meeting eligibility guidelines participate in the program. This is on average 9,214 participants each month. Benton County has among the lowest participation rates for SNAP in the State; on average 68 percent of eligible Oregonians participate in the program.[34]

Housing and Home Ownership

Housing is an important part of the built environment and another key factor contributing to good health. Older housing in particular can present multiple threats to health, including presence of lead-based paint, lead solder in plumbing and in the soil, mold, and asbestos.

Affordable, quality housing provides shelter that is safe and healthy for all people. Housing that costs more than 30 percent of household income is considered to be "unaffordable". In Benton County, fully 62.4 percent of renters spend 30 percent or more of household income on housing. Of home owners with mortgages, 35.3 percent spend 30 percent or more of household income on housing. Of home owners without mortgages, 9 percent spend 30 percent or more of household income on housing. The median monthly housing costs for mortgaged owners was $1,457, owners without a mortgage $476, and renters $770.

Occupants with housing cost burden (>30 percent of income) in Benton County, 2011



Source: U.S. Census Bureau, 2011 American Community Survey

Homelessness

According to data gathered from agencies serving the homeless population in Benton County, there were approximately 154 total homeless individuals living in Benton County during 2009. This number does not include individuals who were living with families and friends; sleeping in vehicles, campgrounds or the woods. It also likely does not include those who exhausted their opportunities for services or who never attempted to access them.[35]

Across the State, an increasing number of Oregon's K-12 public school students are homeless at some point during the school year. Homelessness among students has more than doubled since the 2003-2004 academic school year. Since the 2009–2010 academic year an additional 1,500 students became homeless. Statewide, 3.7 percent of Oregon K-12 students were homeless at some point during the 2010-11 school year.[36] In Benton County, 2.6 percent of the total district enrollment was homeless during the same period.

Homeless students grades K-12 in Benton County, 2010-2011

School District	Number of Homeless Students Grades K-12	Total District Enrollment	Percent of Homeless to Total Enrollment
Alsea SD 7J	12	145	8.3
Corvallis SD 509J	148	6539	2.3
Monroe SD 1J	41	473	8.7
Philomath SD 17J	26	1634	1.6
Benton Total	227	8791	2.6

Source: Oregon Department of Education, 2011

Outdoor and Indoor Environments

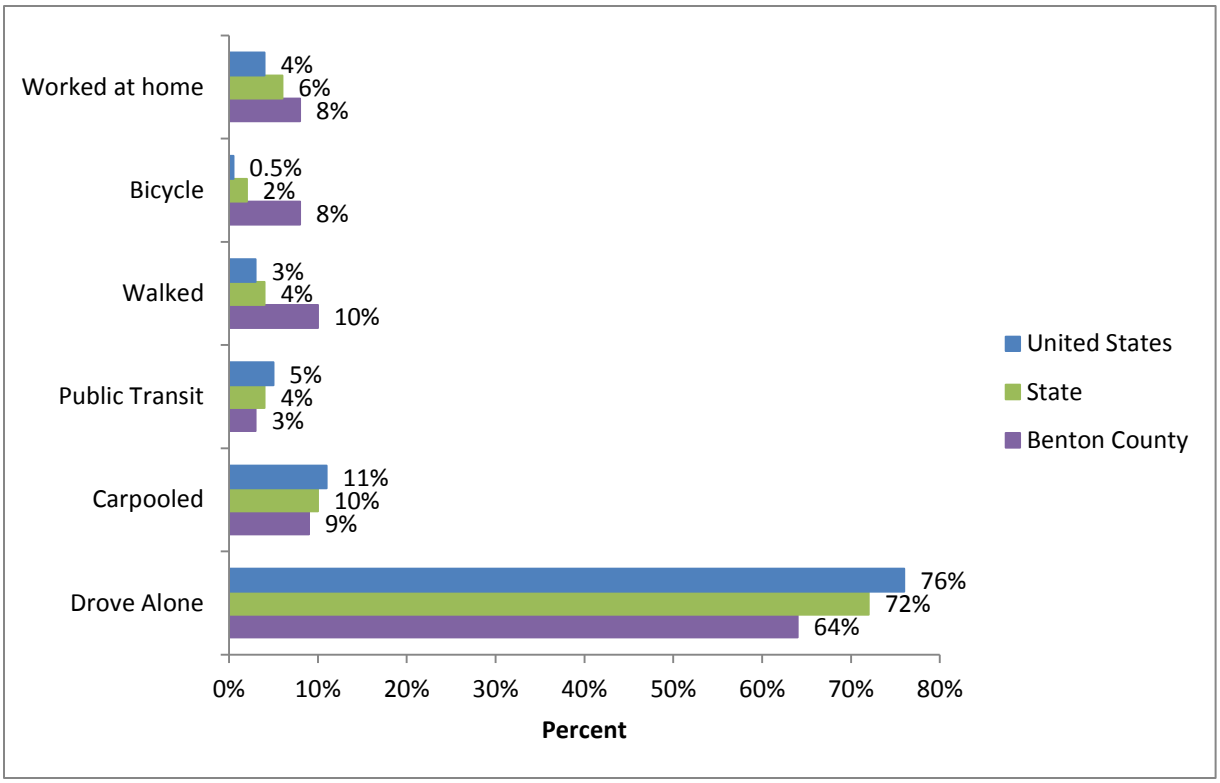
Natural and man-made (or built) environments[37] contribute to health in a variety of ways. Everyone needs clean water to drink and air that is safe to breathe, but people also need schools, workplaces, and homes that do not expose them to physical or chemical hazards and places to walk and recreate outdoors that are clean and free of debris.

Transportation

Transportation links people and places, making it possible to get to work, to school, to recreation, and to get from home to the grocery store. Transportation includes more than roads, walkways, or bridges, encompassing public transit systems; policies that dictate the location and construction of roads; and guidelines for accommodating different kinds of users. These are important for increasing physical activity, and for reducing the potential for driver, bicyclist, and pedestrian injury.

In Benton County, the majority of workers 16 years and over drive alone during their daily commute. Although the percentage of workers walking and bicycling to work are higher in Benton County compared to state and national averages, Benton County workers are less likely to carpool or take public transit.

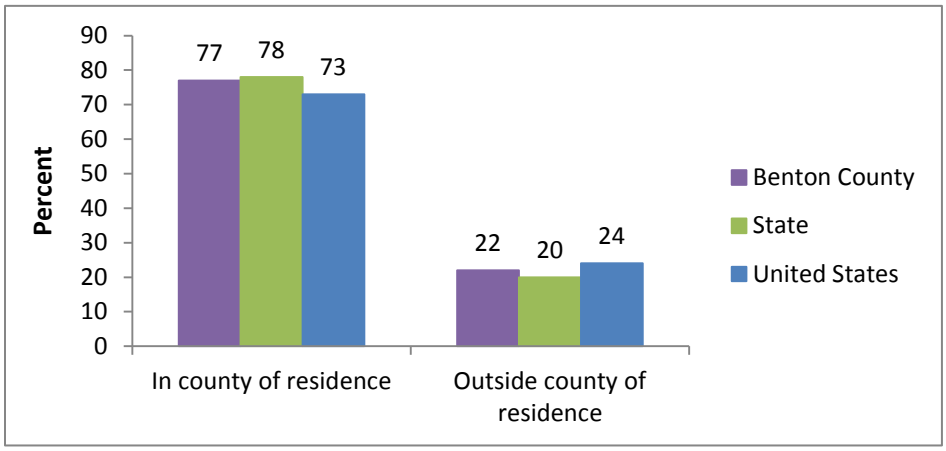
Means of transportation to work, 2008-2010



Source: U.S. Census Bureau, American Community Survey, 2008-2010

The location where residents work compared to where they live influences transportation choices. Workers who must travel outside of the county may find alternative transportation is not an option due to distance, time and availability. The majority of residents 16 years and older in Benton County (75 percent) live and work in the county, similar to State and National percentages.

Benton County residents' place of work, 2008-2010



Source: U.S. Census Bureau, American Community Survey, 2008-2010

Recreational Assets

Research demonstrates a strong relationship between access to recreational facilities and physical activity among adults and children. Additionally, studies have demonstrated that proximity to places with recreational opportunities is associated with higher physical activity and lower obesity levels.[38]

Benton County's rate of recreational facilities per 100,000 population is 16.9 compared with the Oregon's overall rate of 12, based on a measure used by the United States Department of Agriculture (USDA) Food Environment Atlas.[6]

Benton County has more than 60 miles of biking and running paths as well as over 50 parks and designated land preserves; public-private recreational facilities. Based on data from the 2008-2012 Statewide Outdoor Recreation Plan, the Benton-Lane-Linn County region has Oregon's highest rate of growth for the following activities: nature and wildlife observation (254 percent), fishing from a boat (97 percent), sightseeing/driving for pleasure (69 percent), R/V trailer camping (49 percent), and day hiking (21 percent).

Changing issues and needs

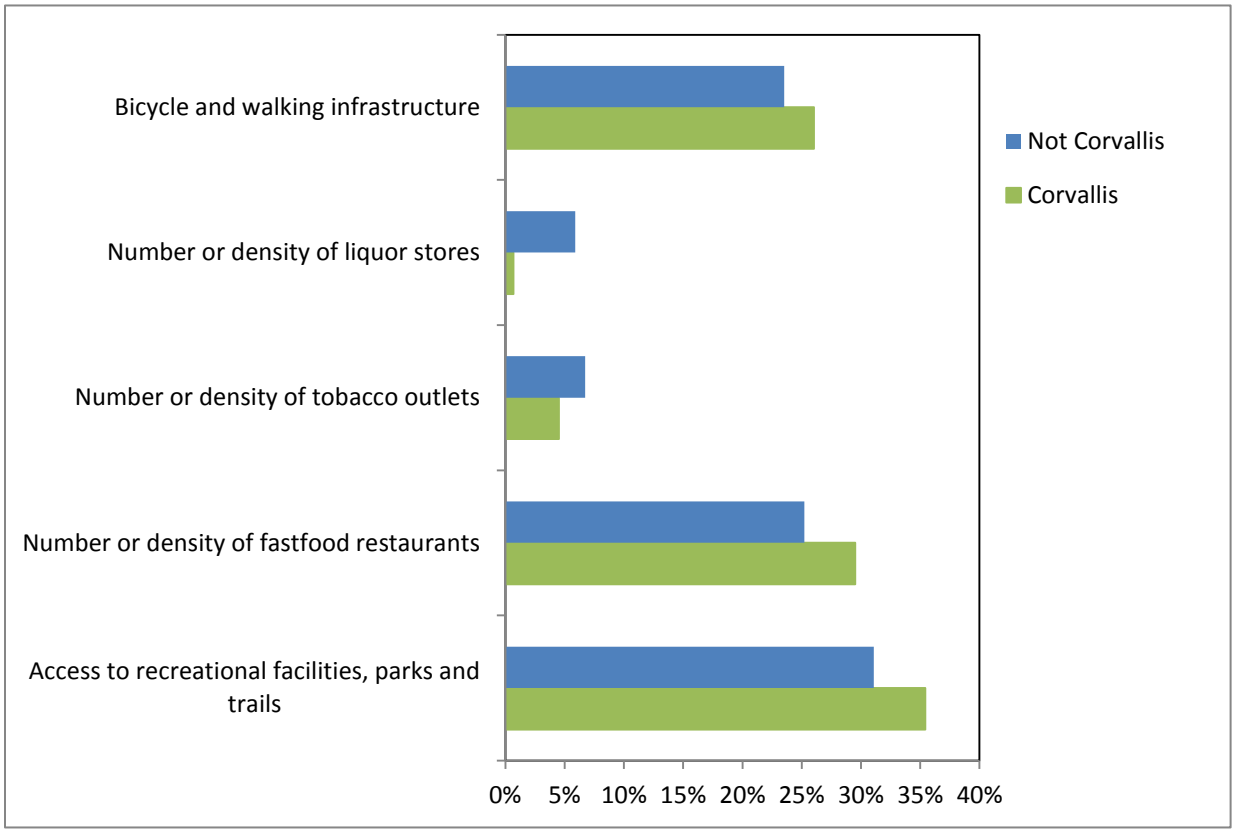
Several changes have been identified throughout Oregon which is influencing use of outdoor recreation areas and facilities.[39]

- A rapidly aging population with implications for increasing recreational participation (older people are increasingly more active)
- Declining youth outdoor participation in traditional outdoor recreational activities
- A growing minority population with traditionally lower participation in recreational activities
- Increasing rates of obesity and decreasing physical activity.

The residents of Corvallis perceive the availability of local parks and recreation opportunities as very important. Respondents to the Statewide Outdoor Recreation Plan survey named the following as those they used most frequently: Neighborhood parks, trails, natural areas, and dog off-leash areas. They also identified recreational assets that are of high importance and high need. Those include neighborhood parks, natural areas and trails, Osborne Aquatic Center, and athletic fields.[40]

Several factors of the built environment are rated as important to the health of Benton County residents. The top three areas of the built environment that impact the health of Benton County residents are access to recreational facilities, bicycling and walking infrastructure and the number of fast food restaurants.

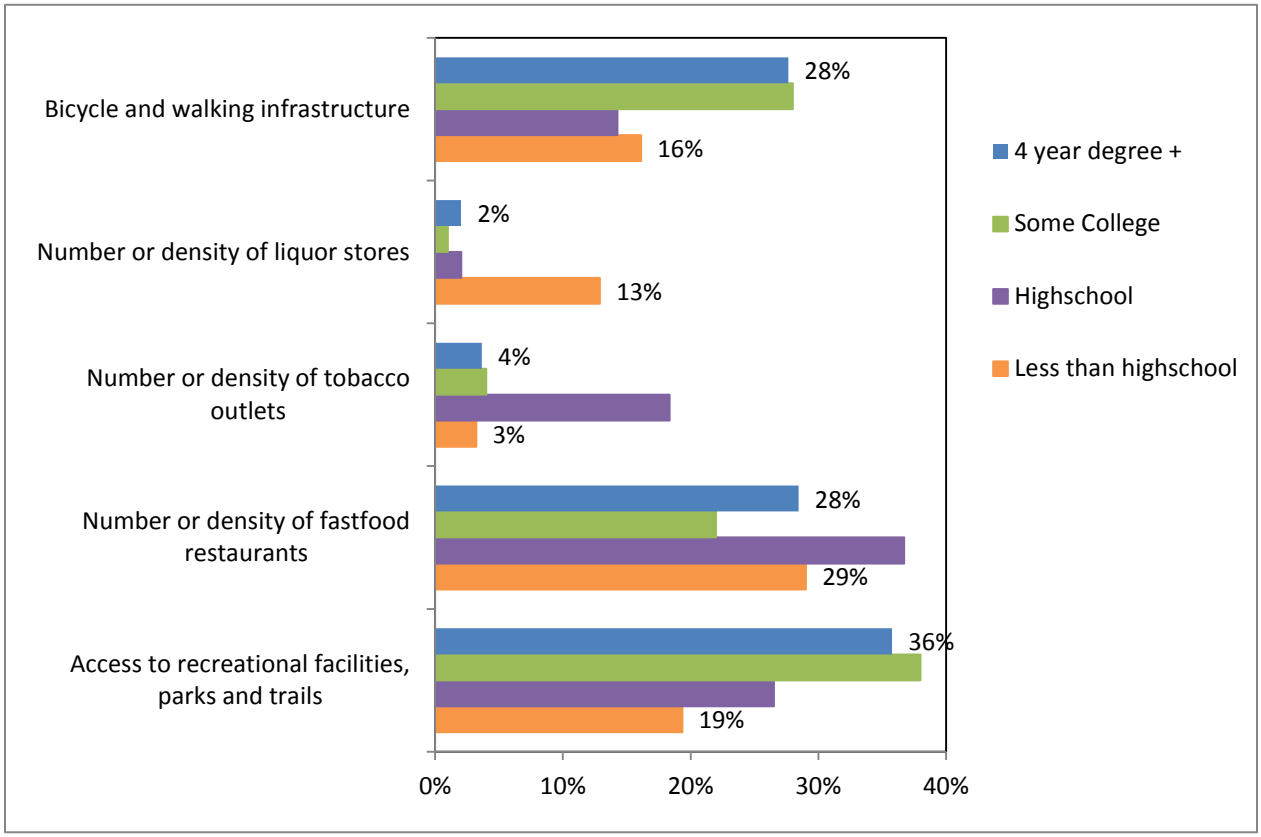
Built environment factor that most greatly impacts health in Benton County, 2012



Source: Benton County Public Health Assessment Survey, 2012

Although there is little variation in response based on place of residence within the county, responses do vary by educational level. Residents with a high school or less education, identify the number or density of fast food restaurants as the most important built environment issue, where as individuals with at least some college report that access to recreational facilities, parks and trails most often.

Built-environment factor that most greatly impacts health by level of education, Benton County, 2012



Source: Benton County Public Health Assessment Survey, 2012

Limited Access to Healthy Foods

Limited access to fresh fruits and vegetables is an important barrier to consumption and has been shown to be related to premature death. Approximately half (43 percent) of Benton County residents do not have easy access to healthy food shopping as measured by the percent of residential zip codes in the county with a healthy food outlet.[41]

In Benton County, 9 percent of the low-income population lives more than a mile from the nearest grocery store, a distance which is considered limited access to healthy food by the USDA.[42] In combination to distance from a grocery store, price and type of food sold locally may also present challenges to low income minority residents. For example, residents in south Benton County report travelling 30 minutes to buy groceries at low-price grocery stores in Eugene.[43]

Rural grocery stores throughout the county report barriers which may limit rural low-income families' access to healthy food. These include: administrative barriers to becoming an authorized vender for SNAP and WIC programs; and economic barriers to offering fresh fruits and vegetables, meat, dairy and other refrigerated foods.[44]

Fast Food Restaurants

As mentioned earlier, many residents, especially those with lower levels of education, perceive fast food restaurants as an important issue to their health. Studies show an increase in obesity and diabetes prevalence with increased access to fast food outlets in a community. This is locally relevant since Benton County has the highest proportion of fast food restaurants in Oregon (49 percent).[45]

Healthy Homes

Lead Screening

Lead poisoning is a significant health concern. Laws and regulations are in place to help protect people however lead poisoning still threatens many Oregonians, especially children.

Although leaded paint and gasoline may no longer be legally sold in the United States, many children are still exposed to dangerous amounts of lead. Lead paint dust is the most common way children are exposed, and it is common inside and outside homes built before 1978. Ordinary household repair and maintenance activities can stir up lead-contaminated dust. People can also get lead in their bodies by eating foods contaminated with lead from the soil or paint chips.

Oregon has a relatively low overall prevalence of lead poisoning compared to other states and prevalence rates have declined through the years. This decline is consistent with national trends. In Oregon an estimated 1,000-2,000 children have blood lead levels equal to or greater than 10 µg/dl. Of the 101,797 children screened in the last 12 years in Oregon, 12.3 percent had blood lead levels in the 5-9 µg/dl range. There have not been any lead poisoning cases originating in Benton County in the last 10 years.

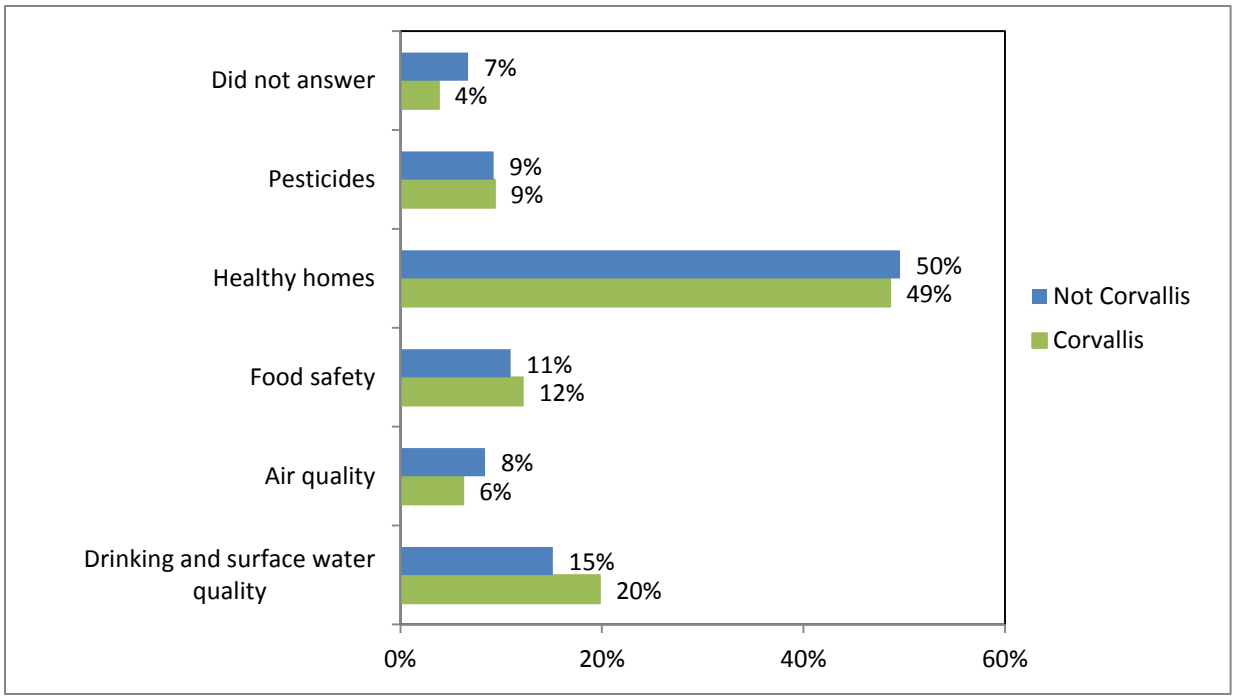
Radon

Radon (Rn) is a gaseous radioactive element that occurs from the natural breakdown of uranium in the soil and rocks. It is colorless, odorless, and tasteless. In indoor settings, radon poses a risk by emitting atomic particles that can enter the lungs and alter the DNA, increasing a person's lung cancer risk. Radon is the second leading cause of lung cancer in the nation and is classified as a Class A carcinogen according to EPA. Radon is found in varying concentrations throughout the United States with moderate levels found in Oregon (generally under 40 picocuries of Radon per liter of indoor air). Four to ten percent of Oregon homes are estimated to have radon gas leaks.

The average indoor radon level in Benton County, as determined by radon test results from Air Check, Inc, is 1.8 picocurie (Radon Levels for Oregon). The average national indoor radon level is 1.3 picocurie.

Throughout Benton County, healthy homes are rated as the most important environmental quality issue affecting health. Many low income residents report inadequate ventilation and insulation leading to high utility costs in the winter and the growth of mold. [46] Many low income residents are unaware of renters' rights in regards to quality housing as an avenue to reduce these risks.

Environmental quality issue that has the greatest impact on health, Benton County, 2012



Source: Benton County Public Health Assessment Survey, 2012

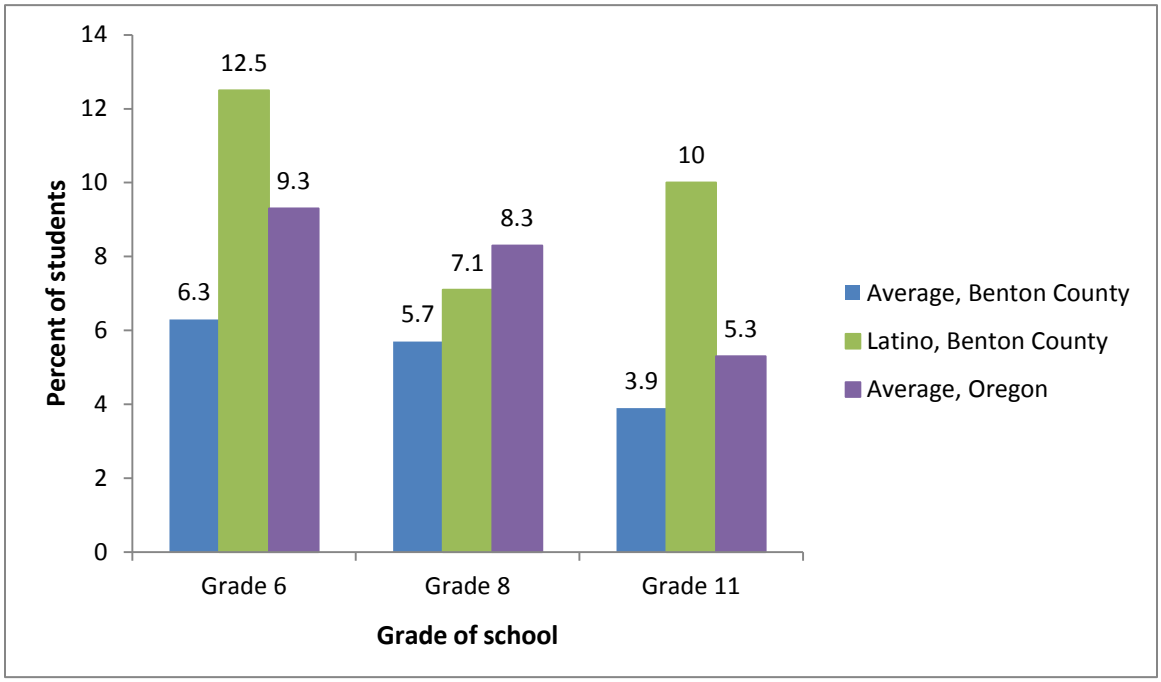
Community and Personal Safety

The same factors that influence where people live and the opportunity they have to be healthy - income, employment, education – are also linked to the occurrence of violence.

Violence in schools can affect the learning environment and contribute to absenteeism. Students, who are bullied, harassed, feel unsafe or otherwise victimized are more likely to miss classes, skip school, feel depressed or exhibit problem behaviors. Research shows that comprehensive discipline, positive behavioral support and anti-bullying programs in schools can reduce the incidence of harassment among primary and secondary school students.

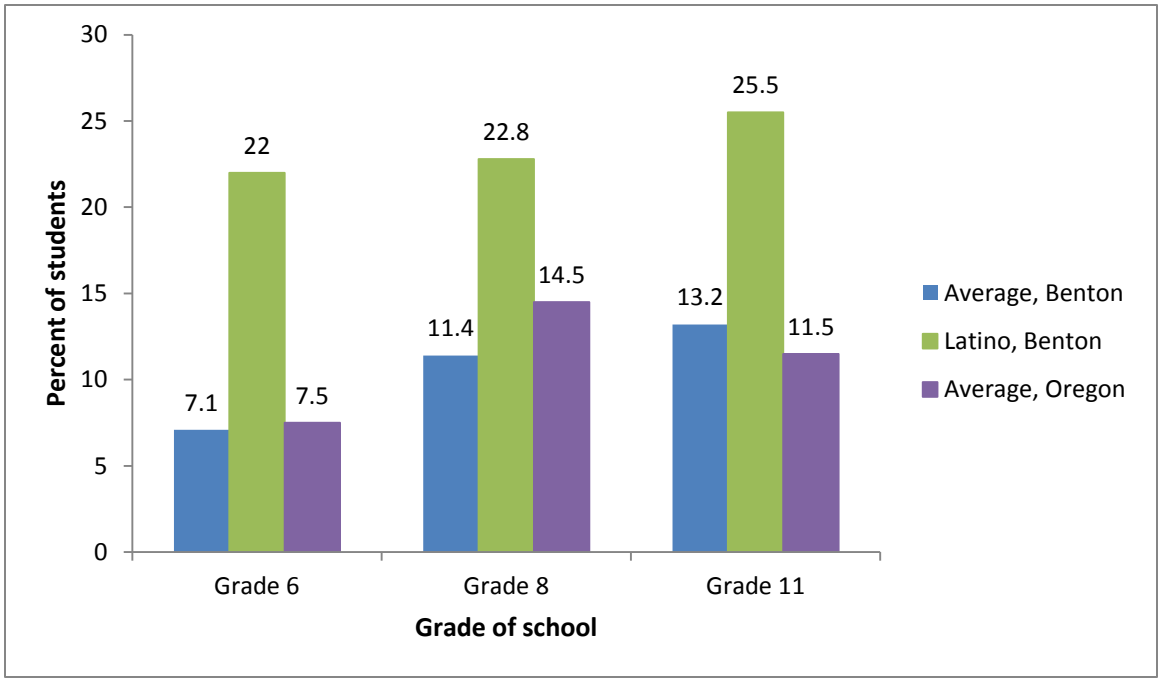
On average, few middle and high school students in Benton County report feeling unsafe at school, however, responses differ by ethnicity and sexual orientation.

Percent of Benton County students missing school, due to feeling unsafe, 2007-2009



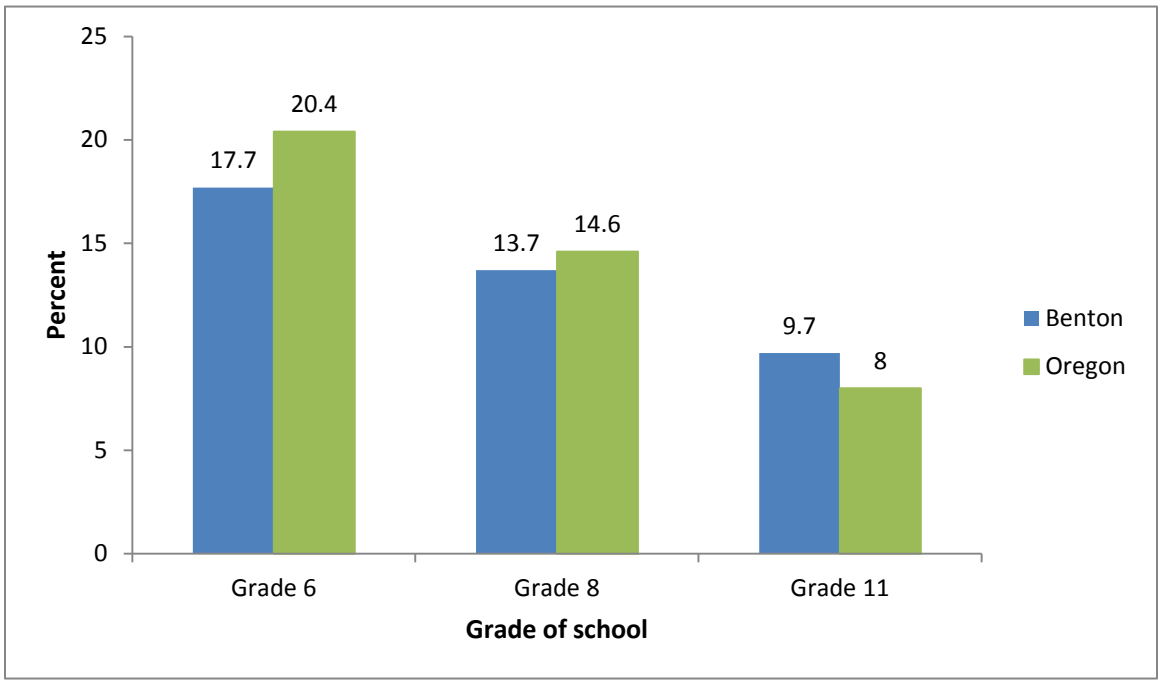
Source: Oregon Student Wellness Survey, 2007-2009

Percent of Benton County students experiencing harassment about race or ethnic origin, 2007-2009



Source: Oregon Department of Human Services Addictions and Mental Health Division, 2012

Harassment because someone thought you were gay, lesbian, bisexual or transgender: 2009-2010



Source: Oregon Department of Human Services Addictions and Mental Health Division, 2012

Access to Medical Care

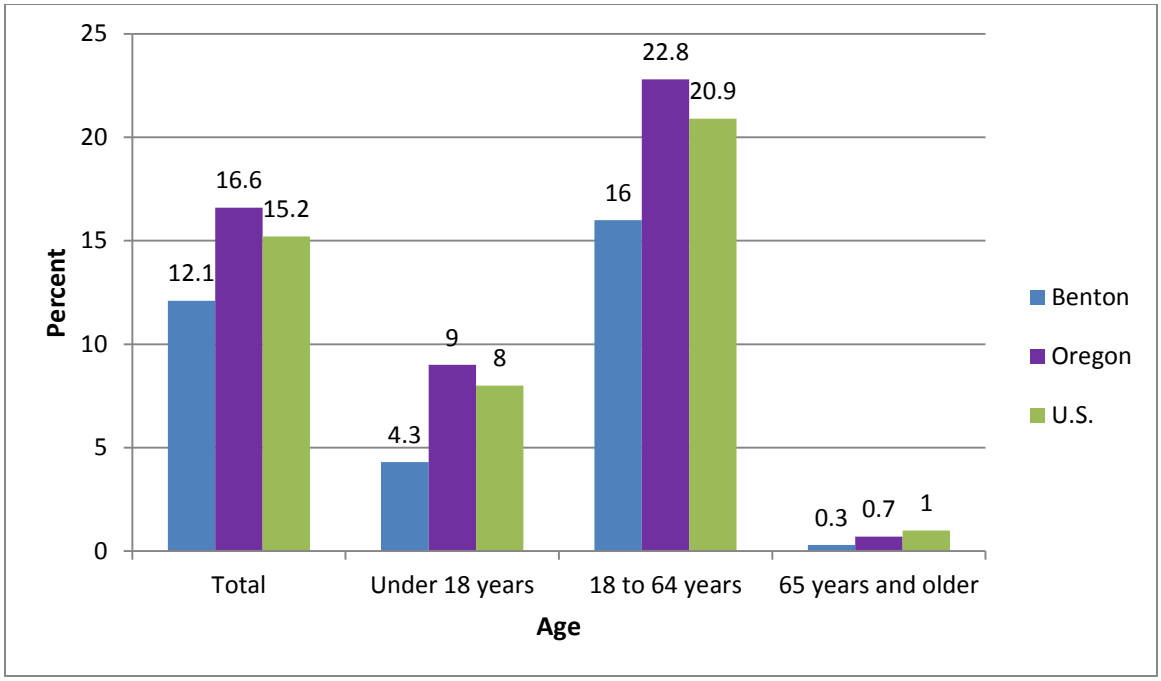
A number of factors that shape the opportunity for health in Benton County - education, employment, and transportation, for instance - also affect access to health care. In addition, the ability to acquire health insurance often affects a person's access to medical care.

Insurance Coverage

People who are uninsured or under-insured (that is, their insurance does not cover all necessary care) receive less medical care than their insured counterparts. Even when they do receive care, it is often significantly delayed (often due to concerns about cost), and their final outcome is frequently worse than if they had received care right away[47]. Lack of health insurance creates a financial risk and a burden when care is received. Hospital-based charity care helps uninsured and under-insured Benton County residents, but does not completely compensate for gaps in health insurance coverage.

Almost 12 percent of the population in Benton County is uninsured, most significantly among individuals 18-64 years of age (17 percent of all 18-64 year olds). Among youth under the age of 18, almost 6 percent were uninsured. Differences in the rate of insurance persist both by race/ethnicity, employment status and income.

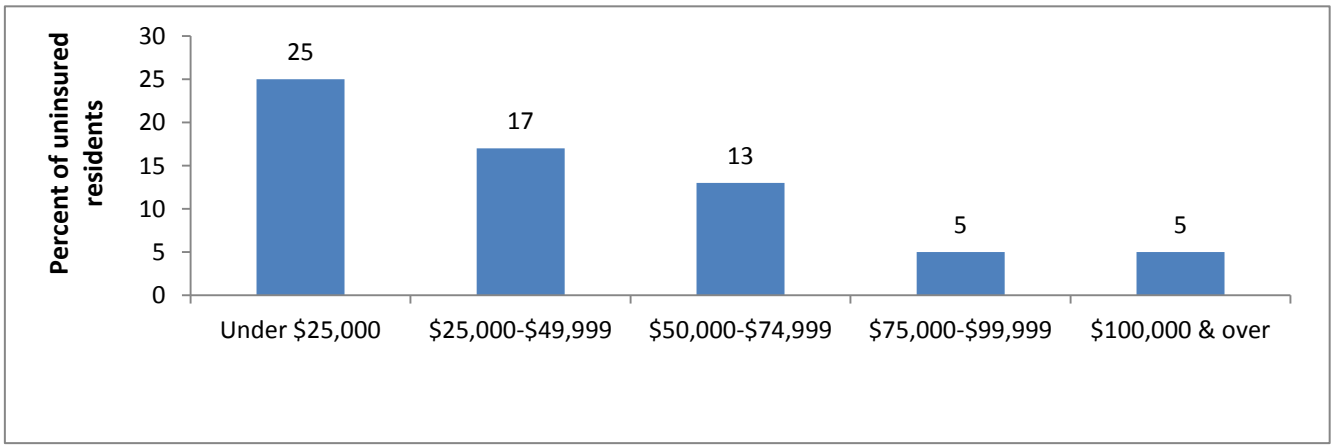
Percent of population without medical insurance coverage, 2009-2011



Source: Census Bureau, American Community Survey, 2008-2012

- Twenty five percent of Hispanic/Latino individuals and 23 percent of "other race" are uninsured, compared to 8 percent of Asians and 13 percent of the White population.
- Forty percent of the unemployed are uninsured compared to 14 percent of those currently employed.
- Among the employed, those working less than full time, year-round are more likely to be uninsured compared to those working full time, year-round (20 percent vs. 10 percent). Residents earning less than 200 percent of the Federal Poverty Level are more likely to be without insurance coverage than those with higher incomes (44 percent vs. 8.5 percent).

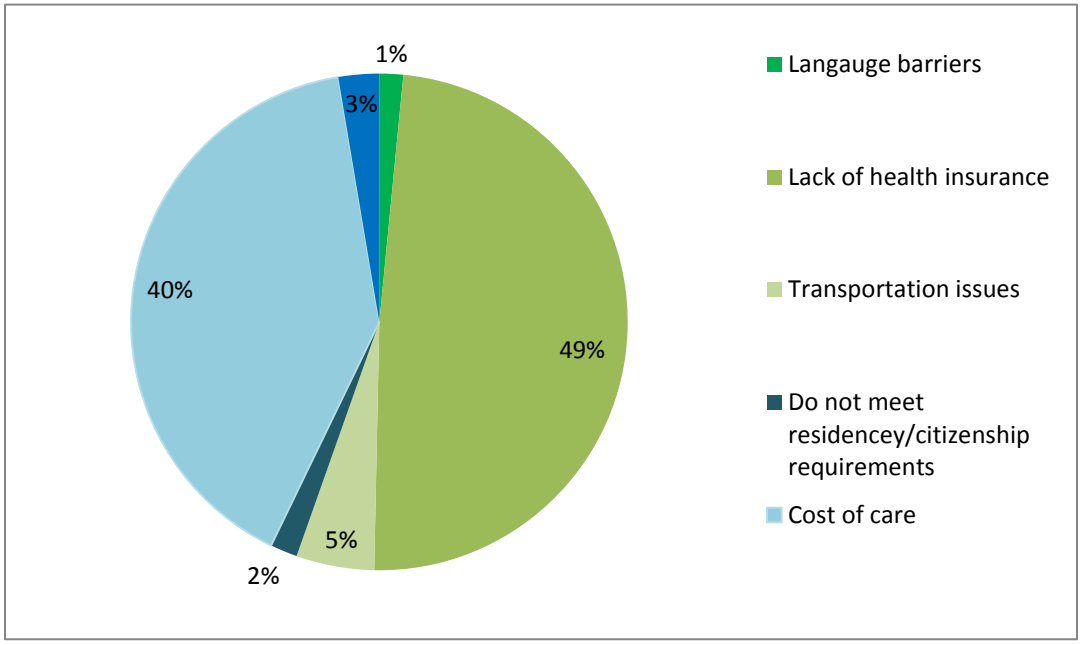
Percent uninsured Benton County residents, by income level, 2008-2010



Source: Census Bureau, American Community Survey, 2008-2012

Lack of health insurance and the cost of medical care are the two most important issues influencing access to health care for residents in Benton County as reported in the Benton County Public Health Assessment Survey. These results are consistent across place of residence, education levels and age groups.[48]

The issue that has the greatest impact on the ability to receive health care services in Benton County, 2012



Source: Benton County Public Health Assessment Survey, 2012

Many Benton County residents have voiced a concern about access to medical care, particularly for those who are uninsured, non-resident[49] or disabled.[50]

Additional areas of concern among the residents regarding access to health care and quality of care include:[51]

- transparency in the delivery of services
- communication and collaboration among various providers
- focus on prevention and education
- inclusion of special needs - especially mental health
- convenient locations and hours among service providers
- recognition of cultural issues and barriers to care

Chapter 4
Healthy Living Indicators

This section addresses individual health behaviors such as engaging in physical activity, maintain healthy eating habits, being tobacco-free, and using alcohol and prescription drugs appropriately. Ways that people protect and promote health for others is also discussed, including assuring a healthy start for children; preventing and managing chronic conditions; preventing disease and injury; and promoting mental good health.

Making healthy choices at the individual and community level requires knowledge and understanding, as well as freedom to act on informed decisions. As a result, healthy living is highly dependent on the contextual factors described in Chapter 3: Opportunities for Health.

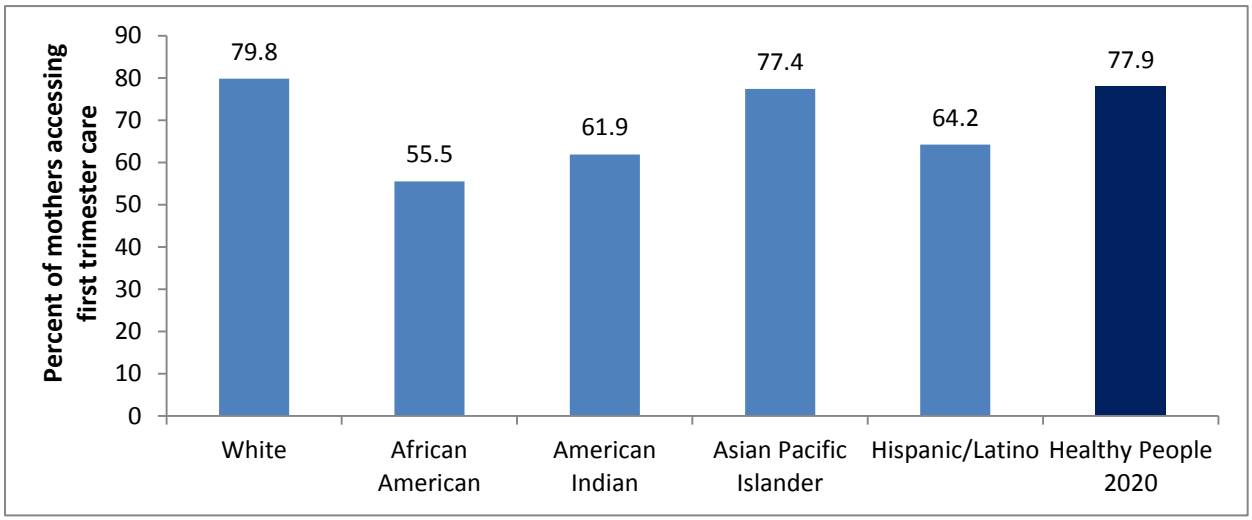
A Healthy Start for Children

Prenatal Care and Healthy Pregnancy

Women who access prenatal care are more likely to have healthy pregnancies, and prevent prematurity or low birth weight, both of which are significant contributors to infant mortality and high costs of care. Prenatal care includes discussing a mother's healthy choices and body changes; prenatal testing and counseling; identifying and treating medical complications like gestational hypertension, diabetes, and anemia; promoting optimal weight gain; testing for and treating sexually transmitted infections; oral health assessment and treatment; and maternal mental health, tobacco and substance abuse screening.

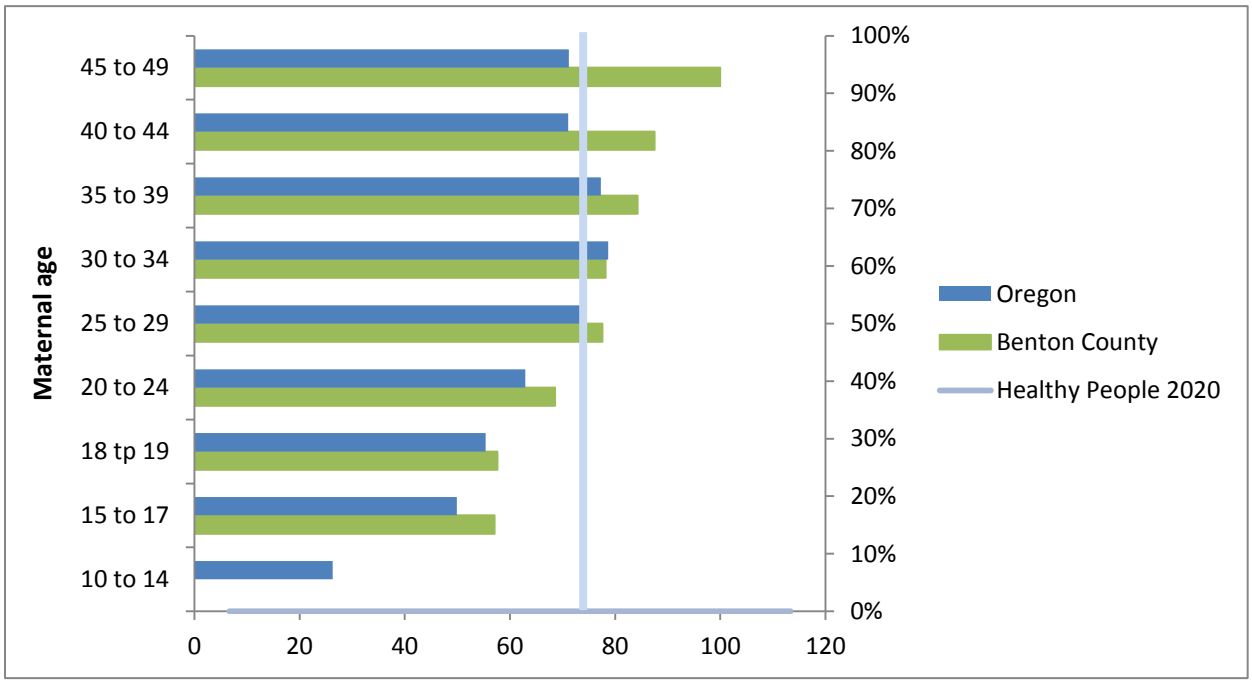
In Benton County, White mothers and older mothers (24 years and older) are more likely to receive prenatal care during the 1st trimester. Younger mothers (24 years and younger) and non-White mothers are less likely to receive care during the 1st trimester.

Prenatal care in Benton County, 2008-2010



Source: Benton County Health Status Report, 2012

Percent of women with 1st trimester prenatal care by maternal age: 2009



Source: Benton County Health Status Report

Number of infant deaths

In Benton County, infant mortality has remained at around zero since 2001. Infant mortality rates are lower in Benton County than in Oregon (7.8 per 1,000 births). Benton County exceeds the Healthy People target of 6.0 per 1,000 births.

Low Birth weight, less than 2,500 grams (singleton births)

In 2009, approximately 5.5 percent of all infants born in Benton County weighed less than 2,500 grams, which exceeds the Healthy People 2020 target of 7.8 percent. Hispanic/Latino mothers (7.9 percent) are more likely to have low birth weight babies than White (5.2 percent) and Asian/Pacific Islander mothers (6.1 percent).

Pregnancy

Smoking during Pregnancy

Smoking during pregnancy is the single most preventable cause of illness and death among mothers and infants[52]. Smoking during pregnancy increases the risk of stillbirth, low birth weight, sudden infant death syndrome (SIDS), preterm birth, cognitive and behavioral problems, and respiratory problems in both mother and child.[53]

Children exposed to tobacco in utero are more than twice as likely to become regular smokers themselves later in life, compared with children not exposed to tobacco in utero. Women who quit smoking before pregnancy or early in pregnancy also significantly reduce their risks for delays in conception (and infertility), premature membrane rupture, placental abruption, and placenta previa.[54]

The proportion of Benton County mothers that smoke during pregnancy increased between 2005 and 2009. On average, 8.3 percent of mothers smoke during pregnancy. This percentage is lower than the State average of 12.8 percent, but fails to meet the Healthy People 2020 target of 1.4 percent. Smoking during pregnancy is more likely in some populations, such as White and American Indian/Alaska native women and younger women (under 25 years of age).

Smoking rate disparities among pregnant women in Benton County, 2009

Population	Percent who smoke during pregnancy
White, non-Hispanic	11.3%
American Indian/Alaska Native	10.0%
Between 18-19 years old	17.7%
Between 20 and 24 years old	23.6%
Total Benton County	8.3%

Source: Benton County Health Status Report, 2012

Smoking among pregnant women may be attributable to tobacco marketing directed at young women or norms within their social networks. Further research is needed to explore the disparities of smoking rates among different populations of pregnant smokers.

Smoking cessation counseling and programs offered during prenatal care can provide effective assistance to encourage pregnant women to quit smoking. However, the number of pregnant smokers who are offered such interventions in Benton County is unknown.

All Oregonians, regardless of insurance level or income, have access to the Oregon Tobacco Quit Line which offers free telephone based support to quit tobacco and specialized materials for pregnant women (1-800-QUIT-NOW or Spanish: 1-800-2NO-FUME). For women enrolled in Medicaid/Oregon Health plan, a comprehensive coverage of tobacco-dependence treatments is available for all smokers who want to quit. Oregon Medicaid program covers all forms of tobacco-dependence medications and at least one form of counseling. In addition, Oregon State law requires that all health insurance companies provide at least $500 in tobacco cessation benefits. These resources can be promoted to all smokers through provider referral systems.

Alcohol Use during Pregnancy

Drinking alcohol during pregnancy can cause miscarriage, stillbirth, and a range of lifelong disorders, known as fetal alcohol spectrum disorders (FASDs). Children with FASDs can have a host of problems, including poor coordination, hyperactivity behavior, difficulty paying attention, poor memory, difficulty in school, learning disabilities, speech and language delays, poor reasoning and judgment skills, vision or hearing problems, and problems with the heart, kidney, or bones[55] . There is no known safe amount of alcohol to drink during pregnancy, and no known safe time to drink alcohol during pregnancy.

The Pregnancy Risk Assessment Monitoring System, a national surveillance system, provides information about women who have had a recent live birth. Benton County data on the proportion of mothers consuming alcohol prior to or during pregnancy is not available. The most recently available State data stratified by race/ethnicity and age is from 2004.[56] Due to demographic changes over the past eight years, more recent local data is needed on alcohol consumption prior to and during pregnancy.

Breastfeeding

Breastfeeding is associated with numerous health benefits for infants, such as boosting immune system response and preventing obesity. Breastfeeding also promotes maternal-child bonding. The American Academy of Pediatrics recommends breastfeeding for a year or more after birth.[57] The proportion of mothers who breastfeed in Benton County exceeds each of the Healthy People 2020 targets

Percent of women breastfeeding, 2010

	Benton County	Oregon	United States	Healthy People 2020
Ever	92.8%	91.5%	61.7%	81.9%
At 6 months	60.9%	42.3%	27.0%	60.6%
At 1 year	40.2%	27.6%	18.5%	34.1%
Exclusively at 3 months	55.2%	45.3%	9.9%	46.2%
Exclusively at 6 months	50.3%	37.0%	5.3%	25.5%

Source: Benton County Health Status Report, 2012

Maternal Depression

Maternal depression is a depressive disorder characterized by feelings of sadness or hopelessness, diminished interest or pleasure in activities, changes in weight/appetite, sleeping disruption or too much sleep, restlessness or irritability, diminished ability to think or concentrate. Mothers with maternal depression are less likely to engage in healthy parenting behaviors. As a result, mother-infant bonding and attachment are compromised. In extreme cases, mothers with maternal depression have harmed themselves or their babies[58] .

In Oregon, 24 percent of new mothers report that they were depressed during and/or after pregnancy. Forty-eight percent of these women were still experiencing depression at their child's second birthday.[59]

Maternal depression rate disparities among women in Oregon: 2004-2008

- Low income women are twice as likely to report depressive symptoms as high income women (36.2 percent vs. 16.7 percent).
- Current smokers are 50 percent more likely to report depressive symptoms than non-smokers (33.5 percent vs. 21.7 percent).
- Women who experienced partner stress are twice as likely to report depressive symptoms (42 percent vs. 16.2 percent).
- Racial/ethnic minority mothers are more likely to report depressive symptoms than white mothers (Hispanic 31.1 percent vs. White 20.8 percent).
- Teen mothers are more likely to report depressive symptoms than older mothers (36.3 percent vs. 16.9 percent).

Childhood and Youth Experience

The number and severity of adverse experiences during childhood affects an individuals' risk for alcoholism, depression, heart disease, liver disease, intimate partner violence, sexually transmitted infection, smoking, and suicide. Adverse events include emotional, physical, and sexual abuse and neglect, and various types of household dysfunctions such as violence against mothers, substance abuse, mental illness, parental separation or divorce, or an incarcerated household member.[60]

Violence Experience by Children and Teens

Domestic Violence

Domestic violence includes all forms of physical injury/abuse, sexual abuse or assault, intimidation, verbal abuse and emotional abuse or threats of such harm[1]. Domestic violence can include abuse from a household member (including roommates or caregivers), intimate partners (including dating partners) or a family member (whether or not they live with the victim).[61]

In 2011, Linn and Benton counties reported 3,914 calls regarding domestic violence. This total includes crisis calls, peer support calls, information and referral. In the same year 157 adults and children stayed overnight in domestic violence shelters in Linn and Benton counties.[62]

Child Abuse

Each year in Benton County, approximately 100 children under age 18 experience abuse/neglect. The types of abuse/neglect include mental injury, physical/medical neglect, physical abuse, sexual abuse, sexual exploitation or threat of harm. Most often, the perpetrators of child abuse and neglect are family members who commit 94.3 percent of all child abuse and neglect in the state of Oregon. Of those, mothers and fathers account for 74.3 percent.[63]

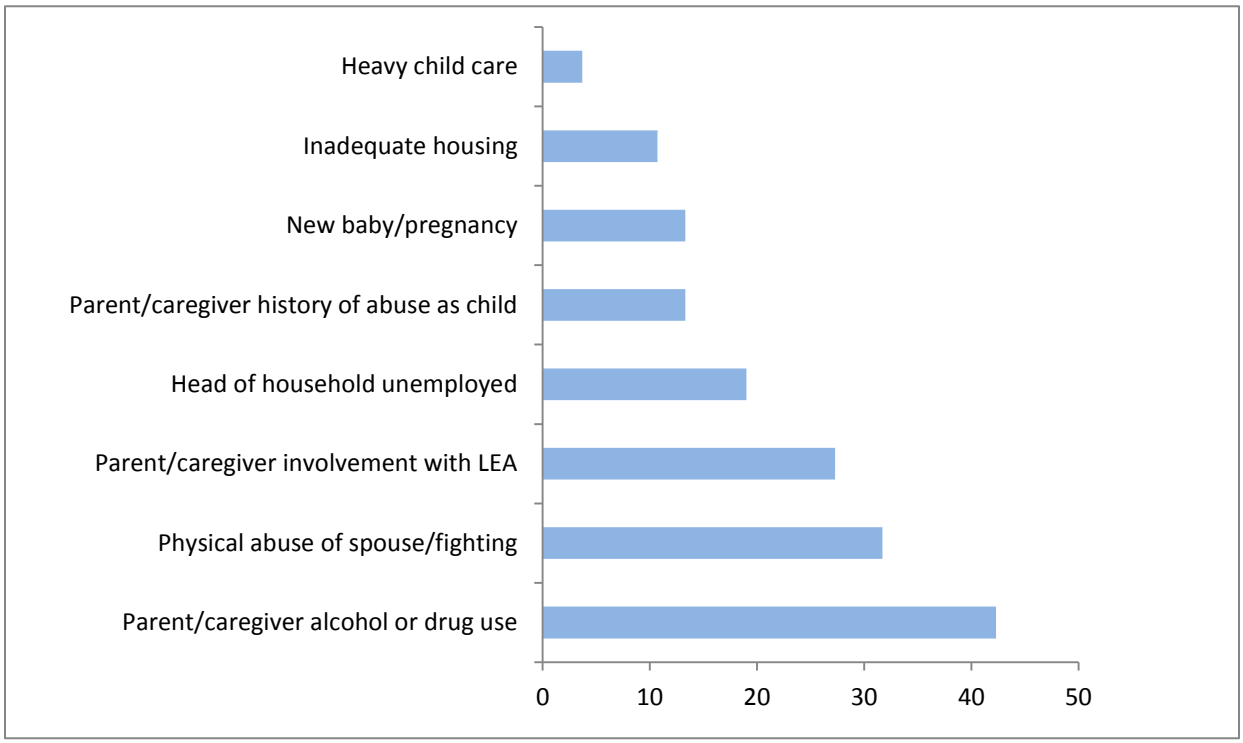
Child abuse/neglect rate per 1,000, 2005-2010

Year	Benton County	Oregon	Healthy People 2020
2005	6.6	13	8.5
2006	6.4	13.8	8.5
2007	6.3	12.2	8.5
2008	5.7	11.8	8.5
2009	5.8	12.5	8.5
2010	6	12.7	8.5

Source: Benton County Health Status Report, 2012

Family stress is a major underlying factor associated with families of abused and neglected children. Major sources of family stress often include drug and/or alcohol abuse, domestic violence, and parental involvement with law enforcement. Many families also have significant child care responsibilities. Some parents have a history of abuse as children. Many families experience multiple sources of stress.

Sources of family stress as a percent of founded abuse, Oregon, 2008-2010



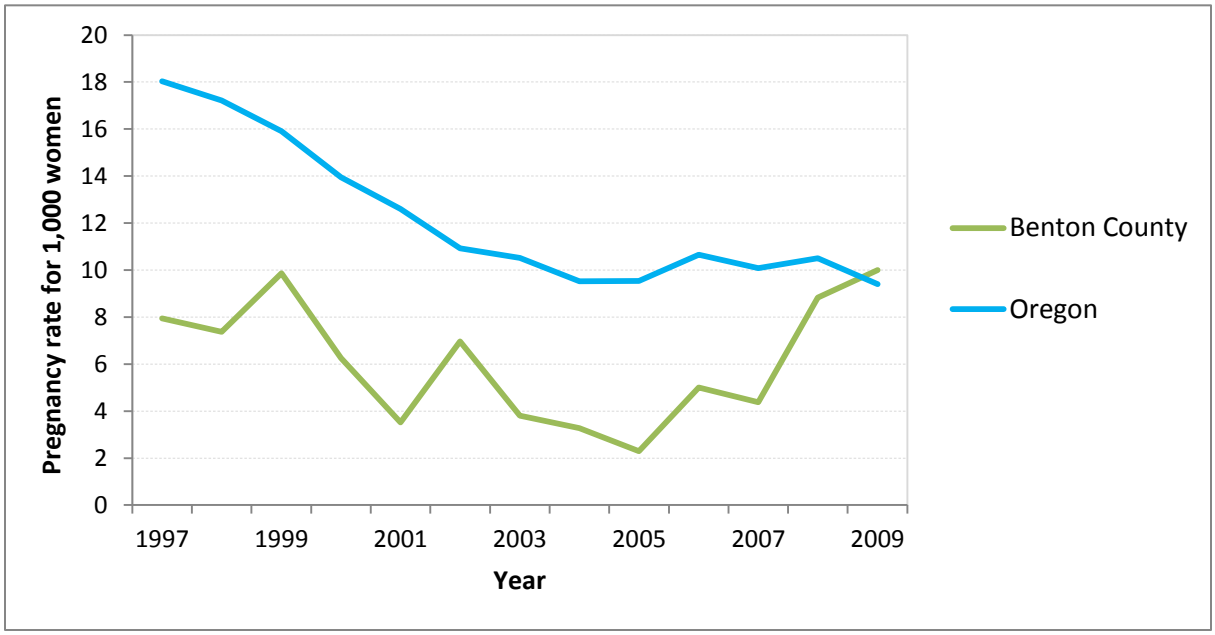
Source: Oregon Department of Human Services: Children, Adults and Families Division 2010 Child Welfare Data Book, March 2011

Teen Parenting

Teen mothers are less likely to receive early prenatal care, and are more likely to experience blood-pressure complications and premature birth. Children of teenage mothers are also more likely to become teen parents themselves, be incarcerated during adolescence, drop out of school, experience more health problems, and are two times as likely to experience abuse and neglect. On average in the United States, 50 percent of teen mothers receive a high school diploma by age 22, compared to 90 percent of women who had not given birth as a teenager.

Benton County teen (ages 10-17) pregnancy rates have continued to increase since 2006, while Oregon rates have decreased. Benton County teen pregnancy rates slightly surpassed Oregon in 2009. In Oregon there are striking differences in teen birth rates by Hispanic and non-Hispanic populations. Hispanic teens have a pregnancy rate that is over 2.5 times higher than non-Hispanic teens. In Benton County, race/ethnicity data is not available for teen pregnancy, and further data collection is needed.

Pregnancy rates for teens (10-17), 1997-2009



Source: Benton County Health Status Report, 2012

Mental and Emotional Health

Psychological Distress

Depression and Suicide Ideation

Suicide is the second leading cause of death among Oregonian ages 15-34, and the 8th leading cause of death among all Oregonians in 2010[64]. Depression is the most common underlying cause of suicide. Many individuals who take their own lives have a diagnosable mental or substance abuse disorder, and most have more than one disorder.[65] Factors associated with an increased risk of suicide among youth include prior attempts, depression, family discord, substance abuse, relationship problems, discipline or legal problems, and access to firearms.

Protective factors include availability of effective care for mental, physical and substance abuse disorders; access to mental health care; school, social and family support for seeking help; reduced access to lethal means; discussing problems with friends or family; emotional health; strong connections to family and community; and life skills such as problem solving, conflict resolution and anger management.

The following table highlights the percentage of 6th, 8th and 11th grade students that exhibited signs of depression, thoughts about suicide, or actually attempted suicide during the last 12 months.

Percent of 6th, 8th, and 11th grade students that exhibited signs of depression, thoughts about suicide, or actually attempted suicide during the last 12 months, 2010

	6th grade		8th grade		11th grade	
	Benton	OR	Benton	OR	Benton	OR
Did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?	15.1%	17.7%	16.8%	22.1%	19.0%	23.4%
Did you ever seriously consider attempting suicide?	0.0%	0.0%	9.3%	13.9%	11.3%	12.6%
Actually attempted suicide?	0.0%	0.0%	7.2%	9.0%	4.2%	6.6%

Source: Oregon Student Wellness Survey, 2010

***Percentages exclude missing answers. Only the first item was asked on the 6th grade survey*

Gender Identity and Sexual Orientation

Adolescence is a time of developing sexual awareness and gender expression, although many children are aware of their developing gender identity from a very early age. Because most state and national surveys do not ask questions related to sexual orientation or gender identity, it is difficult to estimate the health needs of lesbian, gay, bisexual, transgender, or queer (LGBTQ) children, youth and adults in Oregon and Benton County.

However, all adolescents address issues related to acceptance, self-esteem, and their growing need for intimacy and social connection. LGBTQ youth often face discrimination, social stigma, violence, victimization, and a lack of understanding relating to their unique needs, and this can create significant barriers to health.[66]

As mentioned in Chapter 3, many Benton County 6th and 8th graders reported that they experienced harassment because someone thought they were gay, lesbian, bisexual or transgender at a slightly lower rate than their peers in the rest of Oregon. However, 11th graders in Benton County reported harassment because someone thought they were gay, lesbian, bisexual or transgender at a higher rate than 11th graders in the rest of Oregon.

Physical Activity and Nutrition

Physical Activity

Regular physical activity helps improve overall health and wellness, reduces risk for obesity, and lessens the likelihood of developing many chronic diseases including diabetes, cancer and heart disease. National physical activity guidelines recommend that children engage in at least 60

minutes of physical activity each day, including aerobic, muscle strengthening, and bone strengthening activity. Adults need at least two hours of moderate to vigorous-level activity every week, and muscle-strengthening activities on two or more days a week.[67]

On average in Benton County, middle school and high school youth are exceeding the Healthy People 2020 target of 20.2 percent of youth engaging in physical activity 60 minutes a week. Current available data for Benton County does is not include breakdown by race/ethnicity or income level.

Percent of youth meeting CDC recommendations for physical activity: 2005-2008

Year	8th grade	11th grade	Healthy People 2020
2005-2006	30.8%	21.8%	20.2%
2007-2008	26.5%	22.1%	20.2%

Source: Benton County Health Status Report, 2012

Reducing the amount of time youth spend in front of a screen, such as viewing television, videos or playing video games is a key strategy to promote physical activity. The Academy of Pediatrics recommends limiting television and video time to a maximum of 2 hours per day for children over the age of 2 and no exposure to television and or videos (i.e. 0 hours) for children younger than 2 years of age.[68]

In Benton County, middle and high school youth are spending more time in front of screens as the proportion of youth viewing no more than 2 hours a day has decreased.

Percent of youth who view television, videos or play video games for no more than 2 hours: 2005-2008

Year	8th grade	Healthy People 2020	11th grade	Healthy People 2020
2005-2006	72.7%	86.8%	82.2%	73.9%
2007-2008	63.1%	86.8%	67.6%	73.9%

Source: Oregon Healthy Teens

Overall, 64 percent of adults in Benton County meet the CDC guidelines for physical fitness. Like children and youth, data is not available that describes the extent of physical activity among adults by race/ethnicity nor level of household income. In Oregon, participation in physical activity does vary by race/ethnicity, household income and by level of education. Adults with less than a high school education, those earning less $24,999, and Latinos/Hispanics are less likely to meet CDC physical activity recommendations than their peers.

Percent of adults who meet CDC recommendations for physical activity, 2002-2009

Year	Benton County	Oregon	Healthy People 2020
2002-2005	58.2%	54.7%	47.9%
2004-2007	63.4%	57.9%	47.9%
2006-2009	64.2%	55.8%	47.9%

Source: Benton County Health Status Report, 2012

Eating Habits

Eating a balanced diet has a direct effect on a person's health, growth, and feeling of well-being. Eating a variety of foods, particularly fruits and vegetables, provides essential nutrients, including dietary fiber and potassium.[69]

In Benton County, a higher percentage of 8th graders than 11th graders consume at least 5 servings of fruits and vegetables a day. A smaller percentage of youth in both grades consumed at least 5 servings of fruits and vegetables a day in 2007–2008 than in 2005–2006.

Additional data is needed to identify patterns of consumption by age, race/ethnicity and household income level. More information is also needed to identify strategies for increasing daily consumption of fruit, fruit juice, or vegetables by youths.

Percent of youth consuming at least 5 servings of fruits and vegetables per day, 2005-2008

Year	8th grade	11th grade
2005-2006	29.1%	28.3%
2007-2008	28.8%	23.5%

Source: Benton County Health Status Report, 2012

Approximately one-third of adults in Benton County are consuming at least 5 servings of fruits and vegetables per day. Additional assessment of fruit and vegetable intake by race/ethnicity, age group and income levels is needed for future planning and outreach among adults in Benton County.

Percent of adults who consumed at least 5 servings of fruits and vegetables per day, 2002-2009

Year	Benton County	Oregon
2002-2005	30.1%	25.8%
2004-2007	32.2%	26.6%
2006-2009	31.6%	27.0%

Source: Benton County Health Status Report, 2012

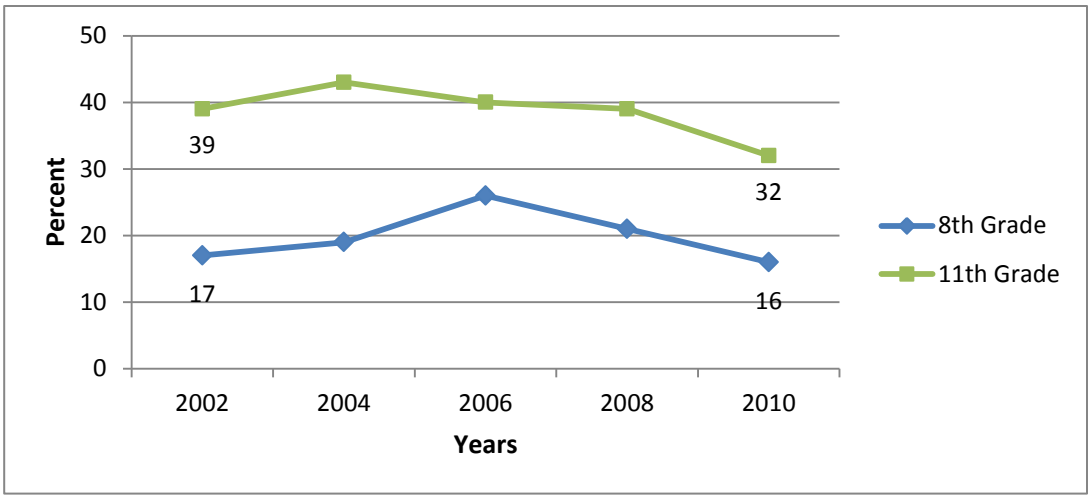
Alcohol, Tobacco, and Prescription Drug Abuse

Alcohol and prescription medications are consumed appropriately and responsibly by most of the population. However problems frequently occur when these substances are over-consumed, used inappropriately, combined with other substances, or consumed while engaging in risky activities like driving or unsafe sexual activity. Smoking cigarettes and using other tobacco products is directly correlated with nicotine addiction and multiple health risks including cancer.

Alcohol Use and Binge Drinking

Excessive alcohol consumption, especially at a young age, can contribute to a number of health issues including heart disease and stroke, high blood pressure, cirrhosis, coma, and death.[70] The younger a person begins drinking regularly, the greater the chance that person will develop a clinically defined alcohol disorder. Youth who start drinking before the age 15, compared to those who start at 21, are far more likely to be injured while under the influence of alcohol, to be in a motor vehicle crash after drinking, or to become involved in a physical fight after drinking. [71]

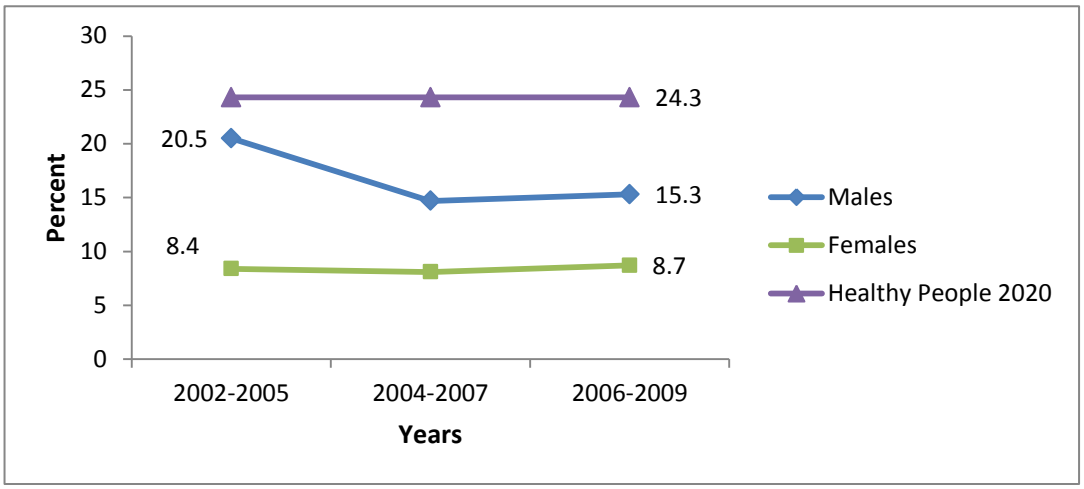
Percent of youth reporting alcohol consumption in the past 30 days, 2002-2010



Source: Benton County Health Status Report, 2012

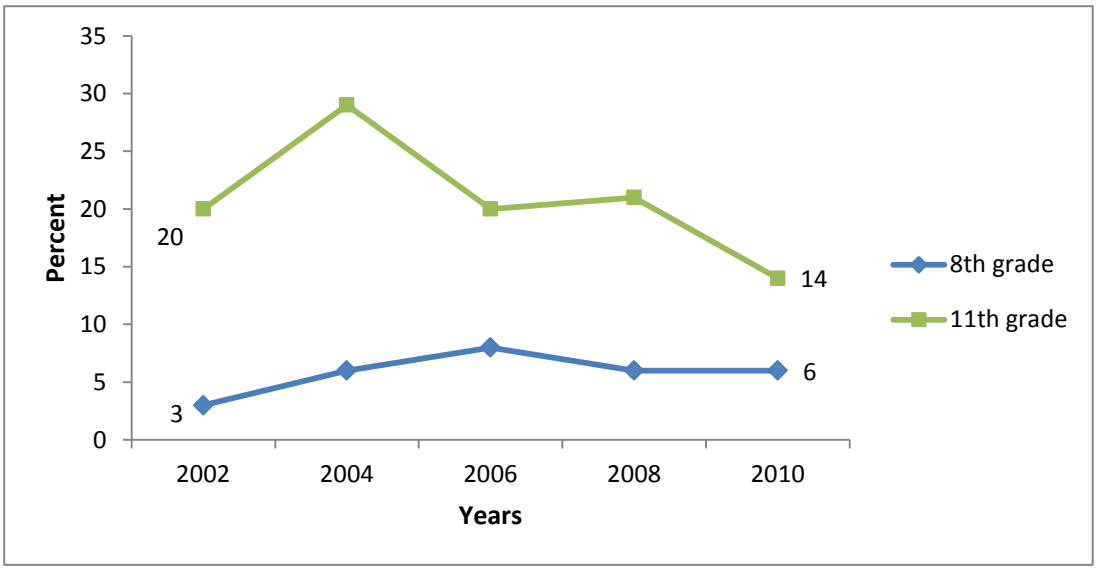
Binge drinking, in which a person consumes a significant amount of alcohol in a short period of time, is associated with the same serious health problems as other forms of alcohol abuse (Binge drinking is defined as consuming five or more drinks at one time for men, and four or more drinks at one time for women).

Percent of adults reporting binge drinking by sex, 2002-2009



Source: Benton County Health Status Report, 2012

Benton County youth and binge drinking in the past 30 days, 2002-2010



Source: Benton County Health Status Report, 2012

In 2011, the Oregon Health Authority-Addictions and Mental Health Division awarded Benton County funding to participate in the Strategic Prevention Framework (SPF) Project and conduct a needs assessment related to underage, excessive, and binge drinking among 18-25 year-olds in Benton County. The process included collection of primary data through key informant interviews, law enforcement interviews, and town hall meetings and review of secondary data. Benton County and the SPF Advisory Group conducted the data review.

The Benton County SPF needs assessment identified the following key themes:

- Rates of high-risk drinking are higher than average among certain sub-populations due to the high social accessibility of alcohol.
- High-risk drinking is socially accepted which indicates a lack of community readiness to change the community norms around high-risk drinking.
- Among 18-25 year-olds, there is a low perception of risk associated with the legal consequences of high-risk drinking due to criminal justice capacity.

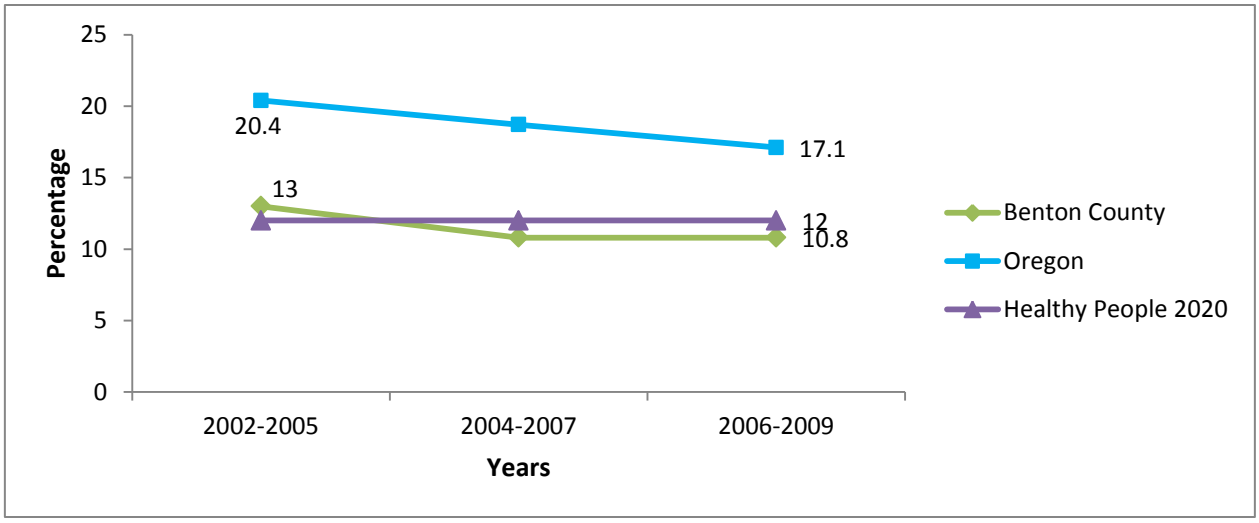
Many efforts are currently underway in Benton County to prevent and/or reduce substance abuse, including federal and state prevention funding, local coalitions working to decrease excessive and underage drinking, SPF advisory group, trainings and educational opportunities, and multiple collaborative inter-agency initiatives.

Tobacco Use and Exposure to Secondhand Smoke

Tobacco use is the single most preventable cause of disease, disability, and death in the United States. Tobacco use in any form can cause serious diseases and health problems, including cancers of the lung, bladder, kidney, pancreas, mouth, and throat; heart disease and stroke, lung diseases (i.e., emphysema, bronchitis, and chronic obstructive pulmonary disease), pregnancy complications, gum disease and vision problems.

Benton County has a lower percent of adult cigarette smokers than Oregon. Benton County meets the Healthy People 2020 goal for percent of adults who are current smokers.

Percent of adults who currently smoke cigarettes, Benton County, 2002-2009

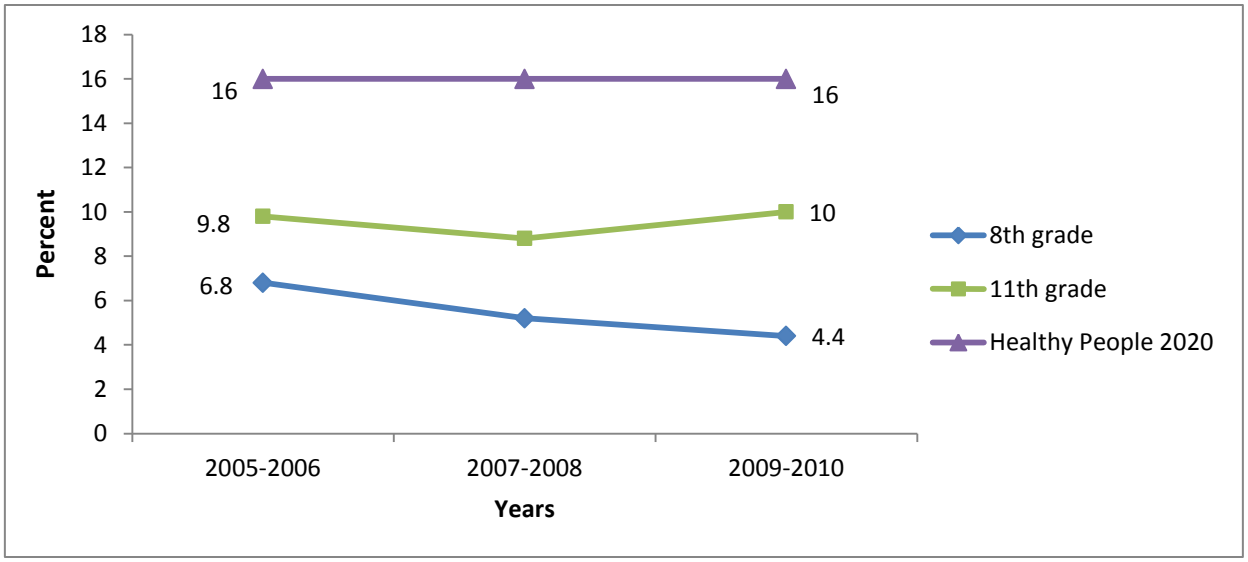


Source: Benton County Health Status Report, 2012

Tobacco products are designed to deliver nicotine, an addictive drug which changes the way the brain works, causing tobacco users to crave repeated doses. Youth are especially sensitive to nicotine and can become dependent more quickly than adults. Because of their dependency, close to three out of four teen smokers continue using tobacco products into adulthood.

Benton County has a lower percent of youth reporting smoking a cigarette in the past 30 days than Oregon. Benton County meets the Healthy People 2020 goal for percent of youth reporting smoking a cigarette in the past 30 days.

Youth and smoking in Benton County, 2005-2010



Source: Benton County Health Status Report, 2012 and Benton County Student Wellness Survey, 2010

Secondhand smoke is a mixture of the smoke exhaled by a person smoking, and the smoke from burning tobacco in a cigarette, pipe, or cigar. Secondhand smoke contains the same toxic chemicals and carcinogens as inhaled tobacco smoke, and even brief exposure has been found to put a nonsmoker's health at risk. In adults, secondhand smoke exposure has been found to cause lung cancer and heart disease. Children exposed to secondhand smoke are more at risk for ear infections, asthma attacks, respiratory symptoms and infections, and a greater risk for sudden infant death syndrome (SIDS).[72]

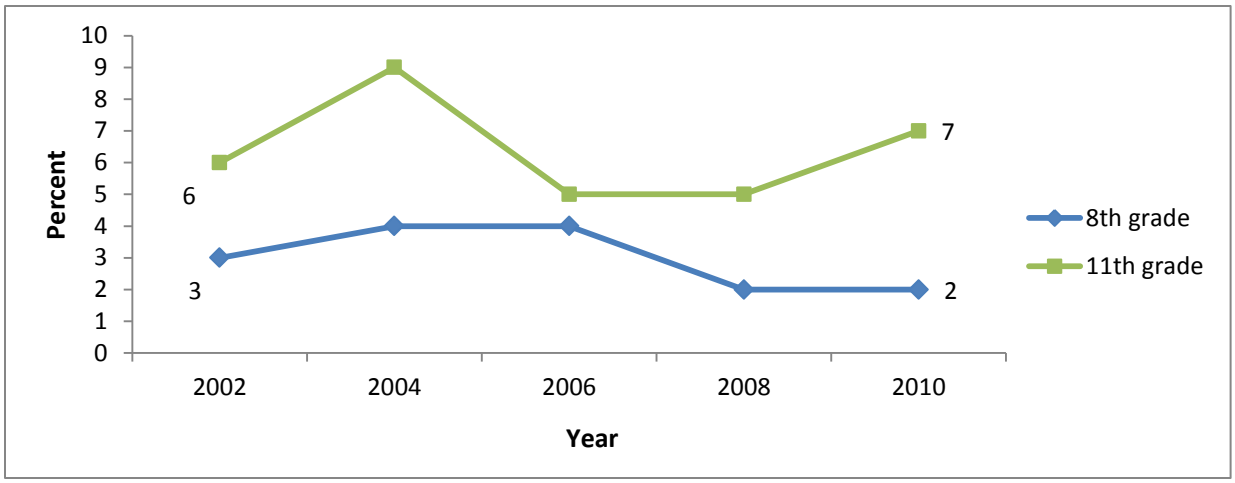
Benton County adopted a landmark Smokefree Workplace Ordinance in 1997 protecting residents and visitors from tobacco smoke in their environment at work. This added momentum to social changes and adoption of voluntary smoke-free rules at home and in cars. Benton County residents report no-smoking rules for their cars at a higher rate than the rest of Oregon (88 percent vs. 83 percent).[73]

In Benton County, 93 percent of homes have no-smoking rules compared to 90 percent of homes in Oregon as a whole.[74] Ninety-five percent of Benton County 8th grade students report no smoking inside their home, a significantly higher rate than the rest of the state.[75]

Prescription Drug Use

When prescription drugs are misused or taken without a doctor's prescription they can be just as harmful as illegal street drugs. Rates of improper prescription drug use among youth across the United States are rising. Benton County is no exception.

Percent of youth reporting prescription drug use to get high in the past 30 days, 2002-2010



Source: Benton County Health Status Report, 2012

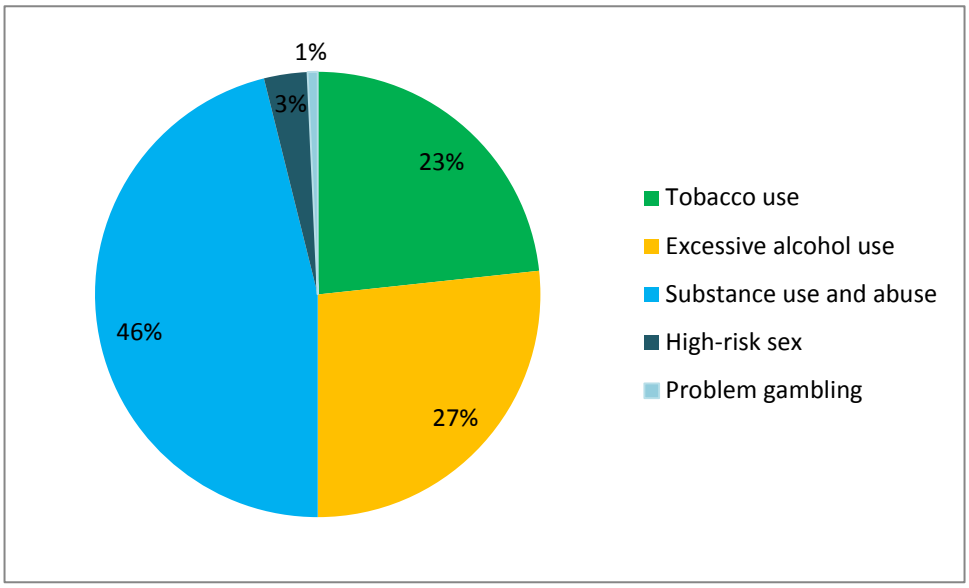
In 2011, Benton County Health Services conducted a series of focus groups among high school youth to identify their perception of youth prescription drug abuse. That survey is currently informing the development of a prescription drug abuse prevention media campaign.

Responses indicated that youth perceive prescription drug abuse among their peers to be greater than what is being reported. Discussions revealed that youth are easily accessing prescription drugs from their parents, friends or family members and rarely purchasing from a drug dealer or stranger. This information is consistent with national research.

Substance Use and Abuse

Results of the Benton County Public Health Services Assessment Survey reveal that residents perceive that substance use and abuse to be the behavioral risk factor that has the greatest impact on the overall health of people in Benton County.[76]

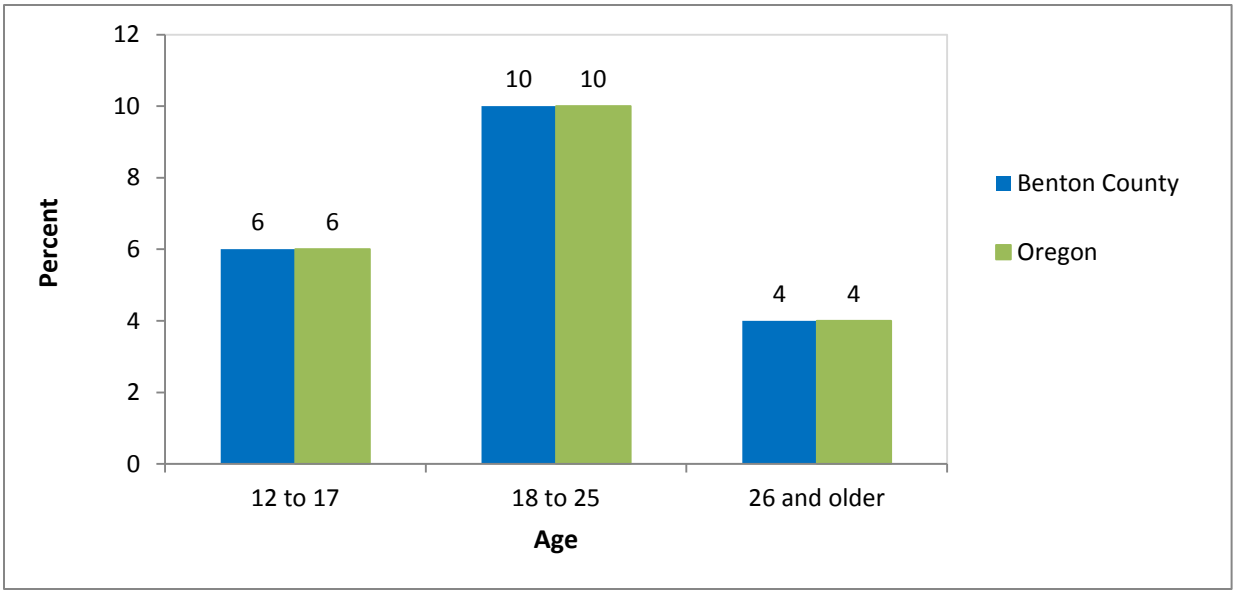
The behavioral risk factor that has the greatest impact on the overall health of people in Benton County, 2012



Source: Benton County Public Health Assessment Survey, 2012

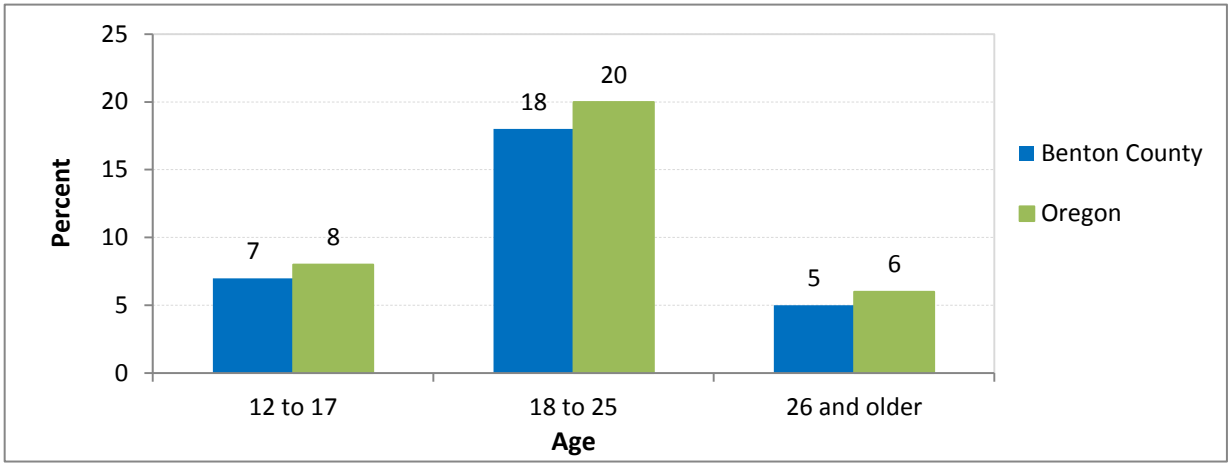
The most recent data available at the county level suggests that use of illicit drugs occurs among 4.0 to 10.0 percent of the population based on age. A slightly higher proportion of residents, 5.0 to 18.0 percent depending on age, report use of marijuana. More recent data on substance use in Benton County is needed to adequately understand current use.

Percent of individuals reporting illicit drug use (excluding marijuana) in the past 30 days by age in Benton County, 2006-2008



Source: Benton County Health Status Report, 2012

Percent of individuals reporting marijuana use in the past 30 days by age in Benton County, 2006-2008



Source: Benton County Health Status Report, 2012

Preventing and Managing Chronic Disease

Cancer Screening

Research shows that screening for cancer is effective in reducing serious consequences of the disease, which is generally more treatable when detected early. Overall, rates of cancer screening are higher in Benton County than the State average. However, additional data is needed to identify rates of screening among race/ethnic populations, age group and income level.

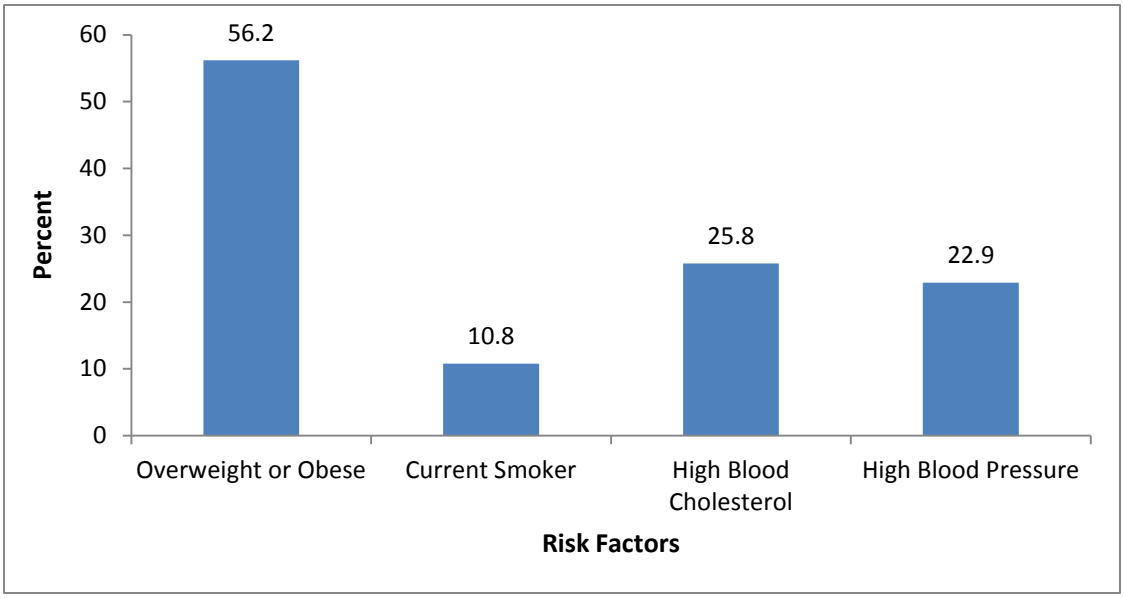
Cancer screening in Benton County and Oregon, 2006-2009

Cancer Screening Practice	Benton County	Oregon	Healthy People 2020
Mammography use among women ≥ 40 years	89.5%	82.0%	81.1%
Pap smear use among women ≥ 18 years	95.1%	85.8%	93.0%
Fecal occult blood test or sigmoidoscopy / colonoscopy among adults aged ≥ 50 years	68.1%	56.8%	*

Source: Benton County Health Status Report, 2012

Preventing Diabetes

Diabetes risk factors among Benton County adults, 2006-2009



Source: Benton County Health Status Report

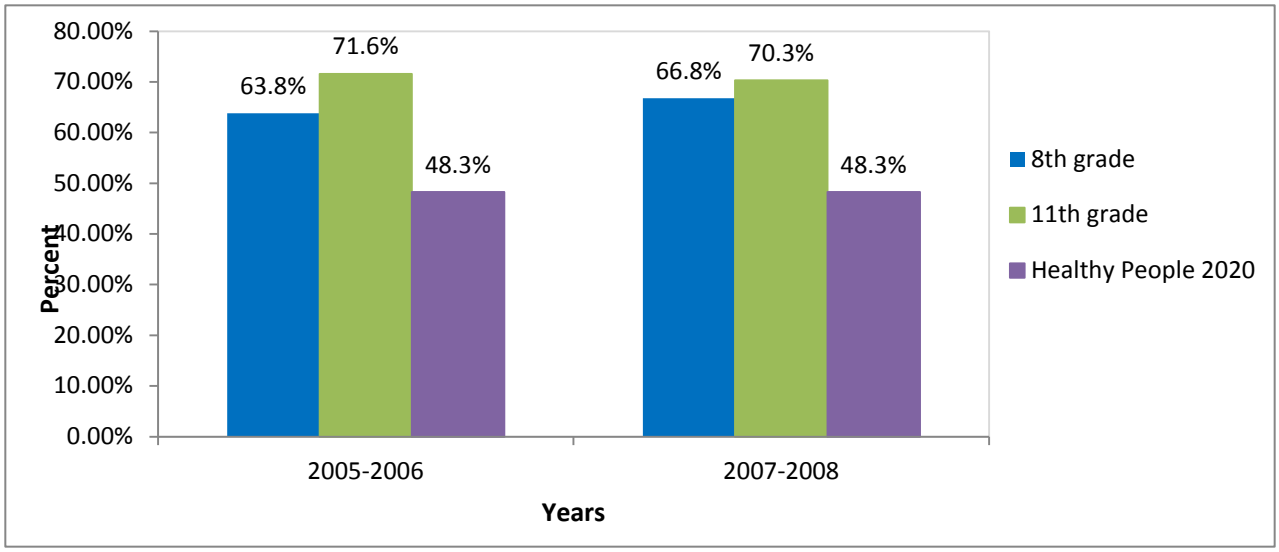
Oral Health

Good oral health is essential to overall physical and mental health, and encompasses more than just dental check-ups. Oral disease can lead to cavities (or caries) and gum ailments, which can in turn contribute to other diseases or conditions. Conversely, certain chronic mental and physical conditions can also contribute to declines in oral health.

Gum disease is associated with endocarditis (an infection of the inner lining of the heart), cardiovascular disease, premature birth, and low birth weight. Osteoporosis can lead to tooth loss, and individuals with diabetes and immune system disorders are more susceptible to gum and bone infections. Poor oral health can also affect self-esteem, reduce employment opportunities, and increase absenteeism.

Among children worldwide, dental caries is the most common childhood disease. Caries are almost completely preventable through optimal water fluoridation, application of dental sealants to children's teeth, effective oral hygiene, and regular preventive visits to the dentist.[77] In Benton County, the proportion of 8th grade and 11th grade youth who have ever had a cavity is higher than the Healthy People 2020 target of 48.3 percent.

Percent of youth who have ever had a cavity in Benton County, 2005-2008



Source: Benton County Health Status Report, 2010

Achieving and maintaining good oral health is a significant challenge for many people in Benton County, particularly those with lower incomes. A recent community assessment conducted among low income individuals in Benton County found that over 57.1 percent had not seen a dentist in over a year. Of those 26.9 percent had not seen a dentist in within the last 5 years. [78]

Key factors influencing the lack of dental care among low income families in Benton County are unemployment, employment without dental insurance, cost of services and lack of awareness of alternative options for dental care (such as dental vans).

Disease Prevention

Vaccine-Preventable Illnesses

During the 20th century, vaccines served as public health's primary tool for reducing infectious disease. Many diseases that annually sickened and killed thousands of American infants, children and adults are now largely preventable. However, the viruses and bacteria that cause these diseases still exist in our environment, and these illnesses still occur in populations that that are not fully immunized.

Modes of transmission and infectiousness vary depending upon the causative organism. Some, such as hepatitis B, are transmitted through direct contact with an infected person's blood or body fluids. Others such as influenza, pertussis (whooping cough) and measles can be transmitted on airborne droplets via coughs and sneezes. Although each disease has its own ecology and patterns of infectiousness, newborn infants, the elderly and people with serious pre-existing medical conditions are typically most susceptible to the worst effects of these illnesses.

Vaccine-preventable diseases can result in expensive doctor visits, hospitalizations, and even death. Sick children miss school and cause parents to lose time from work. It is estimated that every $1 spent on childhood vaccines saves $16.50 in future medical costs.

Community Immunity

Vaccinations are given to slow and/or to prevent the spread of infectious diseases through a population. When enough of a population is immunized, most people will be protected because few are susceptible people to catching and spreading an illness. Even those who cannot receive certain vaccines—such as infants, pregnant women and people undergoing chemotherapy—get some protection because germs cannot spread as easily. This is known as "community (or herd) immunity." Most public health experts estimate that between 80% and 90 percent of the population must be protected to maintain community immunity.

In 2010, 72.9 percent of all of Oregon children were fully vaccinated at age 2. In Benton County that rate was slightly lower at 70 percent.

Throughout the US, increasing numbers of people are concerned about vaccines. This is leading to increasing use of “alternative schedules” that delay protection of children. A growing number of parents are refusing some or all vaccinations for their children. In Oregon parents can opt out of mandatory child school vaccinations by signing a religious/philosophical exemption form. There is currently no requirement for medical or public health confirmation; it is strictly a personal choice.

Oregon’s kindergarten vaccination exemption rate has increased from 3.9 percent in 2008 to 5.8 percent in 2012. In Benton County the kindergarten exemption rate grew from 5.8 percent to 6.7 percent during the same period.

Sexually Transmitted Illnesses

Despite their burdens, costs, and complications, and the fact that they are largely preventable, Sexually Transmitted Illnesses (STIs), remain a significant public health problem in the United States. The spread of STIs is directly affected by social, economic, and behavioral factors such as poverty, limited access to health care, fewer attempts to get medical treatment, and living in communities with high rates of STIs. Among certain vulnerable populations, historical experience with segregation and discrimination exacerbates the influence of these factors. Many studies document the association of substance abuse with STIs, altering sexual behavior drastically in high-risk sexual networks. Perhaps the most important social factors contributing to the spread of STIs are the stigma associated these illnesses and the general discomfort of discussing intimate aspects of life, especially those related to sex.[79]

Benton County youth and sexual intercourse

Youth who have had sexual intercourse one or more times in their lifetimes	8th Grade	11th Grade
2005-2006	6.4%	28.0%
2007-2008	10.7%	31.6%

Source: Oregon Healthy Teen Survey

Research shows that one of the most effective way to prevent the transmission of STIs among youth is to delay the onset of sexual activity. In addition, appropriate and effective use of condoms is also highly correlated to a reduction in STIs among youth.

Condom Use among Teens

Among those who have ever had sex: The last time you had sexual intercourse, did you or your partners use a condom?	8th Grade	11th Grade
2005-2006	42.4%	62.8%
2007-2008	71.5%	62.2%

Source: Oregon Healthy Teen Survey

Approximately 12,000 women get cervical cancer in the U.S. annually. Almost all of these cancers are associated with the genital human papillomavirus (also called HPV) virus, the most common sexually transmitted infection. HPV is so common that at least 50 percent of sexually active men and women are identified with HPV at some point in their lives.

In Oregon, 74.3 percent of teen girls (ages 13-17) have completed the HPV vaccination series. This is higher than the national average of 69.6 percent, but fails to meet the Healthy People target of 80 percent of teen girls receiving the HPV vaccine.

Chapter 5
Disease and Injury

Leading Causes of Death in Benton County

Cause-specific mortality

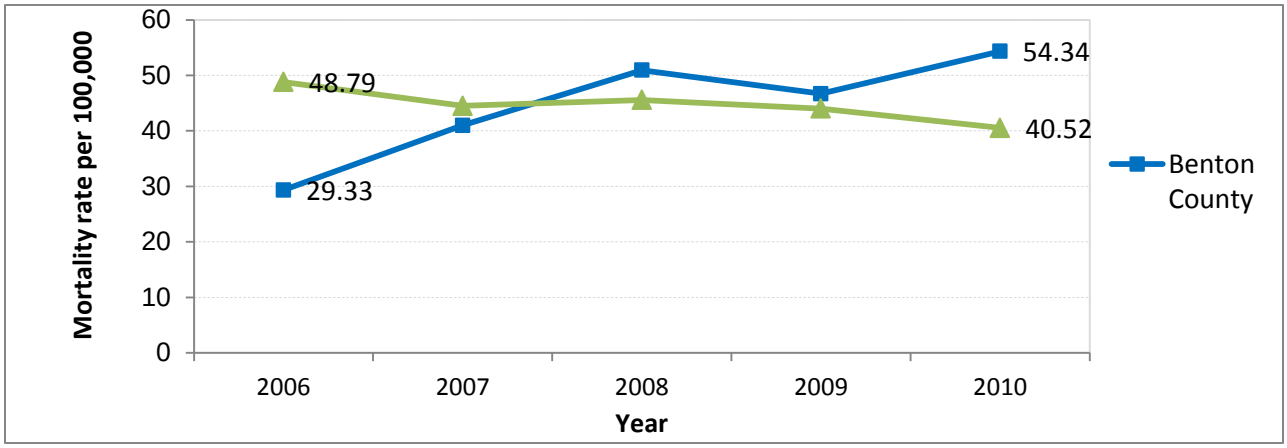
Cancer, heart disease and tobacco-linked diseases are the foremost causes of death in Benton County. The mortality rate associated with strokes in Benton County is higher than the Oregon average, while the tobacco–related mortality rate in Benton County is lower than that of Oregon average.[80]

Benton County top 10 causes of death per 100,000, 2007-2009

Cause of death	Benton County	Oregon
Cancer	154.4	177.9
Heart Disease	115.7	139.7
Tobacco-linked	111.7	165.1
Diabetes related	62.1	84.5
Cerebrovascular disease	54.3	40.5
Chronic lower respiratory disease	25.9	46.5
Alzheimer's disease	24.4	28.7
Unintentional injuries	19.4	37.8
Infectious disease	13.0	14.8
Alcohol-induced deaths	11.8	13.0

Source: Benton County Health Status Report, 2012

Cerebrovascular disease mortality rate in Benton County and Oregon, 2006-2010



Source: Benton County Health Status Report, 2012

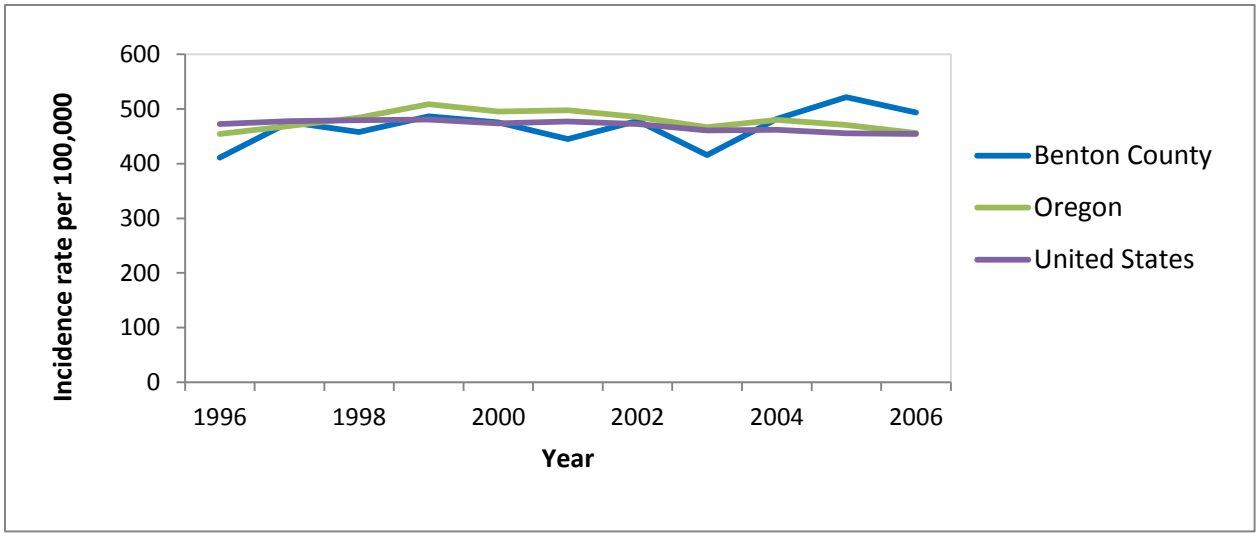
Chronic Disease and Conditions

Chronic diseases, such as heart disease, stroke, cancer and diabetes-are among the most prevalent, costly, and preventable of all health problems. Healthy lifestyles (avoiding tobacco, being physically active, and eating well) greatly reduce a person's risk for developing chronic illnesses. Research show that access to resources that support healthy lifestyles, such as nutritious food, recreational resources, and high quality and affordable prevention measures (including screening and appropriate follow-up) saves lives, reduces disability and lowers medical costs.[81]

Cancer

Cancer is the leading cause of death in Benton County. The occurrence of cancer, however, varies by sex, age and race/ethnicity. From 1996-2006, the incidence of all types of cancer in Benton County was consistent with the incidence of cancer throughout Oregon and the United States during the same time period.[82]

Cancer incidence, 1996 – 2006

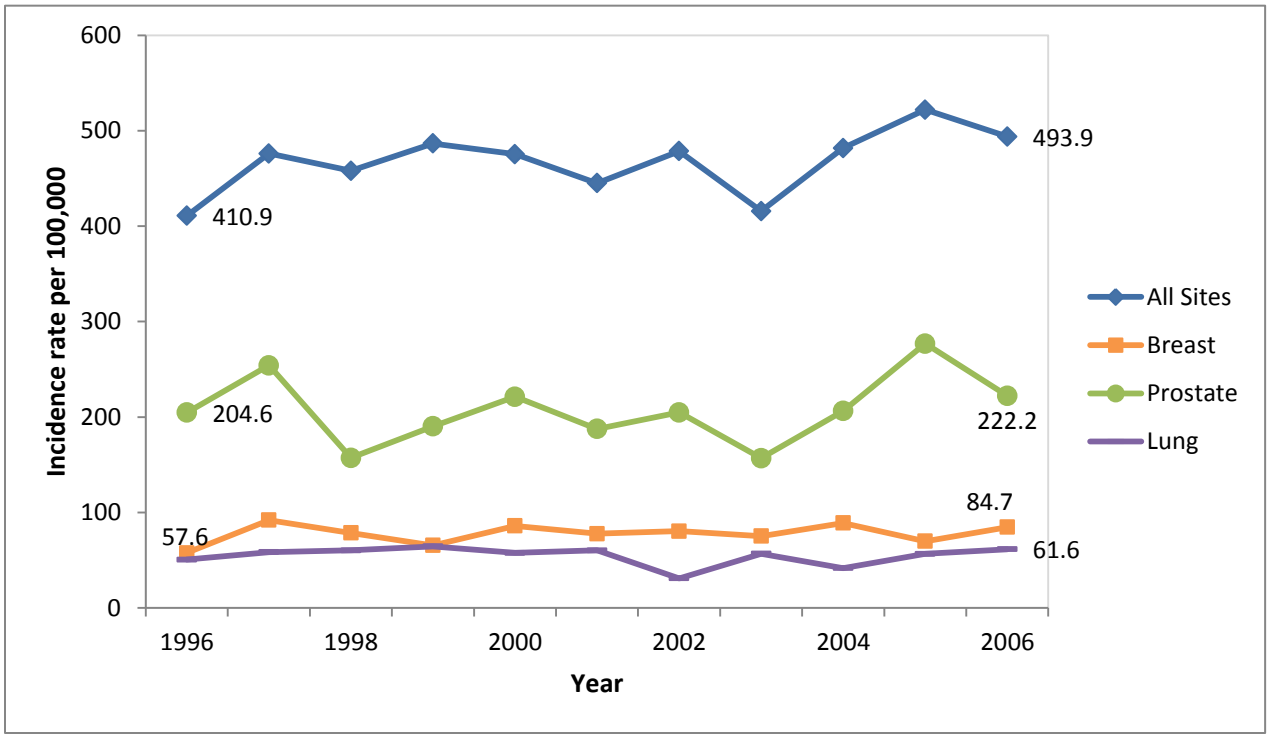


Source: Benton County Health Status Report, 2012

The rate of cancer incidence stayed relatively constant in Benton County between 1996 and 2006:[83]

- Cancer incidence is between 25 percent and 45 percent higher in males than females
- Cancer incidence increases with increasing age. Between 50 percent and 60 percent of cancer cases are in people over the age of 65 in 2006.
- Prostate cancer is the leading cause of cancer in men with 80 new cases diagnosed in 2006.
- Breast cancer is the leading cause of cancer in women with 64 new cases diagnosed in 2006.
- Lung cancer is the third most common cancer overall in Benton County, however it is the leading cause of cancer death.

Leading types of cancer incidence in Benton County, 1996-2006



Source: Benton County Health Status Report, 2012

Breast Cancer

In 2006, the incidence rate for breast cancer in Benton County was 84.7 per 100,000 individuals. Only a small fraction of breast cancer cases can be linked to genetics.[84] The rates for Oregon and the United States during this same time period were 69.0 and 122.3 respectively.[85]

Female breast cancer incidence in Oregon is slightly higher than the national rate. Although significant improvements have occurred in in early detection and treatment, breast cancer is the leading cause of death for women in Benton County and in Oregon.

State trends in breast cancer are summarized as follows:

- Females are at highest risk for breast cancer.
- Women age 40 and older are at greatest risk for being diagnosed with breast cancer.
- A small percentage of women under the age of 40 develop breast cancer.
- About 85 percent of all women diagnosed with breast cancer do not have a family history of breast cancer.
- Only about 10-15 percent of breast cancers occur as a result of inherited genetic traits.
- Breast cancer in men is rare, but it does occur, and should be recognized as an important area for screening and treatment.
- Race is not considered a factor for increased risk of breast cancer. However, rates of death from the disease differ among ethnic groups. In Oregon, breast cancer is the leading cause of cancer associated deaths among Hispanic and Asian Pacific Islander women.[86]

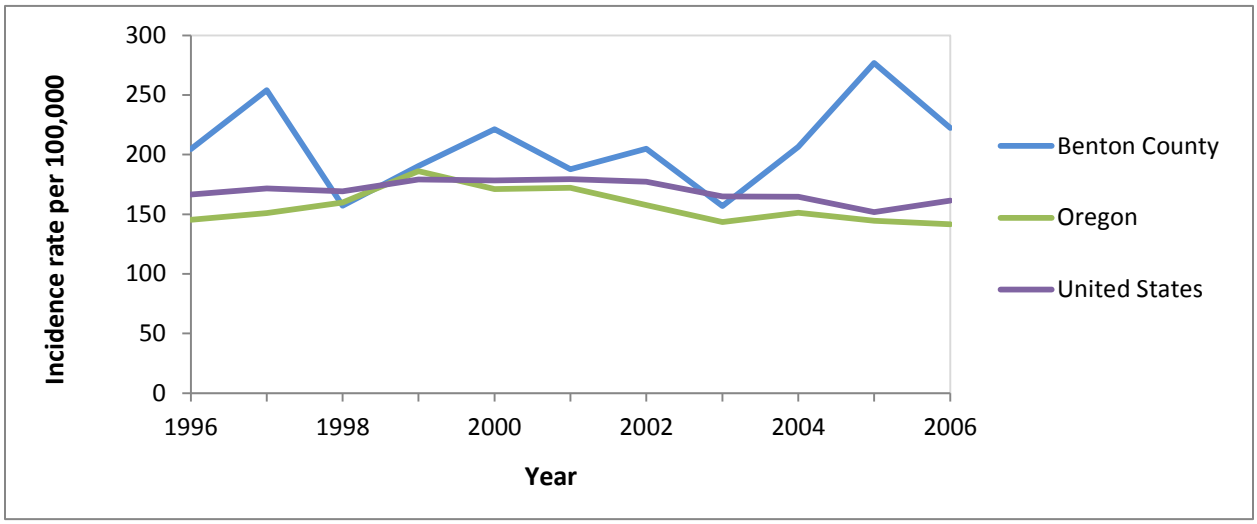
- Some women may be at risk for a later stage diagnosis, due to lack of access or referral to cancer screening services. Women with disabilities and African American women are more likely to be diagnosed at later stages for breast, cervical, and colorectal cancer.[87]

Prostate Cancer

Prostate cancer is the leading site of cancer incidence and mortality for men in Benton County and throughout Oregon.

The incidence of prostate cancer among Oregon men is slightly lower (130.0) than the national rate (137.8). 436 men in Oregon died of prostate cancer in 2009. Prostate cancer mortality in Oregon men is slightly higher than the nationally average.[88]

Prostate cancer incidence per 100,000 in Benton County and Oregon, 1996-2006



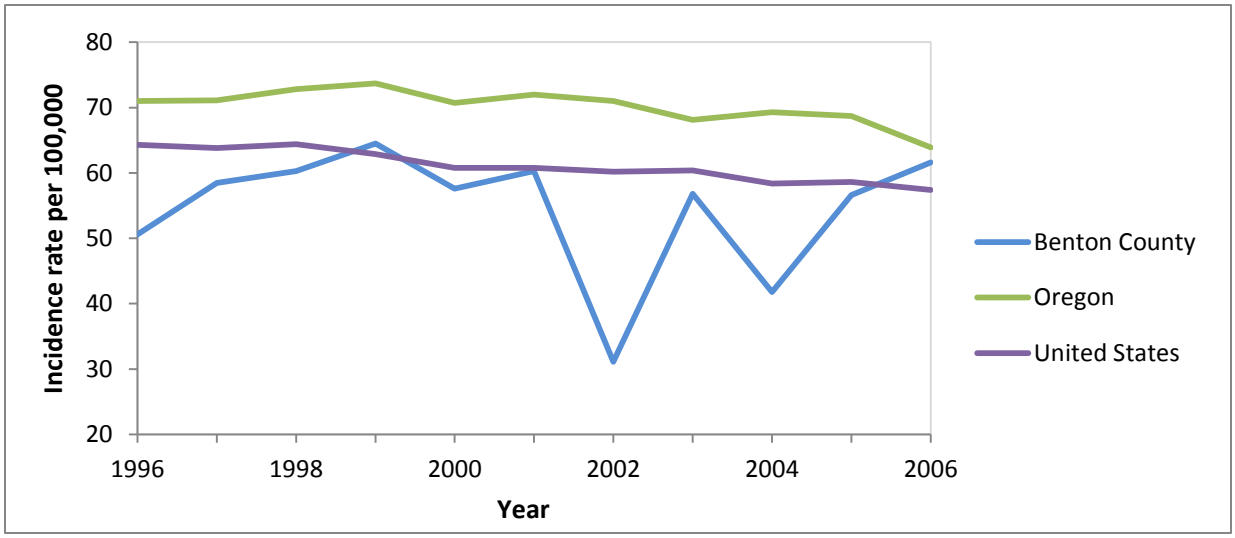
Source: Benton County Health Status Report

Lung Cancer

Lung cancer incidence in men is steadily declining as a result of decreasing smoking rates, but the incidence in women remains relatively flat.[89] The rate of lung cancer has remained fairly constant in Oregon and the United State.

Lung cancer is the deadliest cancer in Oregon, accounting for 27 percent of cancer deaths in Oregon in 2009.[90] Overall, the incidence rate in Oregon has been slightly higher than the rates in Benton County and the United States.[91]

Lung cancer incidence per 100,000 in Benton County and Oregon, 1996-2006

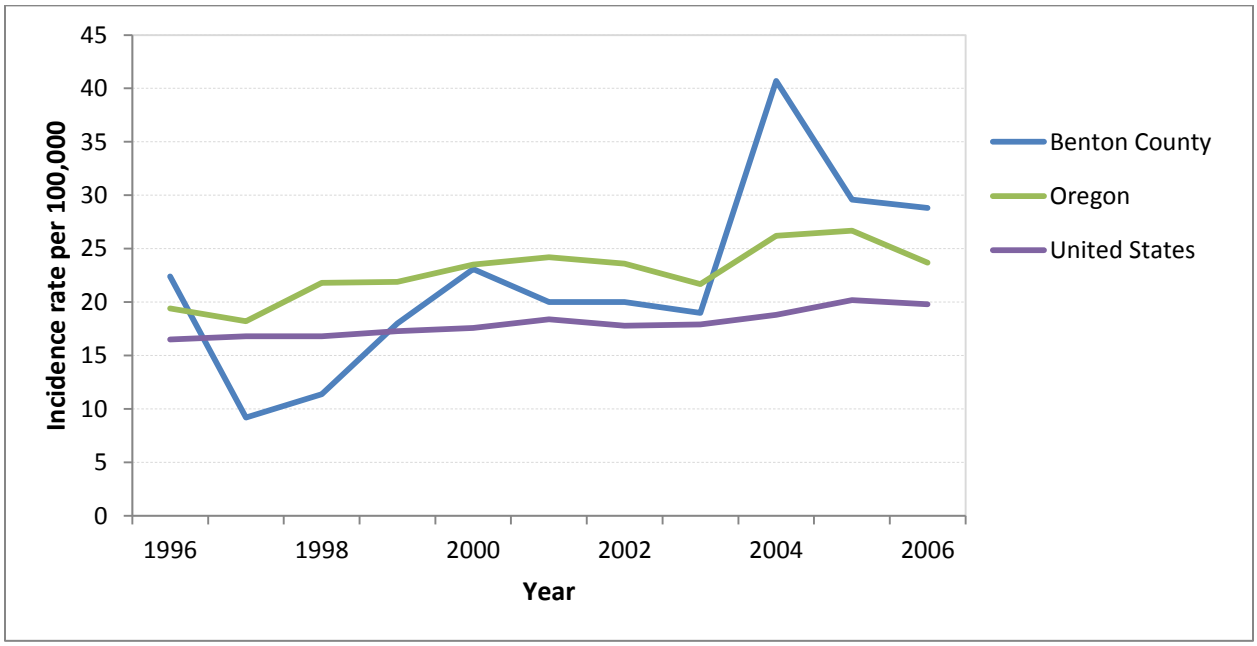


Source: Benton County Health Status Report, 2012

Melanoma

Rates of melanoma have remained fairly constant in Oregon, and in the United States, but have been variable in Benton County. There are so few cases of melanoma in Benton County that a few extra cases of melanoma in a year can significantly change the incidence rate calculation.[92]

Melanoma incidence per 100,000, 1996-2006



Source: Benton County Health Status Report, 2012

Heart Disease and Stroke

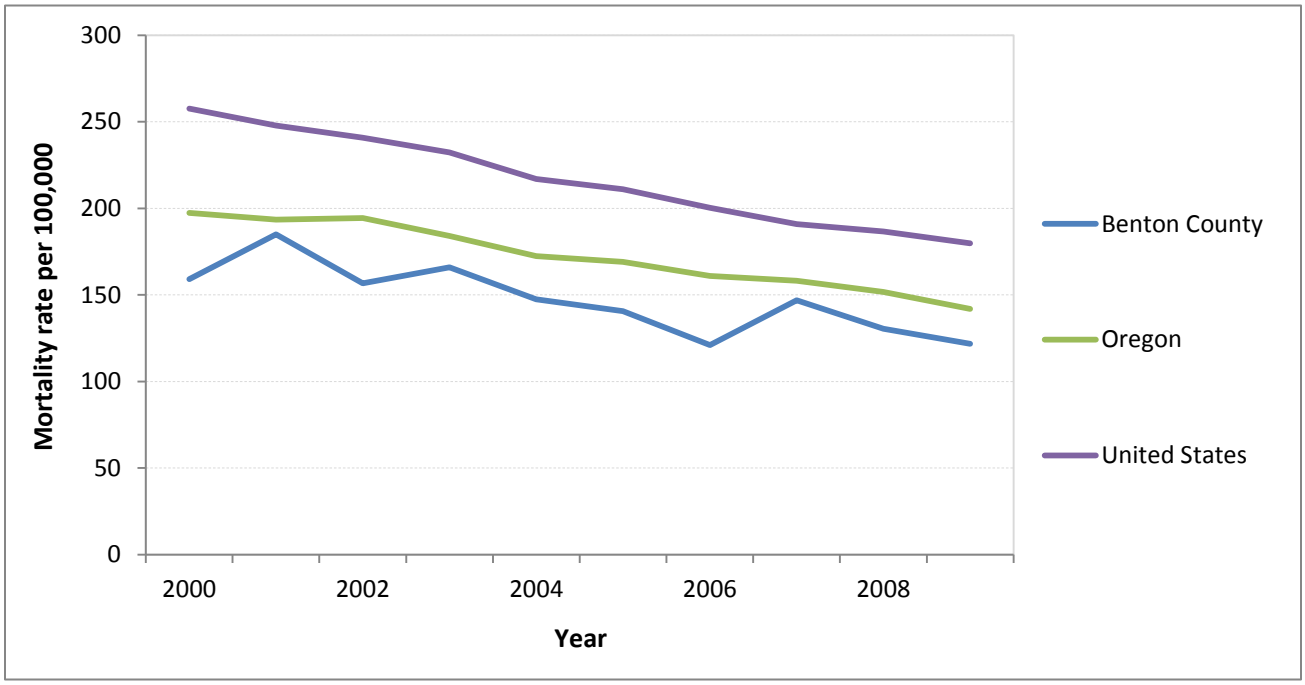
Combined heart disease and stroke surpass cancer mortality rates in Benton County, and are major contributors to costly hospitalizations and disabilities. In Benton County, the heart disease mortality rate is lower (121.7) than the Oregon rate (141.8). Nearly 5 percent of Benton County adults have coronary heart disease. Mortality rates for stroke are decreasing.[93]

Heart Disease

Mortality

Overall in Benton County, Oregon, and the United States, the rates of cardiovascular disease mortality have declined between 2000 and 2009. Benton County has a lower cardiovascular disease mortality rate than either Oregon or the United States. In 2007, more than 6,600 Oregonians died from heart disease, representing 21 percent of all Oregon deaths.

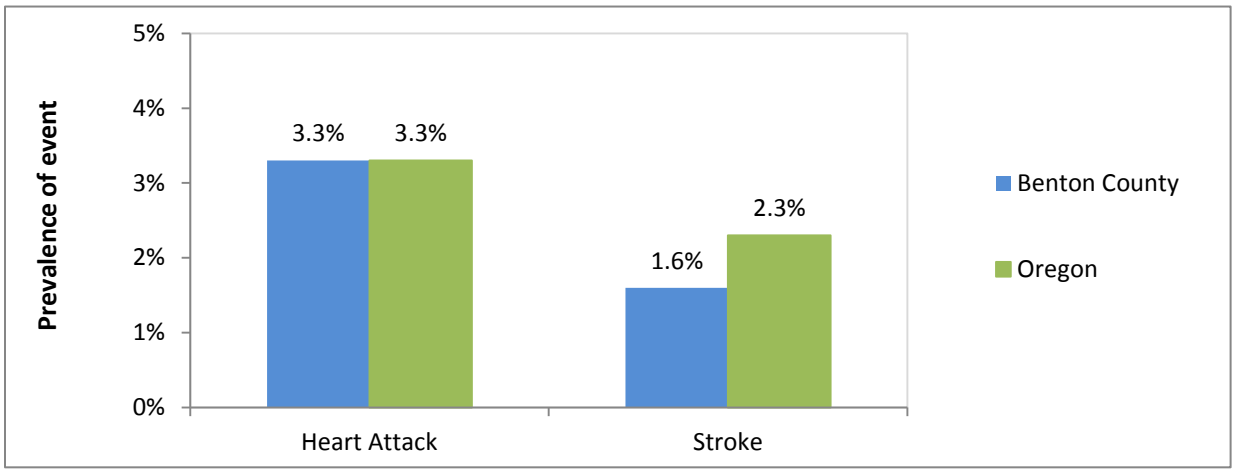
Cardiovascular disease mortality rate per 100,000, 2000-2009



Source: Benton County Health Status Report, 2012

Prevalence of heart attack and stroke

Prevalence of heart attack and stroke, 2010



Source: Benton County Health Status Report, 2012

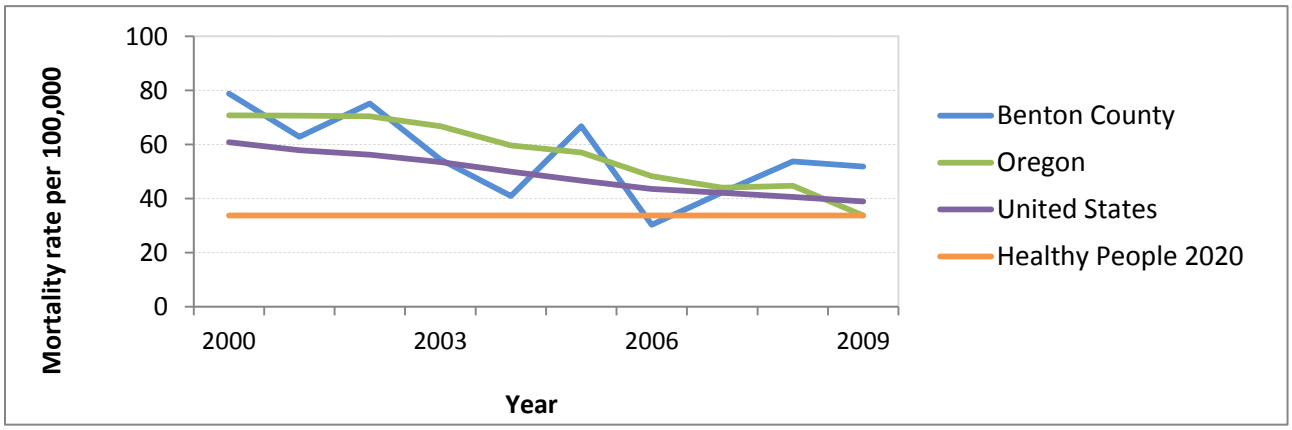
Stroke

Stroke Mortality

Overall in Benton County and in the United States, the rates of stroke disease mortality have declined between 2000 and 2009. However, the stroke death rate is higher in Oregon than in the U.S. In general, rates have remained above the Healthy People 2020 target.[94]

In 2007, more than 1,800 Oregonians died from stroke, representing 6 percent of all deaths in the state.[95] There are so few stroke deaths in Benton County that a few extra cases in a year can significantly change the incidence rate calculation.

Stroke mortality rate per 100,000, 2000-2009



Source: Benton County Health Status Report, 2012

Disease and Risk Factor Prevalence

Approximately, 4.7 percent of Benton County adults experienced a heart attack or angina and 1.6 percent of adults are stroke survivors.[96]

High blood pressure and high cholesterol are significant risk factors associated with heart disease and stroke. Lifestyle factors contributing to these conditions include unhealthy weight, physical inactivity, poor nutrition, tobacco use and diabetes. These factors also increase the risk for heart disease and stroke.[97]

Health factors for heart disease and stroke among Benton County adults include:[98]

- 23 percent of adults had high blood pressure
- 26 percent had high blood cholesterol level
- Over 6 percent had a diagnosis of diabetes

Lifestyle behaviors for heart disease and stroke among Benton County adults:[99]

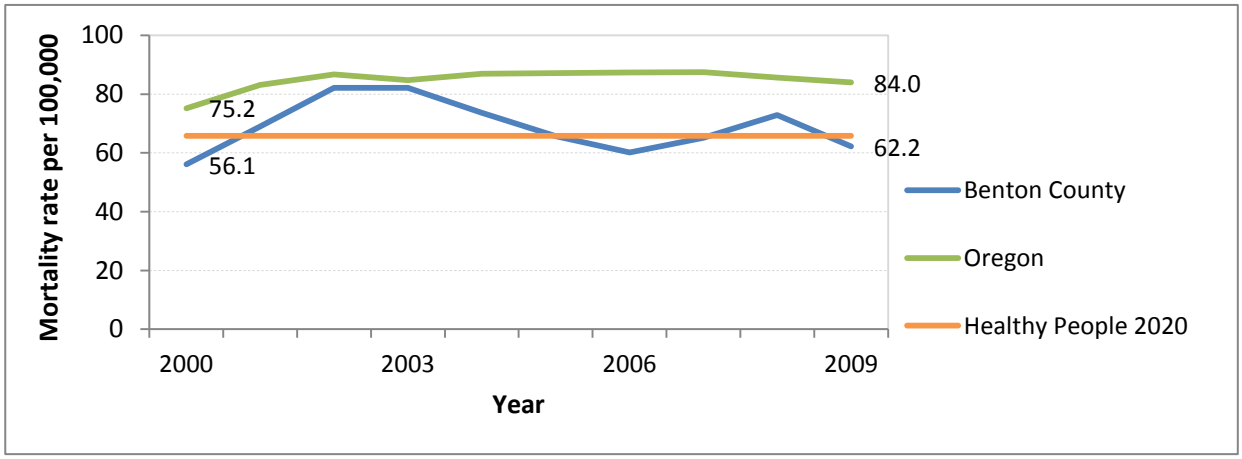
- 35 percent are classified as overweight
- 22 percent classified as obese
- 11 percent who currently smoke

Diabetes

Diabetes Mortality

In general, diabetes related mortality has been increasing since 2000 in Benton County, but is lower than that of the rest of Oregon. In 2009 Benton County's diabetes related mortality rate was lower in females (52.1) than males (73.3). As a result, females in Benton County are meeting the Healthy People 2020 target for diabetes related mortality (65.8) but males are not.

Diabetes-related mortality per 100,000 in Benton County and Oregon, 2000-2009

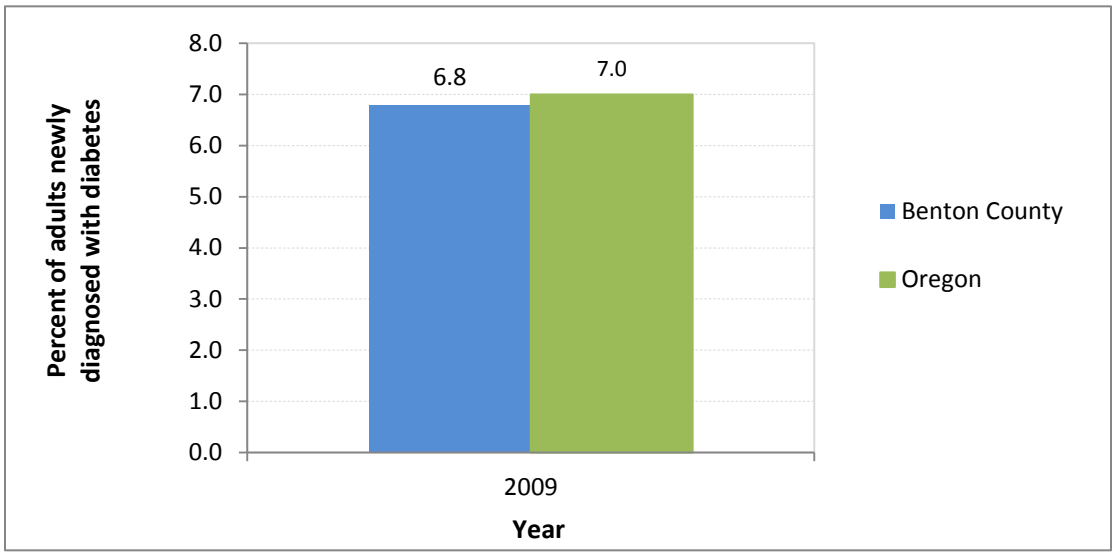


Source: Benton County Health Status Report, 2012

Newly diagnosed diabetes in adults

An estimated 6.8 percent of Benton County adults have been diagnosed with diabetes. This estimate may be conservative, however, as many people are unaware of their status since diabetes often develops gradually so symptoms and complications can take years to manifest themselves.[100]

Age adjusted estimates of percent of adults newly diagnosed with diabetes, 2009

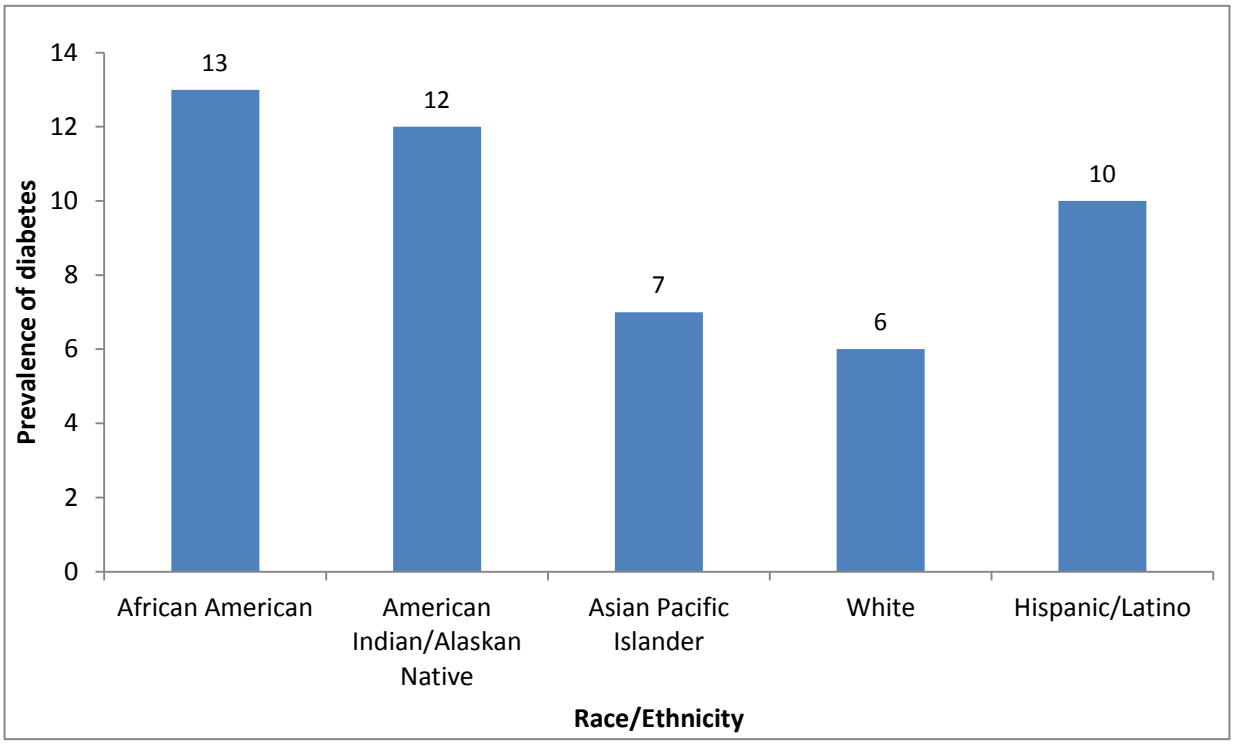


Source: Benton County Health Status Report, 2012

The growing burden of diabetes affects everyone in Oregon, but rates vary by age, race/ethnicity, and household income:[101]

- Diabetes prevalence increases with age; adults under 45 have the lowest rates of diabetes (2 percent), while 16 percent of adults aged 65 years and older have been diagnosed with disease.
- Oregon's Hispanic, African American, and American Indian/Alaska Native communities have significantly higher rates of diabetes than do non-Hispanic Whites.
- Economically disadvantaged Oregonians, those with household incomes at or below the federal poverty level, have a significantly higher rate of diabetes (9.7 percent) than those with higher household incomes (5.7 percent).

Diabetes Prevalence by Race/Ethnicity in Oregon, 2004-2005



Source: Oregon Public Health Division, BRFSS Race oversample 2004-2005

Obesity

Obesity contributes to the death of about 1,400 Oregonians each year, making it second only to tobacco as a preventable cause of death. Overweight and obesity are also major risk factors for development of chronic diseases including as diabetes, cancer, high blood pressure, high cholesterol, arthritis, heart disease and stroke.

Today, about 60 percent of Oregon adults are overweight or obese, as well as more than a quarter of all eighth graders. Since 1990, Oregon's adult obesity rate has increased 121 percent. If Oregon continues on this trajectory, children born today will not live as long as their parents or grandparents.[102]

Prevalence of Obesity in Benton County, 2006-2009 (adults) and 2007-2008 (youth)

	Benton County	Oregon
Adults overweight	35.4%	36.1%
Adults obese	20.8%	24.5%
8th grade overweight	11.7%	15.2%
8th grade obese	6.6%	10.7%
11th grade overweight	12.6%	14.2%
11th grade obese	8.0%	11.3%

Source: Benton County Health Status Report, 2012

Alzheimer's disease

Alzheimer's disease is the most common form of dementia, which is a general term for loss of memory and other intellectual abilities serious enough to interfere with daily life. Alzheimer's disease accounts for 60 to 80 percent of all cases of dementia.

Alzheimer's is the seventh-leading cause of death in Benton County. In 2010, the Benton County cause-specific mortality per 100,000 for Alzheimer's was 24.4 compared to Oregon at 28.7.[103]

It is anticipated that the number of Oregonians with Alzheimer's disease and Related Dementia will increase significantly in the next two decades. Currently, about 76,000 Oregonians live with Alzheimer's disease and this number is expected to increase to 110,000 by 2025.[104]

Arthritis

Arthritis continues to be the most common cause of disability, affecting one in five Americans. Arthritis consists of over 100 different diseases and conditions that affect the joints, surrounding tissues and other connective tissues. The two most common types are osteoarthritis and rheumatoid arthritis.

The percentage of adults in Benton County diagnosed with arthritis is 27.9 percent compared to Oregon at 25.8 percent.[105]

Older adults in Oregon are disproportionately affected by arthritis. Prevalence of arthritis is expected to increase dramatically as the population ages. Women are more likely to be affected than men because they live longer than men. The growth of the aged population will add to the high prevalence of arthritis in the coming decades.

Asthma

During the past 20 years, asthma has become one of the most common chronic diseases in the United States. Oregon has among the highest asthma rates in the nation.[106] Asthma results in direct costs (e.g., hospitalizations and emergency department visits) and indirect costs (e.g., missed school and work days and days of restricted activity) as well as impacts the quality of life for people with asthma and their families.

Asthma prevalence in adults

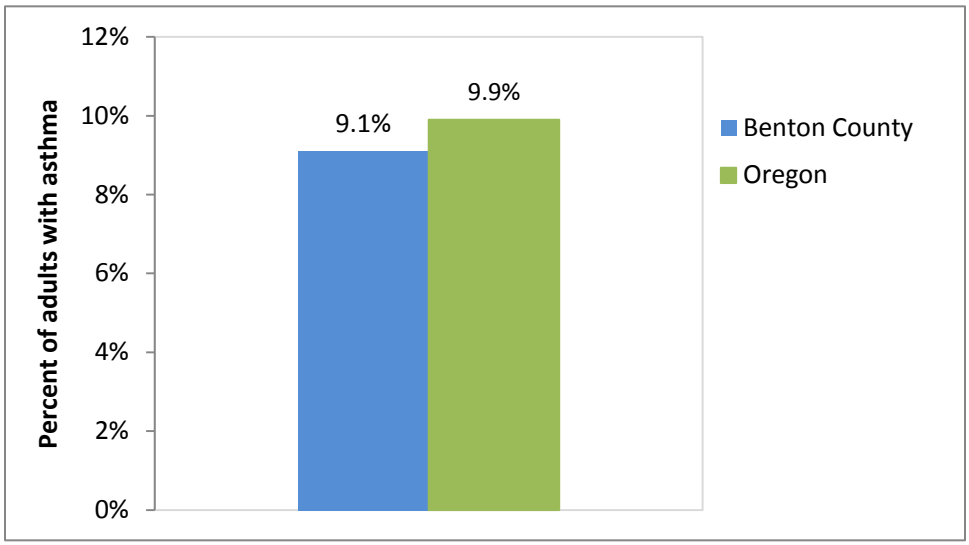
Nine percent of adults in Benton County have asthma, which is slightly lower than the rest of Oregon (9.9 percent).[107] For the past 10 years, the percent of Oregonians with current asthma has been slowly trending upward and from 2003-2010, Oregon ranked among the top 10 states with the highest percentage of adults with asthma in the nation.[108] The rate of hospitalization due to asthma is generally lower in Benton County (3.7) compared to the State (5.9).[109]

Common Asthma Triggers

- Tobacco smoke and other smoke
- Animals with fur or feathers
- Dust mites and cockroaches
- Mold or mildew
- Pollen from trees, flowers, and plants
- Being physically active
- Air pollution
- Breathing cold air
- Strong smells and sprays
- Illnesses, such as influenza and colds

Source: OHA (2010) The Burden of Asthma in Oregon

Prevalence of asthma among adults in Benton County and Oregon, 2006-2009

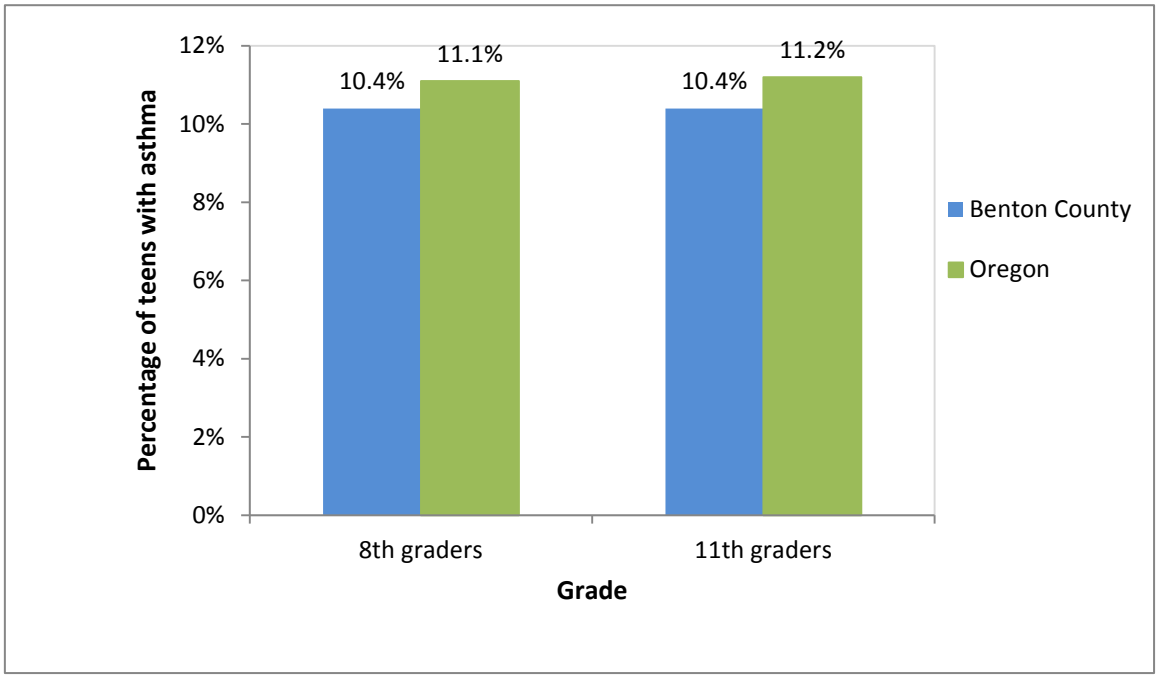


Source: Benton County Health Status Report, 2012

Prevalence of asthma in teens

Approximately 10 percent of 8th and 11th graders in Benton County report an asthma diagnosis. This is slightly lower than the state average.[110]

Percentage of teenagers with asthma, 2007-2008



Source: Benton County Health Status Report, 2012

Detailed information on the prevalence of asthma among sub-populations in Benton County is not currently available. However results from state-wide surveillance suggest that prevalence varies by race/ethnicity, level of education, sexual orientation and household income.

Prevalence by Race/Ethnicity, Level of Education, Sexual Orientation and Household Income for Adults with Asthma in Oregon

Population characteristic	**Prevalence**
African American	15.5%
American Indian/Alaska Native	15.2%
No high school	17.0%
Homosexual/Bisexual*	24.0%
Household income < $15,000"	19.0%
Household income $15,000 to $25,00"	14.0%

Source: Oregon BRFSS Race/Ethnicity oversample, 2004-2005

[11]*Oregon BRFSS, 2009*

** Oregon Behavioral Risk Factor Surveillance System (Based on a small sample size)*

Mental Health Conditions

Mental health disorders are experienced by people of all ages, from early childhood through old age.

Research suggests that only about 17 percent of U.S. adults are considered to be in a state of optimal mental health. An estimated 26 percent of Americans age 18 years and older are living with a mental health disorder in any given year, and 46 percent will have a mental health disorder during their lifetime.[111]

In Benton County, it is estimated that 2,186 persons between the ages of 16 and 64 are living with an identified mental health disability. Of these, 31.5 percent are unemployed and 17.6 percent live below the federal poverty level.[112]

National research indicates that on average, people with serious mental illness die 25 years earlier than the general population. Sixty percent of those deaths are due to medical conditions such as cardiovascular disease, diabetes, respiratory diseases, and infectious illnesses; 40 percent are due to suicide and injury.[113]

There is a strong link between chronic disease, injury and mental illness. Tobacco use among people diagnosed with mental health conditions is twice that of the general population. Other associations between mental illness and chronic disease include cardio-vascular disease, diabetes, obesity, asthma, arthritis, epilepsy, and cancer. Injury rates for both intentional and unintentional injuries are 26 times higher among people with a history of mental health conditions than for the general population.[114]

Approximately 3,400 adults with mental illnesses are incarcerated in prisons in Oregon.[115]

Oregon's Mental Health services delivery system is inadequate to meet the needs of this population, providing mental health services to only 46 percent of adults who live with a severe mental illness.

Demand versus ability to serve persons with Mental Illness and Substance Use Disorder in Oregon, 2010

Age	Prevalence	# served in Oregon's mental health system	Percent of need met
Addictions			
17 and under	26,765	6,635	25%
Over 17	235,516	56,138	24%
Mental Health			
17 and under	105,306	34,617	33%
Over 17	154,867	71,204	46%

Source: Oregon: Integrating Health Services for People with Mental Illness or Substance Use Disorders, Oregon DHS, Oregon Health Authority, Jeanene Smith, MD, MPH, June 2010

Many mental health disorders can be treated effectively, and prevention of mental health disorders is a growing area of research and practice. Early diagnosis and treatment can decrease the disease burden of mental health disorders as well as associated chronic diseases. Assessing and addressing mental health remains important to ensure that all Americans lead longer, healthier lives.[116]

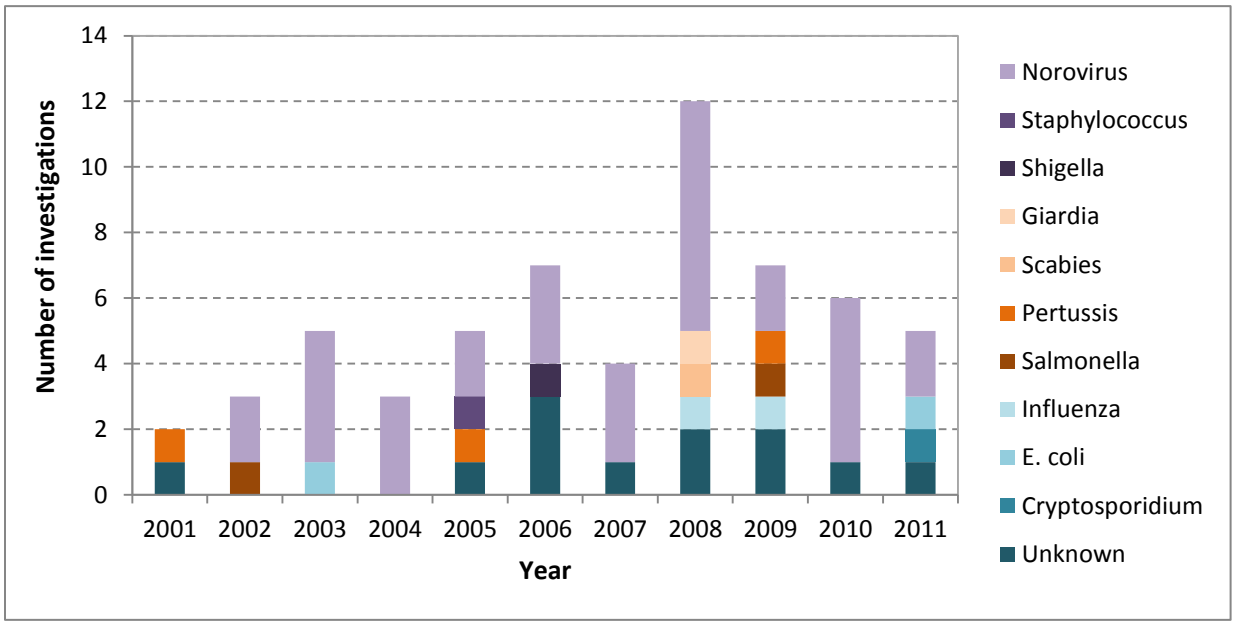
In Oregon, the provision of effective mental health service has been shown to lead to positive outcomes, including a dramatic drop in arrests; reduction in the likelihood and duration of incarceration; and fostering of self-sufficiency and well-being as a result of improved social, emotional and vocational functioning.[117]

Infectious Diseases

Prevention and control of infectious illnesses ranks among the greatest health advances of the 20th century. Infectious diseases are those that can be passed from person to person. Some are transmitted via ingesting contaminated food or water. Many are spread by germs in coughs or sneezes, while others result from exposures in the environment or insect bites. Those spread through contact with or bites from animals are called zoonotic infections.

Benton County Health Department's communicable disease nurses investigated 272 reports of infectious illnesses during the first 6 months of 2012. While these illnesses are not uncommon in Benton County, they are not represented among the most significant causes of disability and death. This is primarily due to effective prevention (mostly via vaccination) and modern medical treatments, averting the massive death rates that occurred before the discovery of antibiotics in the mid-20th century.

Total number of outbreak investigations by disease, Benton County 2001-2011



Source: Benton County Health Status Report, 2012

Respiratory Illnesses

Illnesses like the flu spread from person to person when droplets from a cough or sneeze of an infected person move through the air and enter the mouth or nose of people nearby. Some of the germs in these droplets can also live on surfaces for hours such as desks or doorknobs, and can spread when people touch these surfaces and then touch their eyes, mouth, and nose.

- The "common cold" and influenza are the most common respiratory illnesses. However, local, state and national statistics for these diseases are difficult to ascertain because doctors and laboratories are not required to report them to public health authorities. This is because most people experience only mild, short-term illness and do not seek medical attention, the illnesses are difficult to differentiate, and most are treated symptomatically rather than curatively.
- Less common but more serious respiratory illnesses include pneumonia, pertussis (whooping cough) and tuberculosis.
- On average there are 2 cases of infectious tuberculosis in Benton County each year. These are actively managed and curative therapy is overseen by Public Health Nurses.
- Pertussis is a very contagious bacterial infection that causes a coughing illness which may last 6-10 weeks or longer. It is an endemic disease with epidemic peaks occurring every 2–7 years and has proven painfully persistent despite widespread childhood immunization.
- There has been a sharp rise of pertussis in the United States during 2012. Washington State has been particularly hard-hit and declared a pertussis epidemic in April 2012, reporting almost 10 times more cases of pertussis than 2011. Oregon has seen as many cases, but there have been twice as many pertussis cases in 2012 as there were in 2011.
- While Benton County sees less than a dozen cases of pertussis annually, a serious pertussis outbreak occurred in 2004 -2005 when 297 cases were medically confirmed. In addition, hundreds of people became ill with presumed pertussis, but were not laboratory tested (largely due to the cost of testing or the fact that a known infectious person lived in their home or shared their classroom or work). This outbreak resulted in dozens of students missing school, sports, and other activities for long periods of time. In addition, many parents struggled with lost sleep and work time as a result of caring for their sick children, or because they became sick themselves.

Foodborne Illnesses

The Centers for Disease Control and Prevention (CDC) estimate that each year 1 in 6 Americans (48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases.[118]

The leading causes of foodborne illness are norovirus, Salmonella, Campylobacter, and Clostridium perfringens. Norovirus, Salmonella, and Campylobacter are also among the leading causes of death due to foodborne illness.

On average, Benton County has five foodborne illness outbreak investigations each year. Sixteen Benton County residents were diagnosed with foodborne illnesses during the first 6-months of 2012.

Overall, norovirus is the most common outbreak source in Benton County. What makes the norovirus so dangerous (and common in close quarters like shared homes, apartments and fraternities/sororities) is that it is easily transmitted from infected people via contaminated food or water or by touching contaminated surfaces. This occurs through contact with human feces (stool). This type of contact is generally accidental and occurs when an infected person does not properly wash hands after using the bathroom and then touches food that others will eat.

E. coli infections, most commonly 0157:H7, is another significant causative organism and around 5 to 10 percent of those who are diagnosed with the infection develop potentially life-threatening complications. Oregon's rate (1.8 per 1000,000 in 2011) has been consistently higher than that the United States as a whole (0.9 per 100,000 in 2011). Benton County had 8 reported cases in 2011.[119]

Reportable Infectious Diseases

All physicians, health care providers and laboratories in Oregon are required by law to report confirmed or suspect diagnoses of over 50 infectious diseases and conditions to their local health departments. Those reports are directed through counties to the Oregon Public Health Division which collects and distributes data to inform health departments, physicians and the public. Reporting enables appropriate public health follow-up for patients, helps identify outbreaks, and provides a better understanding of disease transmission patterns.

Some diseases are subject to restrictions on school attendance, day care attendance, patient care, and food handling.

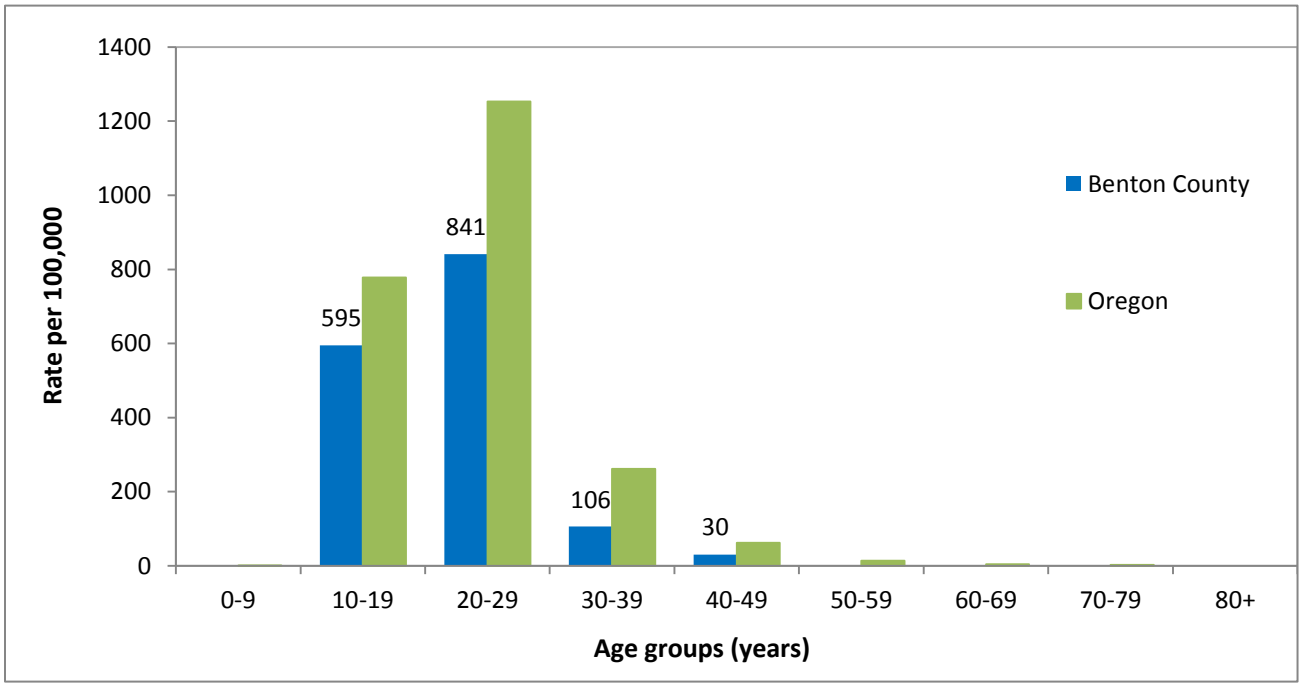
County health departments are required to imitate investigations of each report in a timely manner and all follow standardized "investigative guidelines" that assure standardized, evidence-based methodologies and interoperability between jurisdictions. Investigations are conducted in adherence with rigorous confidentiality guidelines, though to facilitate protection of the entire population, federal law exempts public health disease investigations from much of the standard medical confidentiality law (HIPPA).

Sexually Transmitted Infection

Chlamydia is the most common sexually transmitted infection (STI) in Oregon with infection rates increasing 11 percent from 2010 to 2012 and accounting for 59 percent of all reportable diseases in Oregon.

Benton County mirrors that increase with 306 cases reported during 2011 and 186 cases diagnosed during the first 6 months of 2012. STI's are particularly prevalent in Benton County because of the large population of young adults. Benton County Health Department works closely with Oregon State University (OSU) Student Health Services, and OSU has been recognized nationally for its outstanding sexual health and prevention programs.

Chlamydia incidence rates by age, Benton County, 2010



Source: Benton County Health Status Report, 2012

Transmission of STI's is made more serious given that chlamydia and gonorrhea infections in women can be asymptomatic and therefore may go undiagnosed. If left untreated, these infections may lead to pelvic inflammatory disease, which can cause tubal infertility, ectopic pregnancy and chronic pelvic pain.

Gonorrhea in Oregon has increased 38 percent since 2010. Most cases are in the Portland tri-county area, but there were 20 cases diagnosed in Benton County during the first 6 months of 2012, up from 18 cases in all of 2011. Multi-drug resistant gonorrhea has not yet been found in Benton County but is a growing problem nation-wide and poses an imminent public health challenge.

HIV/AIDS remains an important public health problem in Oregon. From 1981 through 2010, 8,753 Oregonians were diagnosed with HIV infection. Of those, 40 percent (3,540) have died. Fortunately death rates have decreased dramatically since the advent of effective antiretroviral therapies and HIV/AIDS is now managed as a serious but chronic disease. As a result, the number of Oregonians living with HIV infections has increased from 2,720 in 1997 to 5,213 in 2010. New HIV diagnoses in Oregon are most common among 35–39 year old males.[120]

Zoonotic illnesses

Zoonotic diseases are infectious diseases that can be spread from animals to humans. There are many zoonotic diseases, and their threat to human health is growing due to increasing global movement of people and animals and the effects of human populations expanding into previously undeveloped wildlife habitats.

Climatic change may also lead to greater zoonotic diseases threats. Zoonotic diseases can cause symptoms such as diarrhea, muscle aches, and fever. Some diseases cause only mild illness while others can be life-threatening, and rabies is virtually 100 percent fatal if left untreated. Rabies is in endemic in the Oregon bat population.

Some zoonotic diseases are transmitted directly from animals to people, some result from contamination of the environment by animals, and others require a vector such a tick or mosquito. Examples of zoonotic diseases include:

- Bacterial - *Salmonella*, *E. coli*, leptospirosis
- Viral - Rabies, avian influenza
- Fungal - Ringworm, sporotrichosis
- Parasitic - Toxoplasmosis, larval migrans due to roundworms
- Vector-borne - West Nile virus, spread by mosquitoes, Lyme disease, spread by ticks

Zoonotic illnesses are a small but persistent cause of illnesses in Benton County. High rates of pet ownership and large numbers of rural livestock owners contribute to small but steady reports of these diseases. The presence of the Oregon State University College of Veterinary Medicine and its veterinary hospital are valuable local assets in the diagnosis and control of zoonotic illnesses in animals.

Injury and Violence

Community and Personal Safety

Personal Safety

Personal safety is dependent upon crime rates and other nontraffic-related hazards that exist in communities.[121] Some evidence indicates that improving community safety may positively influence levels of physical activity in adults and children.[122] Data regarding residents' perceptions of personal safety are not currently available; however, the 2009 Citizens Attitude Survey observed that a majority of respondents feel very or somewhat safe in Corvallis. Additional information regarding perceived personal safety of residents living in other parts of the county is needed for future assessment and planning.

Select responses regarding Personal Safety from the Corvallis Citizens' Attitude Survey, 2009

Do you feel…	Percentage Yes
Safe in your neighborhood during the day	97.0%
Safe in Corvallis downtown area during the day	96.0%
Safe from violent crime (e.g., rape, assault, robbery)	88.0%
Safe from environmental hazards	88.0%
Safe in your neighborhood after dark	84.0%
Safe in Corvallis downtown area after dark	70.0%

Source: www.corvallisoregon.gov

Injury

Injuries are the number one cause of death among people under the age of 44, and are the number one cause of disability at all ages. However, most of the events resulting in injury, disability or death are preventable.

In Benton County, the mortality rate due to accidents among men is 34.3. While overall in Benton County, the rate of unintentional injury deaths is 11.8, compared to 13.0 in the state.[123]
According to Healthy People 2020, injuries and violence have an impact on the well-being of people by contributing to premature death, disability, poor mental health, high medical costs, and high productivity. Nationally, the leading causes of death from injury are a result of motor vehicle traffic accidents, unintentional poisoning, and firearms.

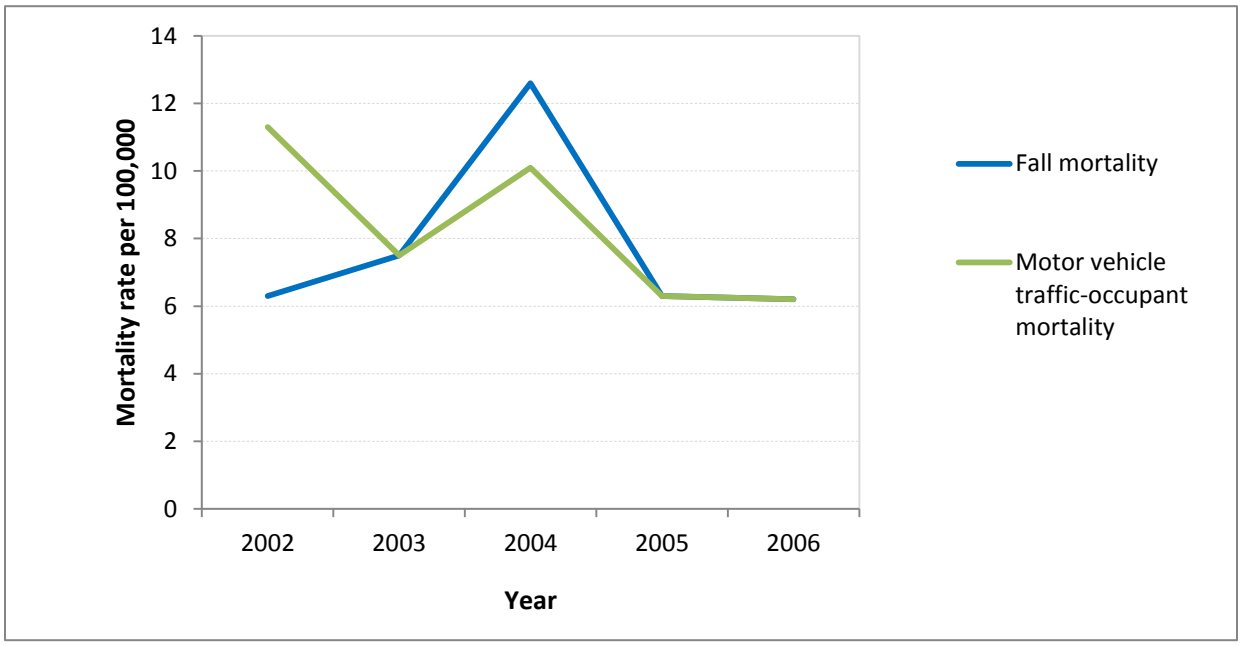
Unintentional Injury Mortality

In Oregon, injury is the third leading cause of death. It is also among the leading causes of hospitalization. For persons under 44 years of age, injury is the leading cause of death.[124]

Overall, the leading causes of death resulting from injury in Oregon include suicide, motor-vehicle traffic accidents, unintentional falls, and unintentional poisonings. Out of 2,100 deaths in Oregon due to injury, approximately 1,400 are due to unintentional injuries.[125]

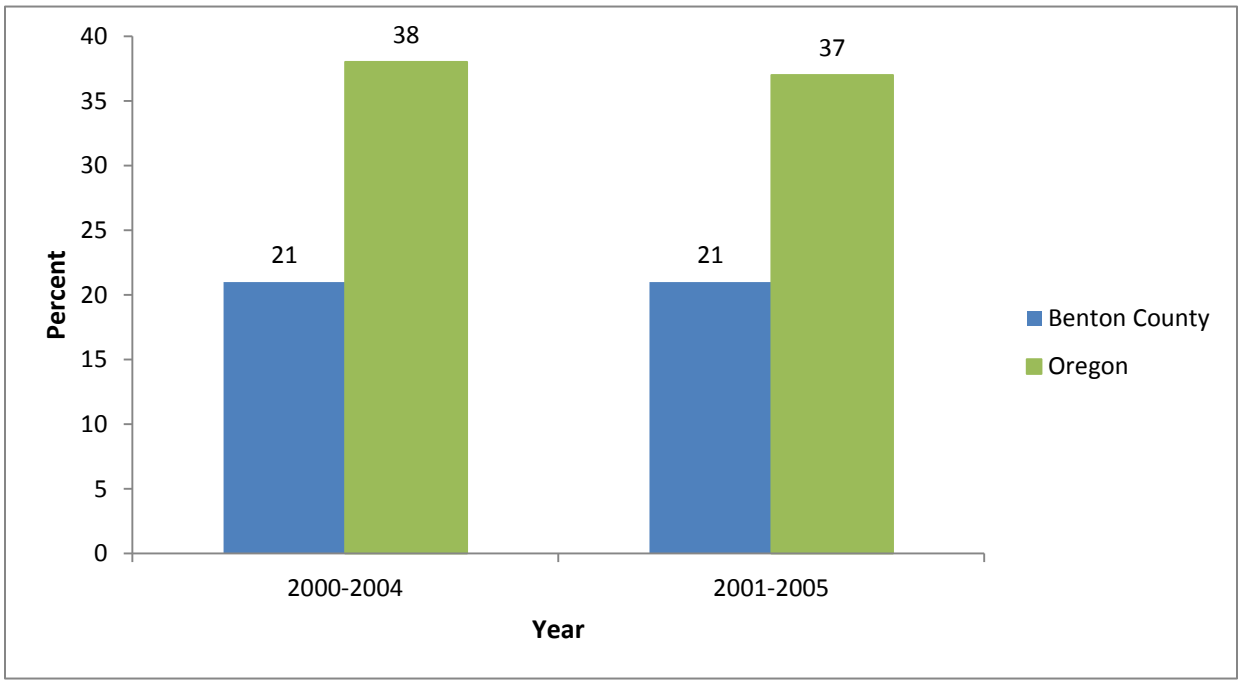
Mortality due to motor vehicle crashes in Benton County in 2001 (9.12) is below the *Healthy People 2010* target (9.2).[126] However, the number of fatalities more than doubled between 2001 and 2002.

Unintentional injury mortality rate per 100,000 in Benton County, 2002-2006



Source: Benton County Health Status Report, 2012

Percent of motor vehicle fatalities that are alcohol – involved in Benton County and Oregon, 2000-2005



Source: DHS: Addictions and Mental Health Division. State Epidemiological Outcomes Workgroup: Report on Alcohol, Illicit Drugs and Mental Health in Benton County, Oregon. 2000 to 2008.

Motor vehicle crashes pose the greatest risk for fatal injuries among Oregon residents. About 3 percent of Oregon adults report driving after having too much to drink on at least one occasion in the past month; and about 15 percent of Oregon youth rode with a parent or other adult who had been drinking on at least one occasion in the past month. Prevention programs that target driving after drinking alcohol may help to decrease motor vehicle fatalities.

Injury hospitalization rates per 100,000 by cause and age in Benton County, 2004-2006

Age	Fall	Motor vehicle traffic-occupant
1-4 years	65.8	N/A
5-14 years	44.4	20
15-24 years	22.3	36
25-34 years	32.9	36.2
35-44 years	17.9	28.6
45-54 years	68.6	20
55-64 years	89.1	N/A
65-74 years	319.1	70
75-84 years	1115.7	85
85 and older	2916	N/A

Source: Benton County Health Status Report, 2012

From 1987-2002, mortality from unintentional injury in Oregon increased by 75.5 percent. During the subsequent 3 years mortality due to unintentional injury declined by 49.0 percent.[127]

Over the period, 2000-2005, the total mortality from unintentional injuries in Benton County was 130, and the mortality rate for this period was 28.7 people per 100,000. Except for the year 2002, Benton County has reported rates lower than the state of Oregon. Neither the state nor Benton County has achieved the 17.5 *Healthy People 2010* target for mortality due to unintentional injury.[128]

Unintentional injury mortality is higher among males in most age groups. Females show higher mortality rates compared to males in the following age groups: 5-14; 45–54; and 75–84 years. The highest rate is among females, ages 75–84 years. Males in this age group have a rate equal to only two-thirds of the female rate. Some of these rates are based on very small counts and should be interpreted with caution.[129]

Work-related Injury and Illness

Oregon's private sector workers suffer work-related injuries and illnesses at a rate of 3.9 for every 100 full-time employees. Recent incidence has been declining from a rate of 11.1 cases per 100 workers in 2008. In 2011, 18,691 disabling claims were made by Oregon workers.

Suicide

Suicide is the leading cause of injury-related death in the state and is the 9th leading cause of death for Oregonians. There are more deaths due to suicide in Oregon than due to car crashes. The suicide rate among Oregonians is 15.2 per 100,000. This is 35 percent higher than the national average.[130]

Over 70 percent of persons who commit suicide have a diagnosed mental health disorder, alcohol and/or substance use problems, or are depressed at time of death. Despite the high prevalence of mental health problems, less than one third of male victims and just about half of female victims were receiving treatment for mental health problems at the time of death. Alcohol is known to decrease inhibitions and investigators believe that 30 percent of suicide victims use alcohol in the hours preceding their death.

Age

In general, suicide rates increase with age. Suicide among children under 10 is rare. In Oregon, the age-specific rate of suicide among men rises sharply after age 15 and reaches the first peak between the ages of 20 and 24. The rate decreases slightly between the ages of 25 and 29, then rises gradually and reaches a second peak around age 50. Rates decrease slowly between the ages of 50 and 69. After age 70, rates rise dramatically. The highest suicide rates are seen among those aged 85 and over.[131]

Suicide deaths and crude rates by age group and county, Oregon, 2003-2007

Age	Benton County	Oregon
All ages	12.5	15.7
1-24 years	7.5	8.9
25-44 years	18.5	17.9
45-64 years	16.1	22.5
> 65 years	16	24.4

Source: Suicides in Oregon: Trends and Risk Factors, Oregon Violent Death Reporting System, Injury and Violence Prevention Program, Office of Disease Prevention and Epidemiology, 2010

Sex, Race / Ethnicity

In Oregon, men have a greater risk of dying by suicide than women. In each age group, suicide rates are higher among males than among women. Overall men are 3.7 times more likely to die by suicide than women.

Among all suicide victims, 97 percent of suicides occur in whites. The age-adjusted suicide rate among whites is 15.8 per 100,000, which is almost double the rates observed among populations of other races. Overall white men have the highest suicide rate. This is mainly due to extremely high suicide rates among elder white men aged 60 and over. There are not significant differences in rates between white women and women of other races.[132]

Veterans

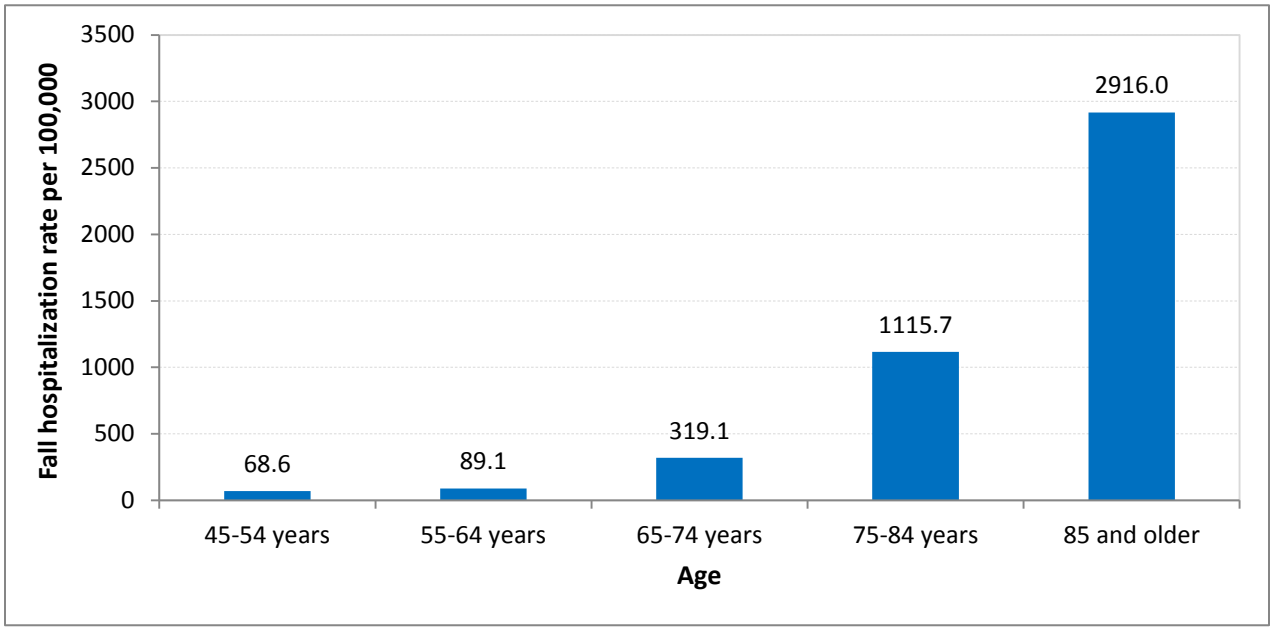
Approximately 27 percent of suicides occur among veterans. Male veterans have a significantly higher suicide rate than non-veteran males (45.7 vs. 27.4 per 100,000).[133]

Preventing Falls

Falls are a major cause of injury and hospitalization, and the 10th leading cause of death among older Oregonians. Nearly one in three older adults fall each year, and 20-30 percent of those who fall suffer injuries. As common as they occur, injuries and deaths due to falls are not an inevitable consequence of aging; they can be prevented. Muscle weakness is a significant contributing factor in falls, so physical activity is widely viewed as among the most important interventions for preventing injuries related to falls among older adults.

Fall hospitalization rates increase drastically as adults age; the rate of fall hospitalizations for adults 75 years and older is more than 6 times the rate for adults 60-74 years. Older adults hospitalized for falls are nearly 6 times more likely to be discharged into long term care compared to older adults hospitalized for other conditions. Between 2002 and 2006, the average cost for fall injury hospitalization among adults 65 years and older in Oregon was $101 million per year.

Benton County hospitalization rates per 100,000 by age in Benton County, 2004 - 2006



Source: Benton County Health Status Report, 2012

Abuse among Vulnerable Adults

Vulnerable adults include the elderly and adults of all ages with physical or mental disabilities, whether living at home or being cared for in a health facility. Abuse and maltreatment of vulnerable adults can include physical, emotional, or sexual abuse, caregiver neglect, and financial exploitation. The Oregon Cascades West Council of Governments (OCWCOG), Senior and Disability Services Unit manage an Adult Protective Services helpline for Linn, Benton and Lincoln counties. OCWCOG encourages the reporting of any suspected cases of abuse or neglect. Once contact with the Adult Protective Services Helpline is initiated, trained staff provide assessment, intervention, and referral services.

In 2010, the Oregon Department of Human Services Adult Protective Services received more than 27,000 reports of potential abuse.[134] Of those:

- 2,608 Oregon seniors and adults with physical disabilities experience abuse or self-neglect
- Fewer than 2 percent of residents in licensed care facilities are found to have been abused
- Neglect is the most common type of abuse experienced by seniors in facilities
- 85 percent of founded abuse occurs among seniors and adults with physical disabilities in their own homes and 15 percent occurs in licensed care settings.

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Conclusion: Meeting Challenges with Strengths

This community health assessment identifies concerns, challenges, and disparities in health status among Benton County's diverse communities and populations. These issues reveal that Benton County has many opportunities to improve health. Partners throughout the county will collaborate to address these needs through a Community Health Improvement Planning (CHIP) process in 2013.

However, an assessment of the county would not be complete without a description of the county's strengths and assets. In the context of a countywide health assessment, the concept of "strengths and assets" refers to the many types of human, social, economic, and organizational resources that stakeholders and community members can leverage to improve the health of all and ensure a healthy future for the county.

General Health Status

Benton County is considered to be one of the healthiest counties in the state. Benton County is ranked number 1 in the state of Oregon as the healthiest county- individuals are living longer and have a better quality of life[135]. The Rankings consider factors that affect people's health within four categories: health behavior, clinical care, social and economic factors, and physical environment.

According to the 2012 *County Health Rankings* report, Benton County's strengths include:

- Percent of adults that report smoking ≥100 cigarettes and currently smoking (Rank: 2)
- Percent of adults that report a BMI ≥30 (Rank: 2)
- Percent of population under age 65 without health insurance (Rank: 1)
- Percent of population age 16+ unemployed but seeking work (lowest at 7.3%)
- Preventable Hospital Stays (Rank:1)

In addition, Benton County has a number of community resources that can be drawn upon to meet the identified challenges. Many of these resources are described in the 2010 United Way report, *Community Conversations about Need*[136] and are summarized on the next page. [137]

Knowledge and skills in caring for and promoting health

- Benton County has strong tobacco ordinances and other population-based prevention care programs that reduce the onset and incidence of many illnesses.
- Benton County has a commitment to and many years of experience with effective partnerships across a wide variety of public and private sectors, including a unique partnership between county and city departments that has grown strong over ten years of experience of working on public health issues together (HACE).
- Benton County has a history of caring and extensive community involvement in offering low cost and/or free clinics for families.
- Benton County is particularly strong in offering excellent choices in medical care, dental care, vision care, elder care, medical clinics, doctors, nurse practitioners, and alternative medicine.

Social support networks

- Benton County has a long tradition of supporting diversity and inclusion, with an extensive list of non-profits, faith-based and University organizations that support building an inclusive community.
- Benton County has specialized support for people with mental illness, developmental disabilities, and addictions.
- Benton County provides specialized support for at-risk school children and teens and their caregivers (through Community Services Consortium and the Old Mill School, etc.)

Resources

- Benton County has an excellent basic framework to assist homeless persons (i.e. emergency shelter, transitional housing, and permanent affordable housing).
- Benton County is particularly strong in offering a wide choice in public schools, private schools, and alternative schooling opportunities.
- Benton County has several service providers which provide adult education (i.e. literacy, GED and parenting courses).
- Benton County is particularly strong in offering job seeking services, vocational training, and general support for unemployed persons.
- Benton County maintains safe, well-marked roads and bike lanes that help prevent traffic injuries and chronic disease.
- Benton County has a history of collaboration among various sectors to promote many successful and progressive transportation and built environment programs (i.e. Alternative mode options, Dial-A-Bus, PDX transit, Safety sidewalk and ramp program, Public Transit).

Appendix A: Benton County Public Health Assessment Survey Results, Demographics

Figure 1. Demographic information for Benton County Public Health Assessment Survey Respondents

Demographic	Survey No. (%)	Benton County (2010) No. (%)	p
Age group			<0.001
Younger than 18	2 (0.44%)	15,249 (17.80%)	
18 – 24	48 (10.60%)	19,656 (23.00%)	
25 – 34	94 (20.75%)	10,414 (12.20%)	
35 – 54	139 (30.68%)	19,333 (22.60%)	
55 – 64	92 (20.31%)	10,647 (12.40%)	
65 and older	52 (11.48%)	10,280 (12.00%)	
Did not answer	26 (5.74%)		
Gender			<0.001
Male	126 (27.8%)	42,868 (50.1%)	
Female	301 (66.5%)	42,711 (50.0%)	
Did not answer	26 (5.7%)		
Ethnicity			<0.001
Hispanic or Latino	44 (9.71%)	5,467 (6.40%)	
Non-Hispanic or Latino	372 (82.12%)	80,112 (93.60%)	
Did not answer	37 (8.17%)		
Race			<0.001
African American/Black	4 (0.88%)	759 (0.90%)	
American Indian/Alaska Native	4 (0.88%)	627 (0.70%)	
Asian/Pacific Islander	7 (1.55%)	4,642 (5.40%)	
White/Caucasian	358 (79.03%)	74,506 (87.10%)	
Other	31 (6.84%)	1,985 (2.30%)	
Multiple	10 (2.21%)	3,060 (3.60%)	
Did not answer	39 (8.61%)		
Primary Language Spoken at Home			<0.001
English	374 (82.56%)	72,651 (88.80%)	
Spanish	28 (6.18%)	4,418 (5.40%)	
Other	6 (1.32%)	4,827 (5.90%)	
Multiple	3 (0.66%)		
Did not answer	27 (5.96%)		
Education			<0.001
Less than High School Graduate	31 (6.84%)	4,263 (6.10%)	
High School Graduate	49 (10.82%)	11,144 (15.90%)	
Some College or Associate's Degree	100 (22.08%)	29,035 (41.40%)	
Bachelor's Degree	125 (27.59%)	14,626 (20.80%)	
Graduate Degree	121 (26.71%)	11,085 (15.80%)	
Did not answer	27 (5.96%)		

Marital Status		
Married	225 (49.67%)	32,580 (44.60%)
Partnered	41 (9.05%)	N/A
Divorced	46 (10.15%)	7,305 (10.00%)
Widowed	14 (3.09%)	2,191 (3.00%)
Single	95 (20.97%)	30,461 (41.70%)
Did not answer	32 (7.06%)	
Employment Status		
Employed full-time	157 (34.66%)	
Employed part-time	74 (16.34%)	
Unemployed	48 (10.60%)	
Disabled	27 (5.96%)	
Stay at home	33 (7.28%)	
Student	21 (4.64%)	
Retired	58 (12.80%)	
Other	8 (1.77%)	
Did not answer	27 (5.96%)	
Insurance		
Private	207 (45.70%)	
Public	109 (24.06%)	
Uninsured	83 (18.32%)	
Did not answer	49 (10.82%)	
Zip Code		
Corvallis	288 (63.58%)	
Not Corvallis	119 (26.27%)	
Did not answer	46 (10.15%)	
Income		
Less than $20,000	125 (27.59%)	
$20,000 to $29,999	46 (10.15%)	
$30,000 to $49,999	72 (15.89%)	
$50,000 to $74,999	63 (13.91%)	
$75,000 or more	107 (23.62%)	
Did not answer	40 (8.83%)	
Sexual Orientation		
Straight	373 (82.34%)	
Gay or Lesbian	13 (2.87%)	
Bisexual	19 (4.19%)	
Transgender	2 (0.44%)	
Other	4 (0.88%)	
Did not answer	42 (9.27%)	
Number of Children		
None	261 (57.62%)	
1	66 (14.57%)	
2	64 (14.13%)	
3	16 (3.53%)	
4 or more	13 (2.87%)	
Did not answer	33 (7.28%)	

Appendix B: Benton County Public Health Assessment Survey Results, Ability to Receive Health Care Services

Figure 1. The issue that has the GREATEST impact on the **ability to receive health care services** for people in Benton County is…

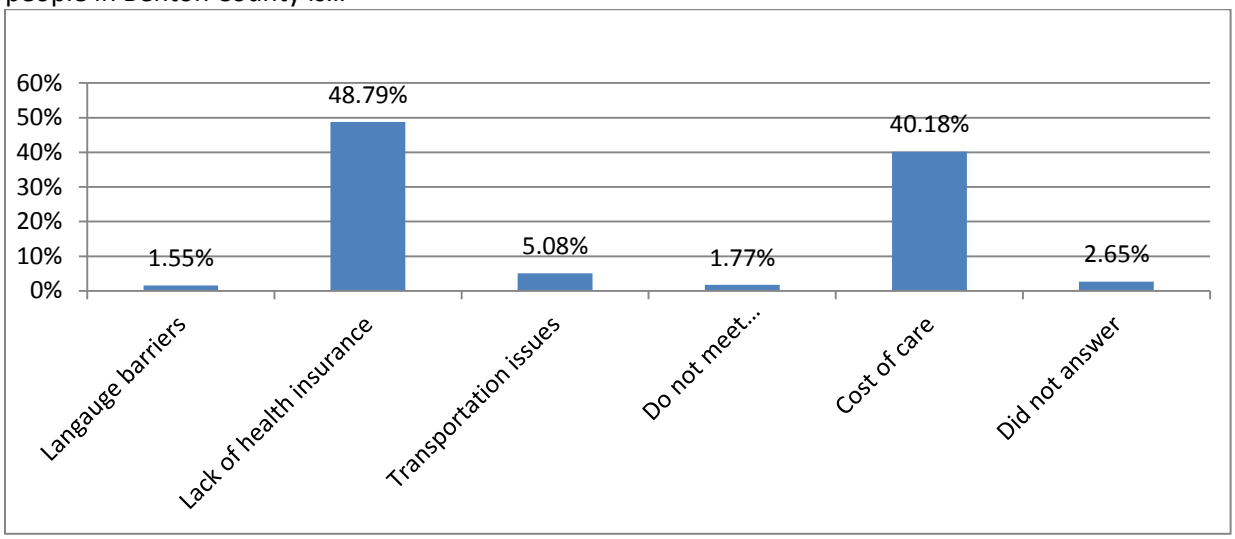


Table 1a. The issue that has the GREATEST impact on the **ability to receive health care services** for people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Language Barriers	Lack of health insurance	Transportation issues	Not meeting residency or citizen issues	Cost of care	Total
97321	North Albany	0 (0.0)	10 (50.0)	1 (5.0)	0 (0.0)	9 (45.0)	20
97324	Alsea	0 (0.0)	1 (50.0)	0 (0.0)	0 (0.0)	1 (50.0)	2
97326	Blodgett	0 (0.0)	5 (62.5)	3 (37.5)	0 (0.0)	0 (0.0)	8
97330	North Corvallis	2 (1.1)	106 (57.0)	4 (2.2)	6 (3.2)	68 (36.6)	186
97331	Oregon State University	1 (16.7)	1 (16.7)	2 (33.3)	0 (0.0)	2 (33.3)	6
97333	South Corvallis	1 (1.1)	38 (43.2)	4 (4.5)	2 (2.3)	43 (48.9)	**88**
97370	Philomath	0 (0.0)	14 (51.9)	0 (0.0)	0 (0.0)	13 (48.1)	**27**
97456	Monroe	0 (0.0)	11 (50.0)	2 (9.1)	0 (0.0)	9 (40.9)	**22**
Other	Other	2 (5.3)	15 (39.5)	2 (5.3)	0 (0.0)	19 (50.0)	**38**
Total		**6 (1.5)**	**201 (50.6)**	**18 (4.5)**	**8 (2.0)**	**164 (41.3)**	**397**

* 56 participants missing data

Table 1b. The issue that has the GREATEST impact on the **ability to receive health care services** for people in Benton County is…*(These results are stratified by income.)*

Income	Language Barriers	Lack of health insurance	Transportation issues	Not meeting residency or citizen issues	Cost of care	Total
Less than $20,000	4 (3.2)	66 (53.7)	9 (7.3)	1 (0.8)	43 (35.0)	**123**
$20,000 - $29,999	1 (2.2)	25 (55.6)	1 (2.2)	1 (2.2)	17 (37.8)	**45**
$30,000 – $49,999	0 (0.0)	39 (54.2)	1 (1.4)	2 (2.8)	30 (41.7)	**72**
$50,000 - $74,999	1 (1.6)	24 (38.7)	1 (1.6)	2 (3.2)	34 (54.8)	**63**
$75,000 and more	0 (0.0)	53 (50.5)	8 (7.8)	2 (1.9)	41 (39.8)	**103**
Total	**6 (1.5)**	**206 (50.9)**	**20 (4.9)**	**8 (2.0)**	**165 (40.7)**	**405**

* 48 participants missing data

Table 1c. The issue that has the GREATEST impact on the **ability to receive health care services** for people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Language Barriers	Lack of health insurance	Transportation issues	Not meeting residency or citizen issues	Cost of care	Total
Hispanic or Latino	3 (7.0)	17 (39.5)	0 (0.0)	2 (4.7)	21 (48.8)	**43**
Non-Hispanic or Latino	3 (0.8)	191 (52.5)	17 (4.7)	6 (1.6)	147 (40.4)	**364**
Total	**6 (1.5)**	**208 (51.1)**	**17 (4.2)**	**8 (2.0)**	**168 (41.3)**	**407**

* 46 participants missing data

Appendix C: Benton County Public Health Assessment Survey Results, Health Care Services

Figure 2. The **health care service** that has the GREATEST impact on the health of people in Benton County is…

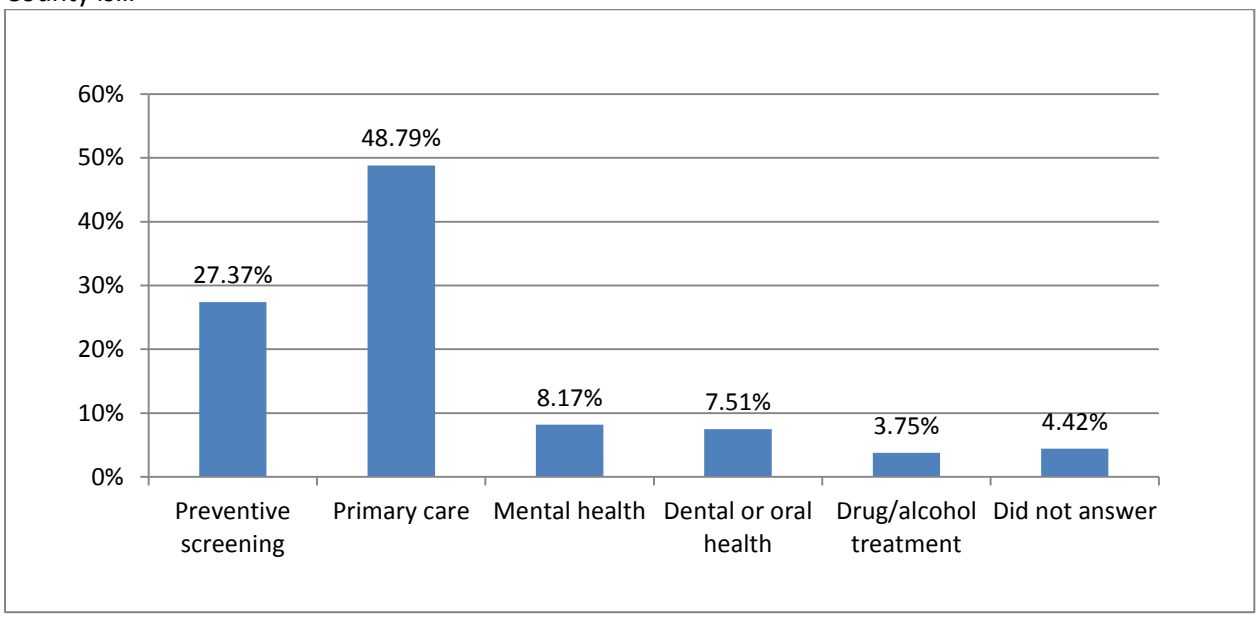


Table 2a. The **health care service** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Preventive Screening	Primary care	Mental health	Dental or oral health	Drug and alcohol treatment	Total
97321	North Albany	7 (35.0)	10 (50.0)	1 (5.0)	1 (5.0)	1 (5.0)	**20**
97324	Alsea	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	2 (25.0)	5 (62.5)	1 (12.5)	0 (0.0)	0 (0.0)	**8**
97330	North Corvallis	50 (27.8)	95 (52.8)	17 (9.4)	13 (7.2)	5 (2.8)	**180**
97331	Oregon State University	1 (16.7)	3 (50.0)	2 (33.3)	0 (0.0)	0 (0.0)	**6**
97333	South Corvallis	24 (27.0)	49 (55.1)	5 (5.6)	7 (7.9)	4 (4.5)	**89**
97370	Philomath	8 (29.6)	13 (48.1)	2 (7.4)	1 (3.7)	3 (11.1)	**27**
97456	Monroe	5 (25.0)	6 (30.0)	1 (5.0)	6 (30.0)	2 (10.0)	**20**
Other	Other	14 (36.8)	19 (50.0)	3 (7.9)	2(5.3)	0 (0.0)	**38**
Total		**111 (28.5)**	**201 (51.5)**	**33 (8.5)**	**30 (7.7)**	**15 (3.8)**	**390**

* 63 participants missing data

Table 2b. The **health care service** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by income.)*

Income	Preventive Screening	Primary care	Mental health	Dental or oral health	Drug and alcohol treatment	Total
Less than $20,000	26 (22.4)	56 (48.3)	13 (11.2)	15 (12.9)	6 (5.2)	**116**
$20,000 - $29,999	15 (35.7)	19 (45.2)	1 (2.4)	7 (16.7)	0 (0.0)	**42**
$30,000 – $49,999	16 (22.5)	41 (57.7)	7 (9.9)	2 (2.0)	5 (7.0)	**71**
$50,000 - $74,999	19 (31.1)	35 (57.4)	5 (8.2)	0 (0.0)	2 (3.3)	**61**
$75,000 and more	35 (33.7)	55 (52.9)	6 (5.8)	6 (5.8)	2 (1.9)	**104**
Total	**111 (28.2)**	**206 (52.3)**	**32 (8.1)**	**30 (7.6)**	**15 (3.8)**	**394**

* 59 participants missing data

Table 2c. The **health care service** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Preventive Screening	Primary care	Mental health	Dental or oral health	Drug and alcohol treatment	Total
Hispanic or Latino	14 (32.6)	17 (39.5)	4 (9.3)	7 (16.3)	1 (2.3)	**43**
Non-Hispanic or Latino	100 (28.2)	188 (53.1)	29 (8.2)	23 (6.5)	14 (4.0)	**354**
Total	**114 (28.7)**	**205 (51.6)**	**33 (8.3)**	**30 (7.6)**	**15 (3.8)**	**397**

* 56 participants missing data

Appendix D: Benton County Public Health Assessment Survey Results, Infectious Disease and Immunization

Figure 3. The **infectious disease and immunization** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by zip code and income.)*

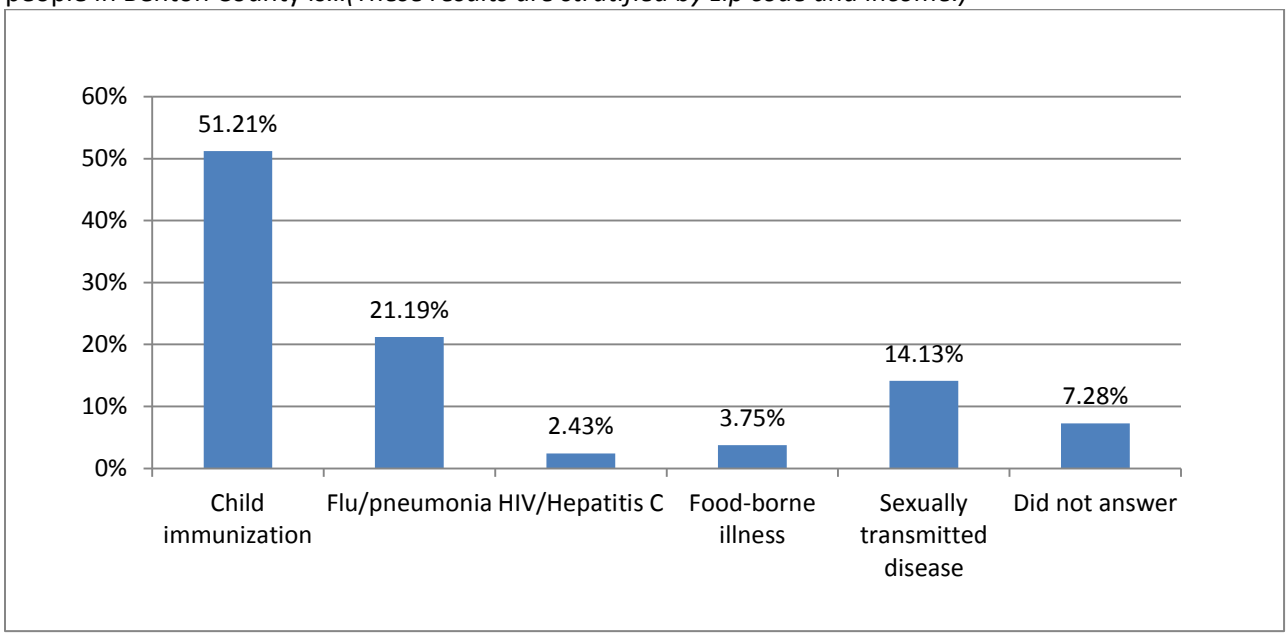


Table 3a. The **infectious disease and immunization** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Childhood immunization	Flu and pneumonia	HIV and Hepatitis C	Food-borne illness	Sexually transmitted infections	Total
97321	North Albany	7 (35.0)	7 (35.0)	1 (5.0)	2 (10.0)	3 (15.0)	**20**
97324	Alsea	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	5 (62.5)	3 (37.5)	0 (0.0)	0 (0.0)	0 (0.0)	**8**
97330	North Corvallis	105 (58.0)	35 (19.3)	7 (3.9)	9 (5.0)	25 (13.8)	**181**
97331	Oregon State University	4 (80.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (20.0)	**5**
97333	South Corvallis	47 (56.6)	21 (25.3)	1 (1.2)	4 (4.8)	10 (12.0)	**83**
97370	Philomath	16 (59.3)	7 (25.9)	0 (0.0)	2 (7.4)	2 (7.4)	**27**
97456	Monroe	10 (50.0)	6 (30.0)	1 (5.0)	0 (0.0)	3 (15.0)	**20**
Other	Other	14 (43.8)	6 (18.8)	1 (3.1)	0 (0.0)	11 (34.4)	**32**
Total		**209 (55.3)**	**86 (22.8)**	**11 (2.9)**	**17 (4.5)**	**55 (14.6)**	**378**

* 75 participants missing data

Table 3b. The **infectious disease and immunization** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by income.)*

Income	Childhood immunization	Flu and pneumonia	HIV and Hepatitis C	Food-borne illness	Sexually transmitted infections	Total
Less than $20,000	52 (46.0)	30 (26.5)	8 (7.1)	2 (1.8)	21 (18.6)	**113**
$20,000 - $29,999	16 (39.0)	11 (26.8)	1 (2.4)	2 (4.9)	11 (26.8)	**41**
$30,000 – $49,999	39 (56.5)	19 (27.5)	1 (1.4)	2 (2.9)	8 (11.6)	**69**
$50,000 - $74,999	42 (72.4)	7 (12.1)	0 (0.0)	2 (3.4)	7 (12.1)	**58**
$75,000 and more	65 (62.5)	24 (23.1)	1 (1.0)	7 (6.7)	7 (6.7)	**104**
Total	**214 (55.6)**	**91 (23.6)**	**11 (2.9)**	**15 (3.9)**	**54 (14.0)**	**385**

* 68 participants missing data

Table 3c. The **infectious disease and immunization** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Childhood immunization	Flu and pneumonia	HIV and Hepatitis C	Food-borne illness	Sexually transmitted infections	Total
Hispanic or Latino	18 (42.9)	14 (33.3)	1 (2.4)	2 (4.8)	7 (16.7)	**42**
Non-Hispanic or Latino	198 (57.4)	77 (22.3)	8 (2.3)	13 (3.8)	49 (14.2)	**345**
Total	**216 (55.8)**	**91 (23.5)**	**9 (2.3)**	**15 (3.9)**	**56 (14.5)**	**387**

* 66 participants missing data

Appendix E: Benton County Public Health Assessment Survey Results, Maternal and Child Health

Figure 4. The **maternal and child health** factor that has the GREATEST impact on the health of children and families in Benton County is…

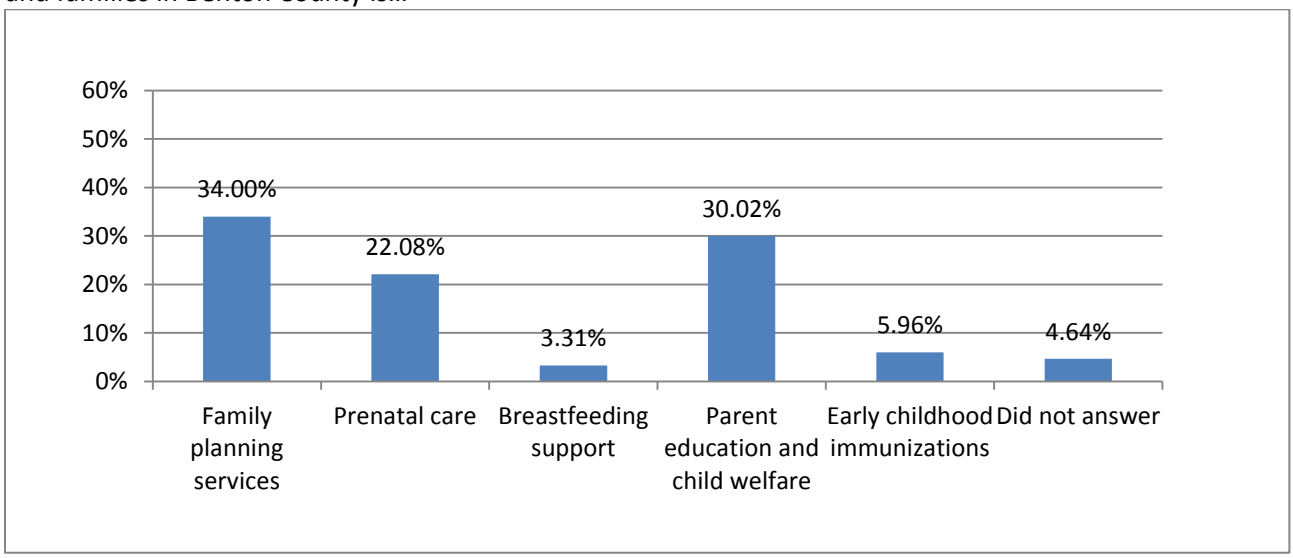


Table 4a. The **maternal and child health** factor that has the GREATEST impact on the health of children and families in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Family planning services	Prenatal care	Breastfeeding support	Parent education and child services	Early childhood immunization	Total
97321	North Albany	6 (30.0)	5 (25.0)	1 (5.0)	7 (35.0)	1 (5.0)	**20**
97324	Alsea	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	3 (37.5)	0 (0.0)	1 (12.5)	3 (37.5)	1 (12.5)	**8**
97330	North Corvallis	70 (38.3)	45 (24.6)	8 (4.4)	50 (27.3)	10 (5.5)	**183**
97331	Oregon State University	3 (50.0)	1 (16.7)	0 (0.0)	1 (16.7)	1 (16.7)	**6**
97333	South Corvallis	27 (30.7)	25 (28.4)	4 (4.5)	26 (29.5)	6 (6.8)	**88**
97370	Philomath	8 (28.6)	5 (17.9)	1 (3.6)	13 (46.4)	1 (3.6)	**28**
97456	Monroe	5 (23.8)	0 (0.0)	0 (0.0)	13 (61.9)	3 (14.3)	**21**
Other	Other	11 (31.4)	10 (28.6)	0 (0.0)	13 (37.1)	1 (2.9)	**35**
Total		**134 (34.3)**	**92 (23.5)**	**15 (3.8)**	**126 (32.2)**	**24 (6.1)**	**391**

* 62 participants missing data

Table 4b. The **maternal and child health** factor that has the GREATEST impact on the health of children and families in Benton County is…*(These results are stratified by income.)*

Income	Family planning services	Prenatal care	Breastfeeding support	Parent education and child services	Early childhood immunizations	Total
Less than $20,000	45 (38.1)	20 (16.9)	3 (2.5)	43 (36.4)	7 (5.9)	**118**
$20,000 - $29,999	13 (30.2)	10 (23.3)	2 (4.7)	15 (34.9)	3 (7.0)	**43**
$30,000 – $49,999	29 (42.0)	11 (15.9)	2 (2.9)	26 (37.7)	1 (1.4)	**69**
$50,000 - $74,999	17 (28.3)	13 (21.7)	3 (5.0)	19 (31.7)	8 (13.3)	**60**
$75,000 and more	37 (34.9)	33 (31.1)	3 (2.8)	27 (25.5)	6 (5.7)	**106**
Total	**141 (35.6)**	**87 (22.0)**	**13 (3.3)**	**130 (32.8)**	**25 (6.3)**	**396**

* 57 participants missing data

Table 4c. The **maternal and child health** factor that has the GREATEST impact on the health of children and families in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Family planning services	Prenatal care	Breastfeeding support	Parent education and child services	Early childhood immunizations	Total
Hispanic or Latino	15 (36.6)	4 (9.8)	2 (4.9)	16 (39.0)	4 (9.8)	**41**
Non-Hispanic or Latino	128 (35.7)	88 (24.5)	13 (3.6)	109 (30.4)	21 (5.8)	**359**
Total	**143 (35.8)**	**92 (23.0)**	**15 (3.8)**	**125 (31.3)**	**25 (6.3)**	**400**

* 53 participants missing data

Table 4d. The **maternal and child health** factor that has the GREATEST impact on the health of children and families in Benton County is…*(These results are stratified by education.)*

Education	Family planning services	Prenatal care	Breastfeeding support	Parent education and child services	Early childhood immunizations	Total
Less than High School	5 (17.9)	6 (21.4)	0 (0.0)	15 (53.6)	2 (7.1)	**28**
High School Graduate	19 (41.3)	6 (13.0)	0 (0.0)	16 (34.8)	5 (10.9)	**46**
Some College or Associates Degree	37 (37.8)	19 (19.4)	2 (2.0)	33 (33.7)	7 (7.1)	**98**
Bachelor's Degree or higher	86 (36.1)	61 (25.6)	12 (5.0)	67 (28.2)	12 (5.0)	**238**
Total	**147 (35.9)**	**92 (22.4)**	**14 (3.4)**	**131 (32.0)**	**26 (6.3)**	**410**

* 43 participants missing data

Appendix F: Benton County Public Health Assessment Survey Results, Family Health

Figure 5. The **family health** factor that has the GREATEST impact on the health of families in Benton County is…

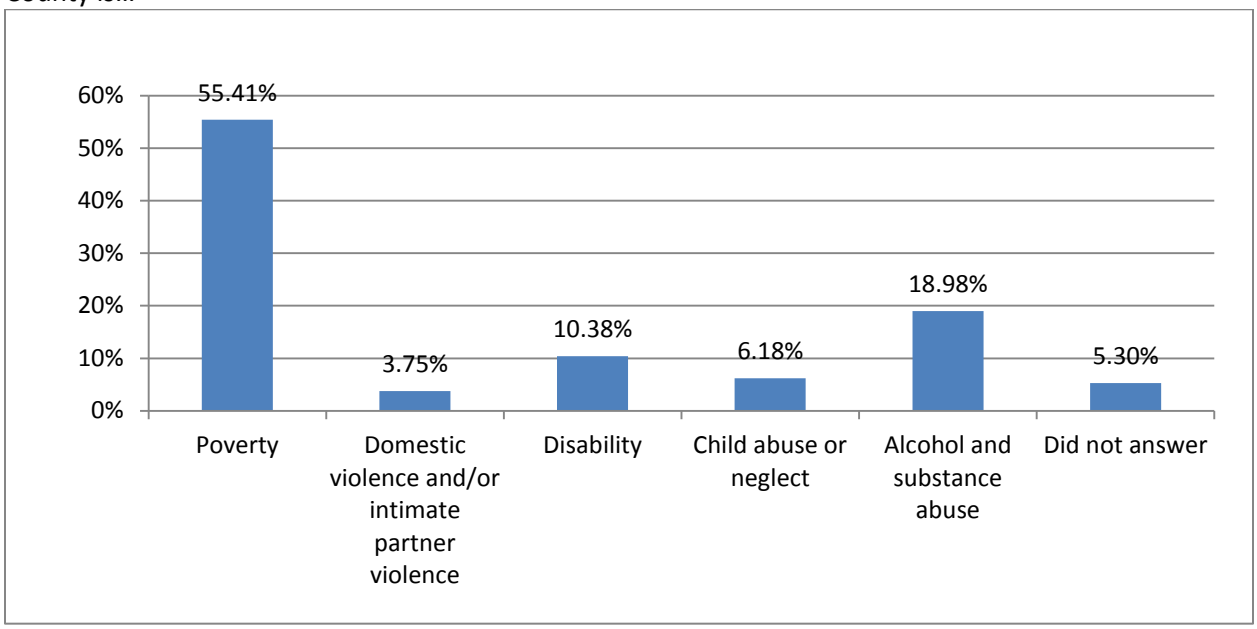


Table 5a. The **family health** factor that has the GREATEST impact on the health of families in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Poverty	Domestic violence and/or intimate partner violence	Disability	Child abuse or neglect	Alcohol and substance abuse	Total
97321	North Albany	10 (50.0)	0 (0.0)	2 (10.0)	3 (15.0)	5 (25.0)	**20**
97324	Alsea	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	5 (62.5)	0 (0.0)	0 (0.0)	0 (0.0)	3 (37.5)	**8**
97330	North Corvallis	107 (58.5)	8 (4.4)	19 (10.4)	15 (8.2)	34 (18.6)	**183**
97331	Oregon State University	3 (50.0)	1 (16.7)	0 (0.0)	2 (33.3)	0 (0.0)	**6**
97333	South Corvallis	49 (56.3)	3 (3.4)	17 (19.5)	3 (3.4)	15 (17.2)	**87**
97370	Philomath	19 (67.9)	0 (0.0)	1 (3.6)	2 (7.1)	6 (21.4)	**28**
97456	Monroe	8 (42.1)	0 (0.0)	3 (15.8)	0 (0.0)	8 (42.1)	**19**
Other	Other	22 (61.1)	2 (5.6)	4 (11.1)	2 (5.6)	6 (16.7)	**36**
Total		**225 (57.8)**	**14 (3.6)**	**46 (11.8)**	**27 (6.9)**	**77 (19.8)**	**389**

* 64 participants missing data

Table 5b. The **family health** factor that has the GREATEST impact on the health of families in Benton County is…*(These results are stratified by income.)*

Income	Poverty	Domestic violence and/or intimate partner violence	Disability	Child abuse or neglect	Alcohol and substance abuse	Total
Less than $20,000	69 (58.5)	3 (2.5)	18 (15.3)	10 (8.5)	18 (15.3)	**118**
$20,000 - $29,999	25 (61.0)	0 (0.0)	7 (17.1)	2 (4.9)	7 (17.1)	**41**
$30,000 – $49,999	42 (60.0)	5 (7.1)	6 (8.6)	3 (4.3)	14 (20.0)	**70**
$50,000 - $74,999	39 (65.0)	5 (8.3)	5 (8.3)	3 (5.0)	8 (13.3)	**60**
$75,000 and more	57 (54.3)	1 (1.0)	9 (8.6)	9 (8.6)	29 (27.6)	**105**
Total	**232 (58.9)**	**14 (3.6)**	**45 (11.4)**	**27 (6.9)**	**76 (19.3)**	**394**

* 59 participants missing data

Table 5c. The **family health** factor that has the GREATEST impact on the health of families in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Poverty	Domestic violence and/or intimate partner violence	Disability	Child abuse or neglect	Alcohol and substance abuse	Total
Hispanic or Latino	26 (61.9)	1 (2.4)	3 (7.1)	0 (0.0)	12 (28.6)	**42**
Non-Hispanic or Latino	205 (58.2)	12 (3.4)	42 (11.9)	27 (7.7)	66 (18.8)	**352**
Total	**231 (58.6)**	**13 (3.3)**	**45 (11.4)**	**27 (6.9)**	**78 (19.8)**	**394**

* 59 participants missing data

Appendix G: Benton County Public Health Assessment Survey Results, Behavioral Risk Factor

Figure 6. The **behavioral risk factor** that has the GREATEST impact on overall health of people in Benton County is…

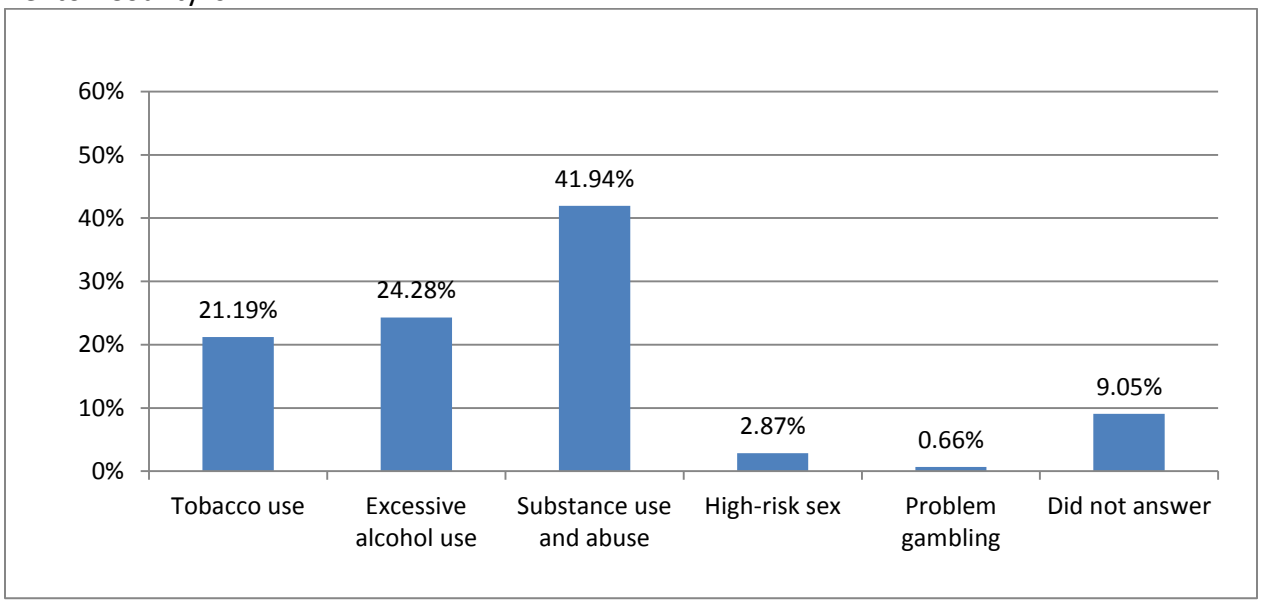


Table 6a. The **behavioral risk factor** that has the GREATEST impact on overall health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Tobacco use	Excessive alcohol use	Substance use and abuse	High-risk sex	Problem gambling	Total
97321	North Albany	4 (22.2)	7 (38.9)	7 (38.9)	0 (0.0)	0 (0.0)	**18**
97324	Alsea	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	3 (42.9)	2 (28.6)	2 (28.6)	0 (0.0)	0 (0.0)	**7**
97330	North Corvallis	45 (26.2)	46 (26.7)	74 (43.0)	5 (2.9)	2 (1.2)	**172**
97331	Oregon State University	2 (40.0)	1 (20.0)	1 (20.0)	1 (20.0)	0 (0.0)	**5**
97333	South Corvallis	14 (16.5)	26 (30.6)	41 (48.2)	3 (3.5)	1 (1.2)	**85**
97370	Philomath	5 (17.2)	5 (17.2)	19 (65.5)	0 (0.0)	0 (0.0)	**29**
97456	Monroe	5 (26.3)	5 (26.3)	8 (42.1)	1 (5.3)	0 (0.0)	**19**
Other	Other	9 (25.7)	7 (20.0)	17 (48.6)	2 (5.7)	0 (0.0)	**35**
Total		**87 (23.4)**	**100 (26.9)**	**170 (45.7)**	**12 (3.2)**	**3 (0.8)**	**372**

* 81 participants missing data

Table 6b. The **behavioral risk factor** that has the GREATEST impact on overall health of people in Benton County is…*(These results are stratified by income.)*

Income	Tobacco use	Excessive alcohol use	Substance use and abuse	High-risk sex	Problem gambling	Total
Less than $20,000	17 (16.0)	29 (27.4)	54 (50.9)	4 (3.8)	2 (1.9)	**106**
$20,000 - $29,999	11 (25.6)	8 (18.6)	23 (53.5)	1 (2.3)	0 (0.0)	**43**
$30,000 – $49,999	14 (20.9)	20 (29.9)	28 (41.8)	4 (6.0)	1 (1.5)	**67**
$50,000 - $74,999	13 (21.7)	18 (30.0)	27 (45.0)	2 (3.3)	0 (0.0)	**60**
$75,000 and more	32 (31.1)	26 (25.2)	43 (41.7)	2 (1.9)	0 (0.0)	**103**
Total	**87 (23.0)**	**101 (26.6)**	**175 (46.2)**	**13 (3.4)**	**3 (0.8)**	**379**

* 74 participants missing data

Table 6c. The **behavioral risk factor** that has the GREATEST impact on overall health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Tobacco use	Excessive alcohol use	Substance use and abuse	High-risk sex	Problem gambling	Total
Hispanic or Latino	12 (30.0)	16 (40.0)	11 (27.5)	0 (0.0)	1 (2.5)	**40**
Non-Hispanic or Latino	80 (23.1)	84 (24.3)	167 (48.3)	13 (3.8)	2 (0.6)	**346**
Total	**92 (23.8)**	**100 (25.9)**	**178 (46.1)**	**13 (3.4)**	**3 (0.8)**	**386**

* 67 participants missing data

Appendix H: Benton County Public Health Assessment Survey Results, Behavioral Risk Factor

Figure 7. The **environmental quality** issue that has the GREATEST impact on the health of people in Benton County is…

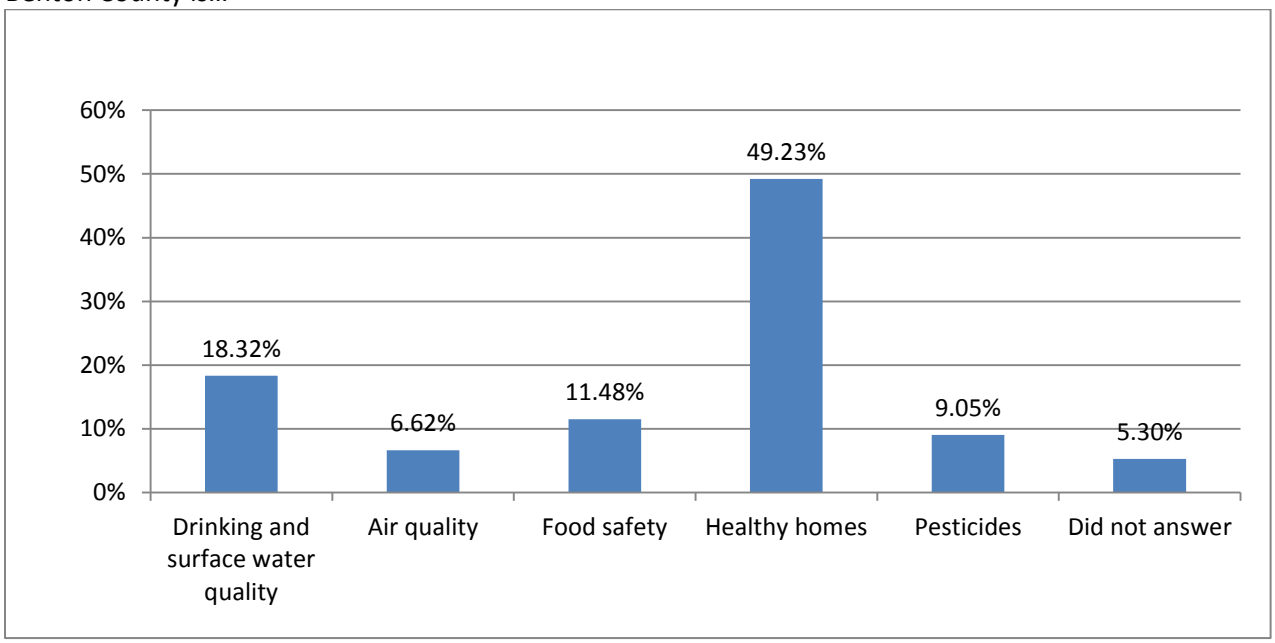


Table 7a. The **environmental quality** issue that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Drinking and surface water quality	Air quality	Food safety	Healthy homes	Pesticides	Total
97321	North Albany	3 (15.0)	3 (15.0)	3 (15.0)	10 (50.0)	1 (5.0)	**20**
97324	Alsea	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)	**2**
97326	Blodgett	2 (25.0)	3 (37.5)	0 (0.0)	3 (37.5)	0 (0.0)	**8**
97330	North Corvallis	33 (18.0)	10 (5.5)	22 (12.0)	99 (54.1)	19 (10.4)	**183**
97331	Oregon State University	1 (20.0)	2 (40.0)	1 (20.0)	1 (20.0)	0 (0.0)	**5**
97333	South Corvallis	23 (25.8)	6 (6.7)	12 (13.5)	40 (44.9)	8 (9.0)	**89**
97370	Philomath	6 (21.4)	0 (0.0)	6 (21.4)	14 (50.0)	2 (7.1)	**28**
97456	Monroe	3 (15.8)	2 (10.5)	1 (5.3)	9 (47.4)	4 (21.1)	**19**
Other	Other	4 (11.8)	2 (5.9)	3 (8.8)	21 (61.8)	4 (11.8)	**34**
Total		**75 (19.3)**	**28 (7.2)**	**48 (12.4)**	**199 (51.3)**	**38 (9.8)**	**388**

* 65 participants missing data

Table 7b. The **environmental quality** issue that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by income.)*

Income	Drinking and surface water quality	Air quality	Food safety	Healthy homes	Pesticides	Total
Less than $20,000	15 (12.9)	5 (4.3)	9 (7.8)	75 (64.7)	12 (10.3)	**116**
$20,000 - $29,999	8 (20.0)	1 (2.5)	6 (15.0)	22 (55.0)	3 (7.5)	**40**
$30,000 – $49,999	14 (20.3)	2 (2.9)	11 (15.9)	32 (46.4)	10 (14.5)	**69**
$50,000 - $74,999	13 (21.0)	11 (17.7)	5 (8.1)	29 (46.8)	4 (6.5)	**62**
$75,000 and more	24 (22.6)	9 (8.5)	16 (15.1)	47 (44.3)	10 (9.4)	**106**
Total	**74 (18.8)**	**28 (7.1)**	**47 (12.0)**	**205 (52.2)**	**39 (9.9)**	**393**

* 60 participants missing data

Table 7c. The **environmental quality** issue that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Drinking and surface water quality	Air quality	Food safety	Healthy homes	Pesticides	Total
Hispanic or Latino	7 (16.3)	2 (4.7)	5 (11.6)	26 (60.5)	3 (7.0)	**43**
Non-Hispanic or Latino	70 (19.7)	23 (6.5)	43 (12.1)	183 (51.5)	36 (10.1)	**355**
Total	**77 (19.3)**	**25 (6.3)**	**48 (12.1)**	**209 (52.5)**	**39 (9.8)**	**398**

* 55 participants missing data

Appendix I: Benton County Public Health Assessment Survey Results, Built Environment or Human-made Surroundings

Figure 8. The **built environment or human-made surroundings** factor that has the GREATEST impact on the health of people in Benton County is…

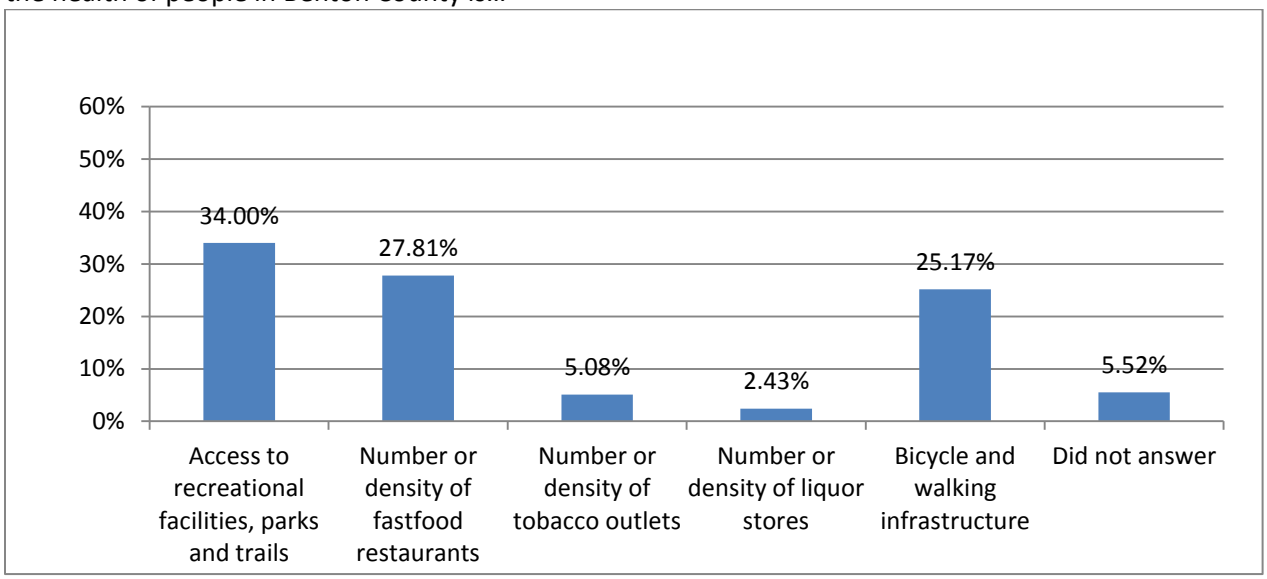


Table 8a. The **built environment or human-made surroundings** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Access to recreational facilities, parks and trails	Number of fast food restaurants	Number of places that sell tobacco	Number of liquor stores	Bicycle and walking paths and trails	Total
97321	North Albany	6 (30.0)	6 (30.0)	0 (0.0)	3 (15.0)	5 (25.0)	**20**
97324	Alsea	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	**1**
97326	Blodgett	1 (12.5)	3 (37.5)	2 (25.0)	0 (0.0)	2 (25.0)	**8**
97330	North Corvallis	66 (35.9)	56 (30.4)	7 (3.8)	2 (1.1)	53 (28.8)	**184**
97331	Oregon State University	1 (20.0)	2 (40.0)	0 (0.0)	0 (0.0)	2 (40.0)	**5**
97333	South Corvallis	35 (39.8)	27 (30.7)	6 (6.8)	0 (0.0)	20 (22.7)	**88**
97370	Philomath	13 (46.4)	6 (21.4)	2 (7.1)	2 (7.1)	5 (17.9)	**28**
97456	Monroe	6 (31.6)	5 (26.3)	1 (5.3)	0 (0.0)	7 (36.8)	**19**
Other	Other	10 (29.4)	10 (29.4)	3 (8.8)	2 (5.9)	9 (26.5)	**34**
Total		**139 (35.9)**	**115 (29.7)**	**21 (5.4)**	**9 (2.3)**	**103 (26.6)**	**387**

* 66 participants missing data

Table 8b. The **built environment or human-made surroundings** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by income.)*

Income	Access to recreational facilities, parks and trails	Number of fast food restaurants	Number of places that sell tobacco	Number of liquor stores	Bicycle and walking paths and trails	Total
Less than $20,000	35 (30.2)	42 (36.2)	8 (6.9)	4 (3.4)	27 (23.3)	**116**
$20,000 - $29,999	17 (40.5)	11 (26.2)	2 (4.8)	2 (4.8)	10 (23.8)	**42**
$30,000 – $49,999	31 (44.9)	13 (18.8)	5 (7.2)	2 (2.9)	18 (26.1)	**69**
$50,000 - $74,999	24 (38.1)	17 (27.0)	0 (0.0)	1 (1.6)	21 (33.3)	**63**
$75,000 and more	34 (33.0)	34 (33.0)	5 (4.9)	2 (1.9)	28 (27.2)	**103**
Total	**141 (35.9)**	**117 (29.8)**	**20 (5.1)**	**11 (2.8)**	**104 (26.5)**	**393**

* 60 participants missing data

Table 8c. The **built environment or human-made surroundings** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Access to recreational facilities, parks and trails	Number of fast food restaurants	Number of places that sell tobacco	Number of liquor stores	Bicycle and walking paths and trails	Total
Hispanic or Latino	15 9 (36.6)	12 (29.3)	4 (9.8)	2 (4.9)	8 (19.5)	**41**
Non-Hispanic or Latino	133 (37.0)	104 (29.0)	17 (4.7)	9 (2.5)	96 (26.7)	**359**
Total	**148 (37.0)**	**116 (29.0)**	**21 (5.3)**	**11 (2.8)**	**104 (26.0)**	**400**

* 53 participants missing data

Table 8d. The **built environment or human-made surroundings** factor that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by age group.)*

Age Group	Access to recreational facilities, parks and trails	Number of fast food restaurants	Number of places that sell tobacco	Number of liquor stores	Bicycle and walking paths and trails	Total
18 – 24	17 (38.6)	16 (36.4)	4 (9.1)	1 (2.3)	6 (13.6)	**44**
25 – 34	33 (35.5)	31 (33.3)	7 (7.5)	4 (4.3)	18 (19.4)	**93**
35 – 54	52 (38.2)	34 (25.0)	8 (5.9)	2 (1.5)	40 (29.4)	**136**
55 – 64	34 (40.5)	22 (26.2)	3 (3.6)	3 (3.6)	22 (26.2)	**84**
65 and older	10 (20.0)	17 (34.0)	1 (2.0)	1 (2.0)	21 (42.0)	**50**
Total	**146 (35.9)**	**120 (29.5)**	**23 (5.7)**	**11 (2.7)**	**107 (26.3)**	**407**

* 46 participants missing data

Appendix J: Benton County Public Health Assessment Survey Results, Behavioral Risk Factor

Figure 9. The **health behavior** that has the greatest impact on improving the health of people in Benton County is…

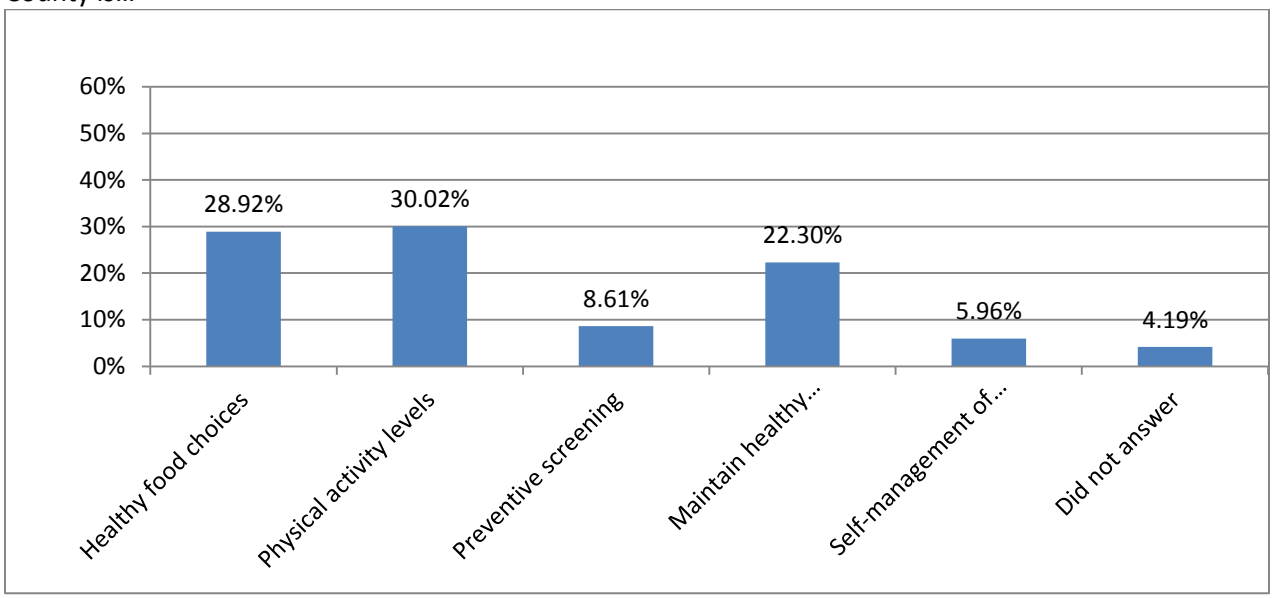


Table 9a. The **health behavior** that has the greatest impact on improving the health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Making healthy food choices	Physical activity	Getting preventive screening	Maintaining healthy weight	Self-management of chronic diseases	Total
97321	North Albany	7 (35.0)	4 (20.0)	1 (5.0)	6 (30.0)	2 (10.0)	**20**
97324	Alsea	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	3 (37.5)	2 (25.0)	0 (0.0)	3 (37.5)	0 (0.0)	**8**
97330	North Corvallis	55 (29.9)	59 (32.1)	19 (10.3)	40 (21.7)	11 (6.0)	**184**
97331	Oregon State University	1 (16.7)	1 (16.7)	1 (16.7)	2 (33.3)	1 (16.7)	**6**
97333	South Corvallis	28 (31.5)	26 (29.2)	8 (9.0)	19 (21.3)	8 (9.0)	**89**
97370	Philomath	9 (32.1)	11 (39.3)	0 (0.0)	8 (26.8)	0 (0.0)	**28**
97456	Monroe	5 (22.7)	7 (31.8)	3 (13.6)	7 (31.8)	0 (0.0)	**22**
Other	Other	6 (17.1)	13 (37.1)	3 (8.6)	9 (25.7)	4 (11.4)	**35**
Total		**116 (29.4)**	**123 (31.2)**	**35 (8.9)**	**94 (23.9)**	**26 (6.6)**	**394**

* 59 participants missing data

Table 9b. The **health behavior** that has the greatest impact on improving the health of people in Benton County is…*(These results are stratified by income.)*

Income	Making healthy food choices	Physical activity	Getting preventive screening	Maintaining healthy weight	Self-management of chronic diseases	Total
Less than $20,000	40 (34.2)	37 (31.6)	14 (12.0)	22 (18.8)	4 (3.4)	**117**
$20,000 - $29,999	11 (25.6)	14 (32.6)	9 (20.9)	7 (16.3)	2 (4.7)	**43**
$30,000 – $49,999	25 (35.7)	26 (37.1)	6 (8.6)	9 (12.9)	4 (5.7)	**70**
$50,000 - $74,999	14 (22.2)	18 (28.6)	5 (7.9)	26 (41.3)	0 (0.0)	**63**
$75,000 and more	30 (28.3)	30 (28.3)	1 (0.9)	32 (30.2)	13 (12.3)	**106**
Total	**120 (30.1)**	**125 (31.3)**	**35 (8.8)**	**96 (24.1)**	**23 (5.8)**	**399**

* 54 participants missing data

Table 9c. The **health behavior** that has the greatest impact on improving the health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Making healthy food choices	Physical activity	Getting preventive screening	Maintaining healthy weight	Self-management of chronic diseases	Total
Hispanic or Latino	9 (22.0)	10 (24.4)	8 (19.5)	10 (24.4)	4 (9.8)	**41**
Non-Hispanic or Latino	112 (30.9)	118 (32.6)	29 (8.0)	82 (22.7)	21 (5.8)	**362**
Total	**121 (30.0)**	**128 (31.8)**	**37 (9.2)**	**92 (22.8)**	**25 (6.2)**	**403**

* 50 participants missing data

Table 9d. The **health behavior** that has the greatest impact on improving the health of people in Benton County is…*(These results are stratified by age group.)*

Age Group	Making healthy food choices	Physical activity	Getting preventive screening	Maintaining healthy weight	Self-management of chronic diseases	Total
18 – 24	15 (33.3)	15 (33.3)	4 (8.9)	8 (17.8)	3 (6.7)	**45**
25 – 34	33 (35.9)	24 (26.1)	11 (12.0)	19 (20.7)	5 (5.4)	**92**
35 – 54	43 (31.4)	48 (35.0)	10 (7.3)	28 (20.4)	8 (5.8)	**137**
55 – 64	23 (26.1)	27 (30.7)	7 (8.0)	26 (29.5)	5 (5.7)	**88**
65 and older	9 (18.4)	15 (30.6)	4 (8.2)	16 (32.7)	5 (10.2)	**49**
Total	**123 (29.9)**	**129 (31.4)**	**36 (8.8)**	**97 (23.6)**	**26 (6.3)**	**411**

Appendix K: Benton County Public Health Assessment Survey Results, Quality of Life

Figure 10. The **quality of life** factor that has the GREATEST impact on the community in Benton County is…

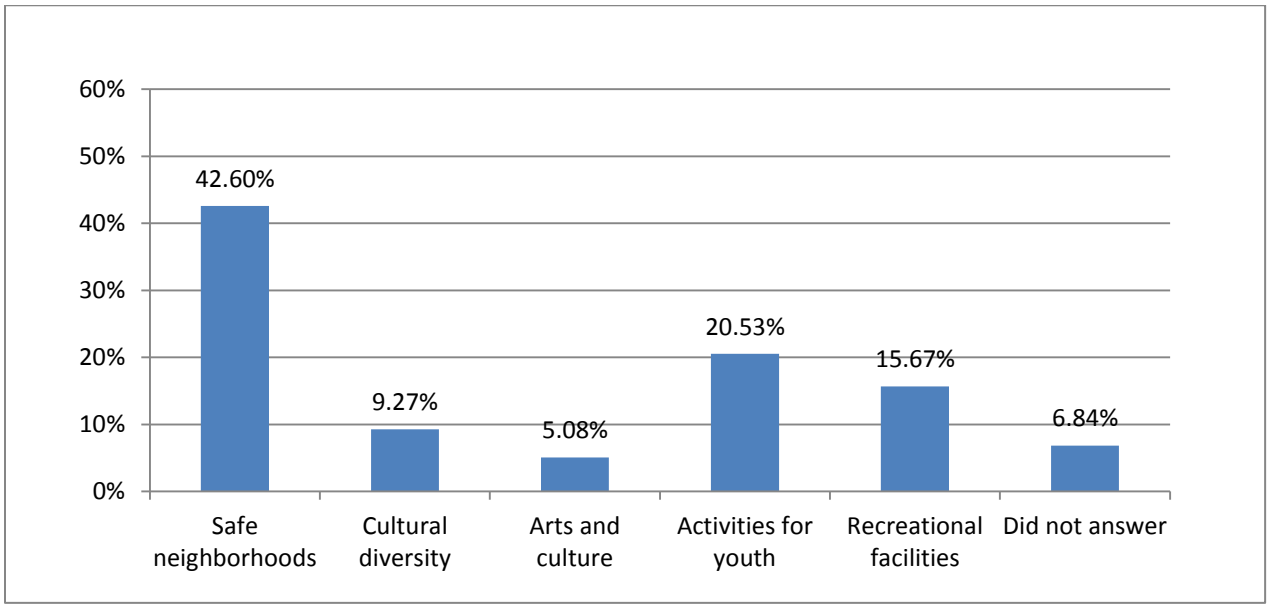


Table 10a. The **quality of life** factor that has the GREATEST impact on the community in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Safe neighborhoods	Cultural diversity	Arts and culture	Activities for youth	Recreational facilities	Total
97321	North Albany	9 (45.0)	0 (0.0)	0 (0.0)	7 (35.0)	4 (20.0)	**20**
97324	Alsea	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	4 (50.0)	0 (0.0)	1 (12.5)	3 (37.5)	0 (0.0)	**8**
97330	North Corvallis	92 (51.7)	7 (3.9)	9 (5.1)	37 (20.8)	33 (18.5)	**178**
97331	Oregon State University	1 (20.0)	1 (20.0)	1 (20.0)	1 (20.0)	1 (20.0)	**5**
97333	South Corvallis	39 (44.8)	16 (18.4)	6 (6.9)	12 (13.8)	14 (16.1)	**87**
97370	Philomath	11 (37.9)	2 (6.9)	1 (3.4)	11 (37.9)	4 (13.8)	**29**
97456	Monroe	5 (23.8)	4 (19.0)	0 (0.0)	7 (33.3)	5 (23.8)	**21**
Other	Other	13 (38.2)	7 (20.6)	1 (2.9)	10 (29.4)	3 (8.8)	**34**
Total		**175 (45.6)**	**38 (9.9)**	**19 (4.9)**	**88 (22.9)**	**64 (16.7)**	**384**

* 69 participants missing data

Table 10b. The **quality of life** factor that has the GREATEST impact on the community in Benton County is…*(These results are stratified by income.)*

Income	Safe neighborhoods	Cultural diversity	Arts and culture	Activities for youth	Recreational facilities	Total
Less than $20,000	45 (40.9)	14 (12.7)	5 (4.5)	29 (26.4)	17 (15.5)	**110**
$20,000 - $29,999	19 (42.2)	9 (20.0)	3 (6.7)	7 (15.6)	7 (15.6)	**45**
$30,000 – $49,999	27 (38.0)	7 (9.9)	4 (5.6)	20 (28.2)	13 (18.3)	**71**
$50,000 - $74,999	33 (53.2)	3 (4.8)	1 (1.6)	16 (25.8)	9 (14.5)	**62**
$75,000 and more	56 (53.8)	6 (5.8)	7 (6.7)	16 (15.4)	19 (18.3)	**104**
Total	**180 (45.9)**	**39 (9.9)**	**20 (5.1)**	**88 (22.4)**	**65 (16.6)**	**392**

* 61 participants missing data

Table 10c. The **quality of life** factor that has the GREATEST impact on the community in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Safe neighborhoods	Cultural diversity	Arts and culture	Activities for youth	Recreational facilities	Total
Hispanic or Latino	14 (36.8)	8 (21.1)	3 (7.9)	10 (26.3)	3 (7.9)	**38**
Non-Hispanic or Latino	168 (46.8)	31 (8.6)	18 (5.0)	79 (22.0)	63 (17.5)	**359**
Total	**182 (45.8)**	**39 (9.8)**	**21 (5.3)**	**89 (22.4)**	**66 (16.6)**	**397**

* 56 participants missing data

Appendix L: Benton County Public Health Assessment Survey Results, Community Issue

Figure 11. The major **community issue** that has the GREATEST impact on public health planning is…

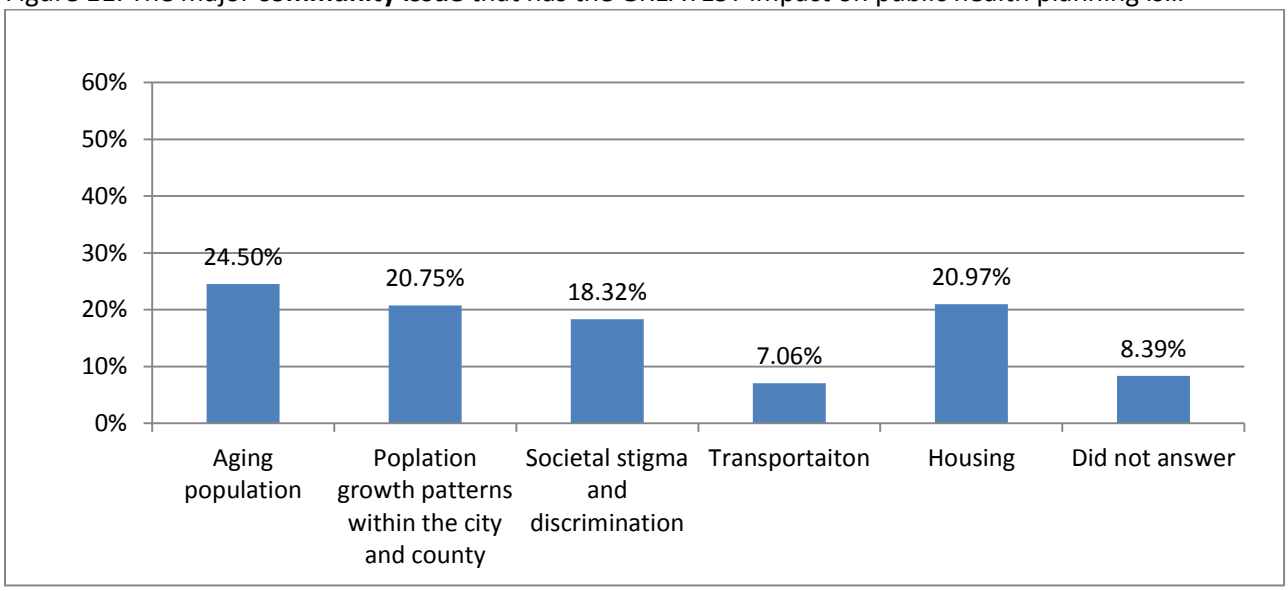


Table 11a. The major **community issue** that has the GREATEST impact on public health planning is…*(These results are stratified by zip code.)*

Zip Code	City	Aging Population	Population growth patterns	Societal stigma and discrimination	Transportation	Housing	Total
97321	North Albany	11 (55.0)	2 (10.0)	3 (15.0)	2 (10.0)	2 (10.0)	**20**
97324	Alsea	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	**2**
97326	Blodgett	0 (0.0)	2 (28.6)	1 (14.3)	2 (28.6)	2 (28.6)	**7**
97330	North Corvallis	43 (23.9)	41 (22.8)	36 (20.0)	10 (5.6)	50 (27.8)	**180**
97331	Oregon State University	2 (40.0)	0 (0.0)	1 (20.0)	0 (0.0)	2 (40.0)	**5**
97333	South Corvallis	25 (29.4)	19 (22.4)	13 (15.3)	6 (7.1)	22 (25.9)	**85**
97370	Philomath	8 (32.0)	3 (12.0)	4 (16.0)	1 (4.0)	9 (36.0)	**25**
97456	Monroe	2 (9.5)	8 (38.1)	6 (28.6)	2 (9.5)	3 (14.3)	**21**
Other	Other	5 (14.3)	7 (20.0)	15 (42.9)	3 (8.6)	5 (14.3)	**35**
Total		**96 (25.3)**	**84 (22.1)**	**79 (20.8)**	**26 (6.8)**	**95 (25.0)**	**380**

* 73 participants missing data

Table 11b. The major **community issue** that has the GREATEST impact on public health planning is…*(These results are stratified by income.)*

Income	Aging Population	Population growth patterns	Societal stigma and discrimination	Transportation	Housing	Total
Less than $20,000	15 (13.5)	25 (22.5)	27 (24.3)	9 (8.1)	35 (31.5)	**111**
$20,000 - $29,999	6 (14.3)	12 (28.6)	13 (31.0)	4 (9.5)	7 (16.7)	**42**
$30,000 – $49,999	19 (28.8)	17 (25.8)	12 (18.2)	4 (6.1)	14 (21.2)	**66**
$50,000 - $74,999	19 (31.1)	11 (18.0)	13 (21.3)	5 (8.2)	13 (21.3)	**61**
$75,000 and more	42 (40.0)	19 (18.1)	16 (15.2)	6 (5.7)	22 (21.0)	**105**
Total	**101 (26.2)**	**84 (21.8)**	**81 (21.0)**	**28 (7.3)**	**91 (23.6)**	**385**

* 68 participants missing data

Table 11b. The major **community issue** that has the GREATEST impact on public health planning is…*(These results are stratified by ethnicity.)*

Ethnicity	Aging Population	Population growth patterns	Societal stigma and discrimination	Transportation	Housing	Total
Hispanic or Latino	7 (19.4)	1 (2.8)	21 (58.3)	1 (2.8)	6 (16.7)	**36**
Non-Hispanic or Latino	96 (27.3)	84 (23.3)	60 (17.0)	25 (7.1)	87 (24.7)	**352**
Total	**103 (26.5)**	**85 (21.9)**	**81 (20.9)**	**26 (6.7)**	**93 (24.0)**	**388**

* 65 participants missing data

Figure 11d. The **community issue** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by education.)*

Education	Aging Population	Population growth patterns	Societal stigma and discrimination	Transportation	Housing	Total
Less than High School	6 (24.0)	3 (12.0)	11 (44.0)	0 (0.0)	5 (20.0)	**25**
High School Graduate	3 (6.8)	13 (29.5)	11 (25.0)	6 (13.6)	11 (25.0)	**44**
Some College or Associates Degree	19 (20.9)	19 (20.9)	14 (15.4)	6 (6.6)	33 (36.3)	**91**
Bachelor's Degree or higher	76 (32.1)	53 (22.4)	45 (19.0)	17 (7.2)	46 (19.4)	**237**
Total	**104 (26.2)**	**88 (22.2)**	**81 (20.4)**	**29 (7.3)**	**95 (23.9)**	**397**

* 56 participants missing data

Appendix M: Benton County Public Health Assessment Survey Results, Community Investment

Figure 12. The **community investment** that has the GREATEST impact on the health of people in Benton County is…

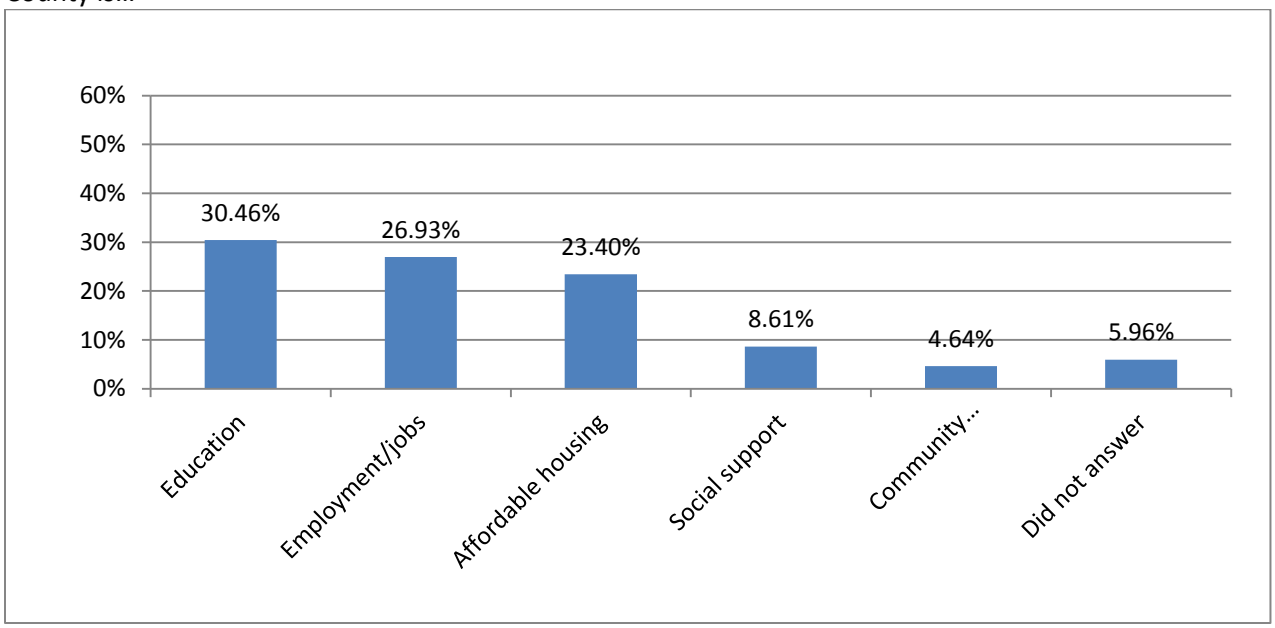


Figure 12a. The **community investment** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by zip code.)*

Zip Code	City	Education	Jobs	Affordable housing	Social support	Community safety/crime	Total
97321	North Albany	4 (20.0)	10 (50.0)	3 (15.0)	1 (5.0)	2 (10.0)	20
97324	Alsea	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2
97326	Blodgett	2 (28.6)	5 (71.4)	0 (0.0)	0 (0.0)	0 (0.0)	7
97330	North Corvallis	55 (30.2)	47 (25.8)	51 (28.0)	22 (12.1)	7 (3.8)	182
97331	Oregon State University	1 (20.0)	1 (20.0)	3 (60.0)	0 (0.0)	0 (0.0)	5
97333	South Corvallis	31 (36.0)	22 (25.6)	21 (24.4)	9 (10.5)	3 (3.5)	86
97370	Philomath	11 (37.9)	8 (27.6)	7 (24.1)	0 (0.0)	3 (10.3)	29
97456	Monroe	8 (38.1)	6 (28.6)	7 (33.3)	0 (0.0)	0 (0.0)	21
Other	Other	7 (19.4)	13 (36.1)	8 (22.2)	6 (16.7)	2 (5.6)	36
Total		121 (31.2)	112 (28.9)	100 (25.8)	38 (9.8)	17 (4.4)	388

* 65 participants missing data

Figure 12b. The **community investment** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by income.)*

Income	Education	Jobs	Affordable housing	Social support	Community safety/crime	Total
Less than $20,000	30 (27.5)	30 (27.5)	31 (28.4)	13 (11.9)	5 (4.6)	109
$20,000 - $29,999	10 (22.2)	15 (33.3)	13 (28.9)	3 (6.7)	4 (8.9)	45
$30,000 – $49,999	25 (35.2)	21 (29.6)	18 (25.4)	6 (8.5)	1 (1.4)	71
$50,000 - $74,999	18 (29.0)	23 (37.1)	14 (22.6)	3 (4.8)	4 (6.5)	62
$75,000 and more	40 (37.7)	24 (22.6)	25 (23.6)	14 (13.2)	3 (2.8)	106
Total	123 (31.3)	113 (28.8)	101 (25.7)	39 (9.9)	17 (4.3)	393

* 60 participants missing data

Figure 12c. The **community investment** that has the GREATEST impact on the health of people in Benton County is…*(These results are stratified by ethnicity.)*

Ethnicity	Education	Jobs	Affordable housing	Social support	Community safety/crime	Total
Hispanic or Latino	15 (36.6)	8 (19.5)	14 (34.1)	2 (4.9)	2 (4.9)	41
Non-Hispanic or Latino	115 (32.0)	105 (29.2)	85 (23.7)	37 (10.3)	17 (4.7)	359
Total	130 (32.5)	113 (28.3)	99 (24.8)	39 (9.8)	19 (4.8)	400

* 53 participants missing data

Appendix N: Benton County Health Department and Community Partner Sub-population Health Disparities and Lifespan Assessment Compilation (2006 to 2011)

Tobacco and Other related Chronic Disease Diseases Community Assessment (2007-2008)
The purpose of the community assessment and environmental scan was to inform Benton County in planning a population-based approach to reducing the burden of chronic diseases most closely linked to physical inactivity, poor nutrition, and tobacco use.

Assessing Social, Environmental and Behavioral Determinants of Health and Chronic Disease among Latinos in Benton County, Oregon: A Pilot Quantitative Approach
The purpose of this study was to examine the social, environmental, and behavioral determinants of health and chronic disease among Latinos living in Benton County.

Casa Latinos Unidos de Benton County Community Needs and Assets (2007)
The purpose of the assessment was to evaluate the health assets and needs of the Latino population in Benton County.

Climate Change Health Adaptation Plan (2012)
Identify health problems in relation to climate change. The information will lead to a completed Climate Health Adaptation Plan specific to Benton County Health Department. The main goal is to have a strategy in place that helps to mitigate climate change effects on the health of the community, and help support other climate change initiatives within the county and city.

***Las Comidas Latina* Nutrition Assessment (2007-2009)**
The purpose of the assessment was to describe the level of household food insecurity, investigate factors influencing food insecurity, identifying dietary practices and food preferences, assess nutritional interests and needs and identify Latino in Linn and Benton County.

***Voceros de Salud*/Latino Health Ambassadors Final Report (2010)**
An 18-month long community-based participatory project using a collaborative approach to research with the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities.

Rural Youth Engagement Assessment (2009-2012)
The purpose was to provide Creciendo en Salud Healthy Kids Healthy Communities Project with in-depth information on the perspectives of youth and youth-serving professionals on incorporating youth involvement and engagement in organizational decision making processes.

Benton County Lesbian, Gay, Transgender, Queer Health Assessment (2009-2010)
The purpose of the assessment was to gain a better understanding of the specific health resources and gaps among LBGTQ Benton County residents.

Benton County Mental Health Consumer Focus Groups (2009)
The goal of the assessment was to gain a better understanding of the premature death in mental health consumers in Benton County.

Benton County Strategic Prevention Framework Town Halls (2012)
The purpose was to assess different populations' opinions on the most important causes for the misuse of alcohol among young adults in Benton County.

Rural Healthy Aging Focus Group (2009)
Assess health resources and gaps among older adults living in rural areas of Benton County.

Benton Healthy Aging Coalition Town Halls (2012)
The purpose was to facilitate a process aimed at creating collaborative dialogue, sharing mutual knowledge and discovering new opportunities for action regarding healthy aging issues.

Benton County Assessment Dental Care Need
The purpose was to collect quantitative and qualitative information to inform the Benton County Oral Health Coalition on solutions to oral health needs among uninsured adults.

Report to Oregon Health Policy Board: Benton County Coordinated Care Community Meeting (2012)
The purpose is to document public input in response to the Oregon Health Authority's development of Coordinated Care Organizations.

Rural Grocery Store Owner and Customer Assessment (2011)
The purpose of survey was to explore the challenges faced by rural grocery store owners and community resident's access to a variety of affordable and healthful foods.

Linn-Benton Latino Housing Stakeholder (2012)
Key informant discussion on issues of faced by Latino residents regarding safe and affordable access to housing in Linn and Benton County.

Appendix O: Benton County Community Assessment Partnerships and Acknowledgements

Description Benton County Community Health Assessment Process:
In 2012, Benton County Health Department is engaging in a Public Health Assessment process. The vision of this process is a forward-looking community in which everyone has equitable opportunities for health, starting in the places where health begins – where we live, work, learn, and play.

The Public Health Assessment describes the current status of our diverse communities' health; define areas for improvement, focusing on those who face significant barriers to health; and identify organizations and community resources that can be used to improve health for the entire community.

Outreach efforts seeking community input include large community events, meetings with advisory committees and coalitions, and targeted outreach to harder to reach populations through web and paper surveys. These efforts, combined with the county's online Health Status Report (http://www.co.benton.or.us/health/health_status/index.php) and synthesis of cross-sectional and targeted assessments, the input gathered from community members helps to create a snapshot of community health that will inform the Community Health Improvement Plan, public health accreditation, and health care transformation that is happening at the state and local levels.

Community Assessment Partners and Acknowledgements:

Benton County Healthy Communities Coalition

Benton County LBGTQ Health Coalition

Benton County Oral Health Coalition

Benton County Healthy Communities Coalition

Benton County Public Health Advisory and Planning Committee

Benton Linn Health Equity Alliance

Benton Linn Healthy Aging Coalition

Benton County Peer Wellness Program

Center Against Rape and Domestic Violence

Casa Latinos Unidos de Benton County

Coast to Cascades Collaborative

Creciendo en Salud, Healthy Kids Healthy Communities

Daniel Lopez, PhD, Consulting Organization

Mental Health, Addition, and Developmental Disabilities Advisory Committee

Oregon Food Bank

Oregon State University Extension, Linn and Benton Counties

Organization Latinas Unidos

Samaritan Health Services

Ten Rivers Foodweb

The Partnership: To Reduce Excessive and Under-age Drinking

United Way of Benton and Lincoln Counties

Voceros de Salud

Willamette Neighborhood Housing

Benton County Community Partner Resources

Assessment of Dental Care Needs in Benton County Adults, Community Health Centers of Linn and Benton Counties
http://www.lwv.corvallis.or.us/Dental%20Needs%20Assessment%209-29-2011.pdf

Benton County Health Status Report, 2012, Benton County Health Department
http://www.co.benton.or.us/health/health_status/index.php

City of Corvallis Parks and Recreation Cost Recovery and Master Plan Survey
http://www.corvallisoregon.gov/index.aspx?page=252

Community Conversations about Needs, 2010, Benton County, United Way of Benton and Lincoln Counties
http://www.unitedwayblc.org/needs-assessment-benton-county

Community Health Impact Report, 2012, Samaritan Health Services
http://www.samhealth.org/SiteCollectionDocuments/CommunitySupport/CommunityHealthImpactReport_2012.pdf

Community Benefits Plan, 2011-2012, Samaritan Health Services
http://www.samhealth.org/SiteCollectionDocuments/CommunitySupport/SHSCommunityBenefit20112012FORWEBSITEpdf.pdf

Oregon Comprehensive Cancer Plan, Partnership,2005, Oregon Partnership for Cancer Control
http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Cancer/Documents/cancer_plan_v32.pdf
http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Cancer/Documents/cancer_plan_v32.pdf

Oregon State University Student Health Services Annual Report, 2010-2011
http://studenthealth.oregonstate.edu/

State Resources

Adult Protective Services Community and Facility Annual Report, 2010, Aging and People with Disabilities
http://www.dhs.state.or.us/spd/tools/cm/aps/index.htm

County Health Ranking and Roadmap, University of Wisconsin Population Health Institute
http://www.countyhealthrankings.org/#app/

Heart disease and stroke in Oregon: Update 2010
Oregon CD Summary publication index, Oregon Health Authority, Public Health Division
http://public.health.oregon.gov/diseasesconditions/communicabledisease/cdsummarynewsletter/Pages/index.aspx

Oregon CD Summary publication index, Oregon Health Authority, Public Health Division
http://library.state.or.us/repository/2007/200710300953152/2010.pdf

Oregon Overweight, Obesity, Physical Activity and Nutrition Facts, 2012, Oregon Health Authority, Public Health Division
http://public.health.oregon.gov/PreventionWellness/PhysicalActivity/Documents/Oregon_PANfactst_2012.pdf

Oregon Smile Survey, 2007, Oregon Department of Human Services
http://public.health.oregon.gov/PreventionWellness/oralhealth/Documents/smile_2007.pdf

The Burden of Asthma in Oregon, 2010, Oregon Health Authority, Public Health Division
http://public.health.oregon.gov/DISEASESCONDITIONS/CHRONICDISEASE/ASTHMA/Pages/burdenrpt.aspx

Oregon's Arthritis Report, 2011, Oregon Health Authority, Public Health Division
http://public.health.oregon.gov/diseasesconditions/chronicdisease/arthritis/documents/arthrpt11.pdf

State Plan for Alzheimer's Disease and Related Dementias in Oregon, 2012, SPADO Taskforce
http://www.alz.org/oregon/documents/spado_report.pdf

The Burden of Diabetes in Oregon, 2008, Oregon Department of Human Services, Public Health Division
http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Diabetes/Documents/burdenreport2008.pdf

Endnotes

[1] World Health Organization(WHO). (1985). Constitution of the World Health Organization.

[2] U.S. Department of Health and Human Services . (2011). About healthy people. Retrieved from http://www.healthypeople.gov/2020/about/default.aspx

[3] Frieden, T.R. (2010). A framework for public health action: The health impact pyramid. *American Journal of Public Health*, 100(4), 590-595.

[4] WHO, Commission on the Social Determinants of Health (2005). Action on the Social Determinants of Health: Learning from Previous Experiences. Retrieved October 1 2012 from www.who.int/social_determinants

[5] Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. American Journal of Health Promotion, 10(4), 282-298.

[6] Oregon Health Authority, Office for Oregon Health Policy and Research (2011). Research Brief: Health Equity. Retrieved from http://www.oregon.gov/oha/oei/docs/health-equity-brief.pdf

[7] Oregon Health Authority, Public Health Division (2010). The Burden of Asthma in Oregon: 2010. Retrieved from http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Asthma/Documents/burden/or_asthma2010.pdf

[8] Oregon Health Authority, Public Health Division (2012). Oregon overweight, obesity, physical activity and nutrition facts. Retrieved from http://public.health.oregon.gov/PreventionWellness/PhysicalActivity/Documents/Oregon_PANfactst_2012.pdf

[9] Hillemeier, M., Lynch, J., Harper, S., & Casper, M. (2004). Data set directory of social determinants of health at the local level [data set]. Retrieved from http://www.cdc.gov/dhdsp/docs/data_set_directory.pdf

[10] King County. (2012). Equity and social justice annual report. Retrieved from www.kingcounty.gov/equity

[11] Minnesota Department of Health and Healthy Minnesota Partnership. (2012). The Health of Minnesota: Statewide Health Assessment. Retrieved from www.health.state.mn.us/healthymnpartnership

[12] United States Department of Commerce, U.S. Census Bureau. American community survey. Retrieved from http://www.census.gov/acs/www/

[13] The ACS defines disability as a physical, mental or emotional condition lasting 6 months or more.

[14] Oregon Department of Human Services. (2010). Seniors and people with disabilities developmental disabilities databook [dataset]. Retrieved from http://www.oregon.gov/dhs/spd/data/clients_dd/data_0610.pdf

[15] CollegeInSight(2012). Spotlight: Oregon State University. Retrieved from http://college-insight.org/#spotlight/go&h=ec919dfd9895126fbacd7b947e132e2f

[16] Oregon Department of Environmental Quality, Land Quality Division. (2012). Oregon DEQ: Underground storage tanks cleanup database search results. Retrieved from http://www.deq.state.or.us/lq/tanks/lust/LustPublicList.asp

[17] Oregon Department of Environmental Quality, Land Quality Division. (2012). Search environmental cleanup site information database. Retrieved from http://www.deq.state.or.us/lq/ECSI/ecsiquery.asp?listtype=lis&listtitle=Environmental+Cleanup+Site%20Information+Database

[18] University of Wisconsin Population Health Institute and the Robertwood Johnson Foundation. (2012). County health rankings and roadmaps: A healthier nation county by county. Retrieved from ttp://www.countyhealthrankings.org/sites/default/files/states/CHR2012_OR.pdf

[19] Benton County. (2007). Benton County Comprehensive Plan. Retrieved from http://www.co.benton.or.us/cd/planning/documents/cp-complete.pdf

[20] Braveman, P., Sadegh-Nobari, T., & Egerter, S. (2011). Issue brief series: Exploring the social determinants of health: Early childhood experiences and health. Retrieved from http://www.rwjf.org/content/dam/web-assets/2011/03/early-childhood-experiences-and-health

[21] Braveman, P., Sadegh-Nobari, T., & Egerter, S. (2011). Issue brief series: Exploring the social determinants of health: Early childhood experiences and health. Retrieved from http://www.rwjf.org/content/dam/web-assets/2011/03/early-childhood-experiences-and-health

[22] McCarty, C.A., Mason, W.A., Kosterman, R., Hawkins, J.D., Lengua, L.J., & McCauley, E. (2008). Adolescent school failure predicts later depression among girls. *Journal of Adolescent Health*, 43(2), 180-187.; Bogart, L.M., Collins, R.L., Ellickson, P.L., and Klein, D.J. Are adolescent substance users less satisfied with life as young adults and if so, why? *Social Indicators Research*, 81(1), 149-169

[23] Robert Wood Johnson Foundation, Commission to Build a Healthier America (2009). Issue Brief 6: Education and Health. Retrieved from www.commissiononhealth.org.

[24] Oregon Department of Human Services, Oregon Tobacco Prevention and Education Program (2007). Oregon adults who have lower income or have not finished high school data report-2007. Retrieved from www.public.health.oregon.gov/PreventionWellness/TobaccoPrevention/Documents/lowincomefact.pdf

[25] The poverty thresholds vary by family size and composition, use money income before taxes and do not include capital gains or noncash benefits. The official poverty thresholds do not vary geographically, but they are updated for inflation using Consumer Price Index (CPI-U).
[26] U.S. Census Bureau, American Community Survey, 2008-2010.
[27] Miller, W.D., Sadegh-Nobari, T., & Lillie-Blanton, M. (2011). Healthy starts for all: Policy prescriptions. *American Journal of Preventive Medicine*, 40(1S1), S19-S37.
[28] Anderson, S.A. (1990). Core indicators of nutritional state for difficult to sample populations. *The Journal of Nutrition*, 120(11), 1555-1600.
[29] Bhattacharya, J., Currie, J., & Haider, S. (2004). Poverty, food insecurity, and nutritional outcomes in children and adults. *Journal of Health Economics*, 23, 839-862.
[30] Feeding America. (2010). Map the meal Gap: Benton County Oregon. Feeding America. Retrieved from www.feedingamerica.org/mapthegap
[31] Benton County Health Department. (2010). Assessing social, environmental and behavioral determinants of health and chronic disease among Latinos in Benton County, Oregon: A pilot quantitative approach.
[32] Oregon State University Extension Service. (2010). Las Comidas Latinas Community Food Assessment [PowerPoint slides]. Retrieved from http://oregon.4h.oregonstate.edu/oregonoutreach/resources/connectingcommunitiesdocs/dodgeVera.pdf
[33] Feeding America. (2010). Map the meal Gap: Benton County Oregon. *Feeding America*. Retrieved from www.feedingamerica.org/mapthegap
[34] Partners for a Hunger Free Oregon, and Oregon Food Bank. (2011). 2011 SNAP participation report. Retrieved from http://oregonhunger.org/files/SNAP_for_WebREV-1.pdf
[35] (Community Services Consortium, 2011). There's No Place Like Home: A Ten Year Plan to Address Issues Surrounding Housing and Homelessness in Benton County, Oregon.
[36] Oregon Department of Education. (2011). Homelessness now affects over 20,000 students in Oregon. Retrieved from http://www.ode.state.or.us/news/announcements/announcement.aspx?ID=7674&TypeID=5
[37] The built environment encompasses all buildings, spaces and products that are created, modified, by people. This includes homes, schools, workplaces, parks/recreation areas, greenways, and transportation systems. The build environment is related to community planning and land-use decisions. For more information see: Designing and Building Healthy Places (www.cdc.gov/healthyplaces)
[38] (Active Living Research, XXXX).
[39] Oregon Parks and Recreation Department (2008). Department Statewide Comprehensive Outdoor Recreation Plan: Outdoor recreation in Oregon: The Changing Face of the Future. www.oregon.gov/oprd
[40] City of Corvallis Parks and Recreation. (2012). Cost Recovery Model and Master Plan.
[41] United States Department of Commerce U.S. Census Bureau. Zip Code Business Patterns. *U.S. Census Bureau.* Retrieved from http://www.census.gov/econ/cbp/index.html
[42] United States Department of Agriculture (USDA). (2012). Food Environment Atlas. Retrieved from http://www.ers.usda.gov/data-products/food-environment-atlas.aspx
[43] Oregon State University Extension Service. (2010). *Las Comidas Latinas Community Food Assessment* [PowerPoint slides]. Retrieved from http://oregon.4h.oregonstate.edu/oregonoutreach/resources/connectingcommunitiesdocs/dodgeVera.pdf
[44] Oregon Food Bank. (2011). Rural Grocery Store Owner and Customer Assessment: Benton County.
[45] University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation. (2012). County health rankings and roadmaps: A healthier nation county by county. Retrieved from http://www.countyhealthrankings.org/about-project
[46] Benton County Health and Willamette Neighborhood Housing Services. (2012). Linn-Benton Latino Housing Stakeholder Meeting.
[47] The Henry J. Kaiser Family Foundation. (2012). *The uninsured and the difference health insurance makes* [factsheet]. Retrieved from www.kff.org
[48] Benton County Health Department. (2012). Benton County Community Health Assessment Survey
[49] Benton County Health Department. (2010). Assessing social, environmental and behavioral determinants of health and chronic disease among Latinos in Benton County, Oregon: A pilot quantitative approach.
[50] Mid-Valley Health Care Advocates. (2011, November 2). Report to Oregon Health Policy Board: Benton County Coordinated Care Community Meeting.
[51] Mid-Valley Health Care Advocates. (2011, November 2). Report to Oregon Health Policy Board: Benton County Coordinated Care Community Meeting.
[52] Centers for Disease Control and Prevention. (2002). Women and smoking: A report of the Surgeon General.
[53] Centers for Disease Control and Prevention. (2004). Surgeon General's report: The health consequences of smoking.
[54] Centers for Disease Control and Prevention & U.S. Department of Health and Human Services. (2007). Preventing smoking and exposure to secondhand smoke before, during, and after pregnancy. Retrieved from http://www.health.state.mn.us/divs/fh/mch/mortality/documents/CDCsmokingPGfactsheet.pdf
[55] Centers for Disease Control and Prevention. (2005). Advisory on Alcohol Use in Pregnancy. Retrieved from http://www.cdc.gov/ncbddd/fasd/documents/sg-advisory.pdf

[56] Oregon Health Authority. (2007). Oregon Perinatal Data Book [data file]. Retrieved from http://public.health.oregon.gov/HealthyPeopleFamilies/DataReports/PerinatalDataBook/Pages/index.aspx
[57] American Academy of Pediatrics. (2012). Policy Statement: Breastfeeding and the use of human milk. *Pediatrics*, 129(3), 827-841.
[58] Knitzer, J. , Theberge, S., & Johnson, K. (2008). Reducing Maternal Depression and Its Impact on Young Children: Toward a Responsive Early Childhood Policy Framework. National Center for Children in Poverty. Retrieved from http://www.nccp.org/publications/pdf/text_791.pdf
[59] Oregon Health Authority, Public Health Division. (2010). *Maternal depression in Oregon* [factsheet]. Retrieved from http://public.health.oregon.gov/HealthyPeopleFamilies/Women/MaternalMentalHealth/Documents/peri-depression-fact-sheet.pdf
[60] Centers for Disease Control and Prevention. (2012). Adverse Childhood Experiences study. Retrieved from http://www.cdc.gov/ace/outcomes.htm; Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., et. al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine*, 14(4), 245-258.
[61] Oregon Department of Human Services: Child Welfare Program. (2012). Striving to meet the need: Summary of services provided by sexual and domestic violence programs in Oregon.
[62] Oregon Department of Human Services. Domestic violence: What is Domestic Violence? Retrieved October 19, 2012 from http://www.oregon.gov/dhs/abuse/domestic/Pages/definition.aspx
[63] Oregon Department of Human Services, Children, Adults and Families Division. (2011). 2010 child welfare databook.
[64] Oregon Health Authority, Public Health Division (2012). Suicides in Oregon: Trends and Risk Factors- 2012 Report. Retrieved from : http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Pages/nvdrs.aspx
[65] Knitzer, J., Theberge, S., & Johnson K. (2008). Reducing maternal depression and its impact on young children: Toward a responsive early childhood policy framework. *National Center for Children in Poverty.* Retrieved from http://www.nccp.org/publications/pub_791.html.
[66] Benton County Health Promotion. (2010). Benton County Lesbian, Gay, Transgender, Queer Health Assessment.
[67] U.S. Department of Health and Human Services. (2011). 2008 Physical Activity Guidelines for Americans. Retrieved from http://www.health.gov/paguidelines/default.aspx
[68] American Academy of Pediatrics. (2011). Children, adolescents, obesity and the media. *Pediatrics*, 128(1), 201-208.
[69] U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2010. 7th Edition, Washington, DC: U.S. Government Printing Office.
[70] National Institutes of Health. Overview of alcohol consumption. *National Institute of Alcohol Abuse and Alcoholism*. Retrieved from http://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption
[71] National Institutes of Health. (2006). No. 68: Young Adult Drinking [factsheet]. Retrieved from http://pubs.niaaa.nih.gov/publications/aa68/aa68.htm
[72] Centers for Disease Control and Prevention, Office on Smoking and Health. (2011). Secondhand Smoke Facts. Retrieved from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/index.htm
[73] Oregon Health Authority. Oregon Behavioral Risk Factor Surveillance System, 2006-2009.
[74] Oregon Health Authority. Oregon Behavioral Risk Factor Surveillance System, 2006-2009
[75] Oregon Health Authority. Oregon Healthy Teens Survey, 2007-2008. www.public.health.oregon.gov
[76] Benton County Health Department. (2012). Benton County Health Services Community Survey.
[77] Oregon Public Health Authority, Public Health Division. Oral health for infants and children. Retrieved from http://public.health.oregon.gov/PreventionWellness/oralhealth/Pages/child.aspx
[78] Hill & Hallett (2011). Assessment of Dental Care Need in Benton County Adults. Retrieved from www.lwv.corvallis.or.us/DentalNeedsAssessment9-29-2011.pdf.
[79] U.S. Department of Health and Human Services. (2012). Sexually transmitted diseases. Retrieved from http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=37
[80] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[81] Centers for Disease Control and Prevention. (2008). *Oregon: Burden of Chronic Diseases* [factsheet]. Retrieved October 12, 2012 from http://www.cdc.gov/chronicdisease/states/pdf/oregon.pdf
[82] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[83] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[84] Susan G. Komen Foundation. (2012). Breast cancer facts and statistics. Retrieved from ww5.komen.org/breastcancer/aboutbreastcancer.html
[85] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[86] Oregon State Cancer Registry (OSCaR). (2003). Cancer in Oregon 2003. *2003 Annual Report*. Retrieved from www.healthoregon.org/oscar

[87] Oregon Partnership for Cancer Control. (2007). *Cancer in Women in Oregon* [factsheet]. Retrieved from http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Cancer/Documents/Flyers/CancerinWomen3-07.pdf
[88] Oregon Health Authority: Oregon Public Health Division. (2012). Cancer in Oregon. *CD Summary,* 61(19). Retrieved from http://healthoregon.org/cdsummary
[89] Oregon Health Authority: Oregon Public Health Division. (2012). Cancer in Oregon. *CD Summary,* 61(19). Retrieved from http://healthoregon.org/cdsummary
[90] Oregon Health Authority, Oregon Public Health Division. (2012). Cancer in Oregon. *CD Summary,* 61(19). Retrieved from http://healthoregon.org/cdsummary
[91] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[92] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[93] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[94] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[95] Oregon Health Authority (2010). Oregon's Statewide Plan for Heart Disease and Stroke Prevention and Care. Retrieved from www.public.health.oregon.gov/Diseases.Conditions/ChronicDisease/HeartDiseaseStroke/Documents/guideFINAL.pdf
[96] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[97] Centers for Disease Control and Prevention. (2009). The Power of Prevention: Chronic Disease: The public health challenge of the 21st century. Retrieved from http://www.cdc.gov/chronicdisease/pdf/2009-power-of-prevention.pdf
[98] Benton County Health Department. (2012). Benton County Health Status Report. http://www.co.benton.or.us/health/health_status/index.php
[99] Benton County Health Department. (2012). Benton County Health Status Report. http://www.co.benton.or.us/health/health_status/index.php
[100] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[101] Oregon Department of Human Services. (2008). The burden of diabetes in Oregon: Surveillance report. Retrieved from http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Diabetes/Documents/burdenreport2008.pdf
[102] Oregon Department of Human Services, Public Health Division. (2012). Oregon Overweight, Obesity, Physical Activity and Nutrition Facts. Retrieved from http://public.health.oregon.gov/PreventionWellness/PhysicalActivity/Documents/Oregon_PANfactst_2012.pdf
[103] Benton County Health Department. (2012). *Benton County Health Status Report*. http://www.co.benton.or.us/health/health_status/index.php
[104] Bartholomew, A., Bartholomew, J., Easley, N., Hill, A. P. (2012). State plan for Alzheimer's Disease and related dementias in Oregon. 3-40. Retrieved from http://oregonalzplan.org/data/documents/SPADO=20Report.pdf
[105] Benton County Health Department. (2012). *Benton County Health Status Report*. http://www.co.benton.or.us/health/health_status/index.php
[106] Oregon Asthma Program. (2010). The burden of asthma in Oregon. Retrieved from http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Asthma/Documents/burden/or_asthma2010.pdf
[107] Benton County Health Department. (2012). Benton County Health Status Report. http://www.co.benton.or.us/health/health_status/index.php
[108] Oregon Asthma Program. (2010). The burden of asthma in Oregon. Retrieved from http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Asthma/Documents/burden/or_asthma2010.pdf
[109] Benton County Health Department. (2012). Benton County Health Status Report. http://www.co.benton.or.us/health/health_status/index.php
[110] Benton County Health Department. (2012). Benton County Health Status Report. http://www.co.benton.or.us/health/health_status/index.php
[111] United States Department of Health and Human Services. (2012). Mental health. Retrieved from http://www.healthypeople.gov/2020/LHI/mentalHealth.aspx?tab=determinants
[112] United States Department of Commerce U.S. Census Bureau. American Community Survey. Retrieved from http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t.
[113] National Association of State Mental Health Program Directors Medical Directors Council. (2006). Morbidity and Mortality in People with Serious Mental Illness. Retrieved from http://www.dsamh.utah.gov/docs/mortality-morbidity_nasmhpd.pdf
[114] Centers for Disease Control and Prevention. (2011). Public Health Action Plan to Integrate Mental Health Promotion and Mental Illness Prevention with Chronic Disease Prevention, 2011-2015. Atlanta: U.S. Department of Health and Human Services. Retrieved from

http://www.cdc.gov/mentalhealth/docs/11_220990_Sturgis_MHMIActionPlan_FINAL-Web_tag508.pdf
[115] National Association of State Mental Health Program Directors (NASMHPD) Medical Directors Council. (2010). State statistics: Oregon. Retrieved from http://www.nami.org/ContentManagement/ContentDisplay.cfm?ContentFileID=93516
[116] United States Department of Health and Human Services. (2012). Mental health. Retrieved from http://www.healthypeople.gov/2020/LHI/mentalHealth.aspx?tab=determinants
[117] Oregon Department of Health and Human Services, Addictions and Mental Health Division. (2009). Oregon Mental Health Services: Outcomes for Adults. Retrieved from http://www.oregon.gov/oha/amh/legislative-info/amh-adults.pdf
[118] Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases, Division of Foodborne, Waterborne, and Environmental Diseases. (2012). CDC estimates of foodborne illness in the United States. Retrieved from http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html
[119] Benton County Health Department. (2012). Benton County Health Status Report. http://www.co.benton.or.us/health/health_status/index.php
[120] Oregon Health Authority, Public Health Division. (2012). Epidemiologic Profile of HIV/AIDS in Oregon. Retrieved from http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/HIVData/Pages/epiprofile.aspx
[121] Centers for Disease Control and Prevention. (2009). Recommended community strategies and measurements to prevent obesity in the United States. *Morbidity and Mortality Weekly Report*, 58(RR-7), 1-26. Retrieved from http://www.cdc.gov/MMWR/preview/mmwrhtml/rr5807a1.htm
[122] Ferreira, I., Van der Horst, K., & Wendel-Vos, W., Kremer, S., and van Lenthe, N.J., & Brug, J. (2007). Environmental correlates of physical activity in youth-a review and update. *Obesity Review*, 8(2), 129-154.
[123] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[124] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[125] Benton County Health Department. (2012). Benton County Health Status Report. Retrieved from http://www.co.benton.or.us/health/health_status/index.php
[126] Benton County Health Department. (2012). *Benton County Health Status Report*. http://www.co.benton.or.us/health/health_status/index.php
[127] Benton County Health Department. (2012). *Benton County Health Status Report*. http://www.co.benton.or.us/health/health_status/index.php
[128] Benton County Health Department. (2012). *Benton County Health Status Report*. http://www.co.benton.or.us/health/health_status/index.php
[129] Benton County Health Department. (2012). *Benton County Health Status Report*. http://www.co.benton.or.us/health/health_status/index.php
[130] Shen, X., and Millet, L. (2010). Suicides in Oregon: Trends and risk factors. Oregon Department of Human Services http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Documents/Suicide%20in%20Oregon%20Trends%20and%20risk%20factors.pdf
[131] Shen, X., and Millet, L. (2010). Suicides in Oregon: Trends and risk factors. Oregon Department of Human Services http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Documents/Suicide%20in%20Oregon%20Trends%20and%20risk%20factors.pdf
[132] Shen, X., and Millet, L. (2010). Suicides in Oregon: Trends and risk factors. Oregon Department of Human Services http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Documents/Suicide%20in%20Oregon%20Trends%20and%20risk%20factors.pdf
[133] Shen, X., and Millet, L. (2010). Suicides in Oregon: Trends and risk factors. Oregon Department of Human Services http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Documents/Suicide%20in%20Oregon%20Trends%20and%20risk%20factors.pdf
[134] Oregon Department of Human Services. (2010). Adult Protective Services Community and Facility Annual Report, 2010. Retrieved from http://www.oregon.gov/dhs/spd/data/clients/aps-report-2010.pdf
[135] The University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation. (2010). County Health Rankings.
[136] United Way of Benton County. (2010). Community Conversations about Need, 22 pages
[137] World Health Organization. (2001). Community Health Needs Assessment: An introductory guide for the family health nurse in Europe. www.euro.who.int

Local Public Health Authority:
Date:

Minimum Standards

To the best of your knowledge, are you in compliance with these program indicators from the Minimum Standards for Local Health Departments?

I. Organization

1. Yes _X__ No ___ A Local Health Authority exists which has accepted the legal responsibilities for public health as defined by Oregon Law.

2. Yes _X__ No ___ The Local Health Authority meets at least annually to address public health concerns.

3. Yes _X__ No ___ A current organizational chart exists that defines the authority, structure and function of the local health department; and is reviewed at least annually.

4. Yes ___ No _X__ Current local health department policies and procedures exist which are reviewed at least annually. **BCHD policy requires that all department policies be reviewed & updated at least every 3 years. Not annually.**

5. Yes _X__ No ___ Ongoing community assessment is performed to analyze and evaluate community data.

6. Yes _X__ No ___ Written plans are developed with problem statements, objectives, activities, projected services, and evaluation criteria.

7. Yes _X__ No ___ Local health officials develop and manage an annual operating budget.

8. Yes _X__ No ___ Generally accepted public accounting practices are used for managing funds.

9. Yes _X__ No ___ All revenues generated from public health services are allocated to public health programs.

10. Yes _X__ No ___ Written personnel policies and procedures are in compliance with federal and state laws and regulations.

11. Yes _X__ No ___ Personnel policies and procedures are available for all employees.

12. Yes _X__ No ___ All positions have written job descriptions, including minimum qualifications.

Local Public Health Authority:
Date:

13. Yes _X__ No ___ Written performance evaluations are done annually.

14. Yes _X__ No ___ Evidence of staff development activities exists.

15. Yes _X__ No ___ Personnel records for all terminated employees are retained consistently with State Archives rules.

16. Yes _X__ No ___ Records include minimum information required by each program.

17. Yes _X__ No ___ A records manual of all forms used is reviewed annually.

18. Yes _X__ No ___ There is a written policy for maintaining confidentiality of all client records which includes guidelines for release of client information.

19. Yes _X__ No ___ Filing and retrieval of health records follow written procedures.

20. Yes _X__ No ___ Retention and destruction of records follow written procedures and are consistent with State Archives rules.

21. Yes _X__ No ___ Local health department telephone numbers and facilities' addresses are publicized.

22. Yes _X__ No ___ Health information and referral services are available during regular business hours.

23. Yes _X__ No ___ Written resource information about local health and human services is available, which includes eligibility, enrollment procedures, scope and hours of service. Information is updated as needed.

24. Yes _X__ No ___ 100% of birth and death certificates submitted by local health departments are reviewed by the local Registrar for accuracy and completeness per Vital Records office procedures.

25. Yes _X__ No ___ To preserve the confidentiality and security of non-public abstracts, all vital records and all accompanying documents are maintained.

26. Yes _X__ No ___ Certified copies of registered birth and death certificates are issued within one working day of request.

27. Yes _X__ No ___ Vital statistics data, as reported by the Center for Health Statistics, are reviewed annually by local health departments to review accuracy and support ongoing community assessment activities.

Local Public Health Authority:
Date:

28. Yes _X__ No ___ A system to obtain reports of deaths of public health significance is in place.

29. Yes _X__ No ___ Deaths of public health significance are reported to the local health department by the medical examiner and are investigated by the health department.

30. Yes _X__ No ___ Health department administration and county medical examiner review collaborative efforts at least annually.

31. Yes _X__ No ___ Staff is knowledgeable of and has participated in the development of the county's emergency plan.

32. Yes _X__ No ___ Written policies and procedures exist to guide staff in responding to an emergency.

33. Yes _X__ No ___ Staff participate periodically in emergency preparedness exercises and upgrade response plans accordingly.

34. Yes _X__ No ___ Written policies and procedures exist to guide staff and volunteers in maintaining appropriate confidentiality standards.

35. Yes ___ No ___ Confidentiality training is included in new employee orientation. Staff includes: employees, both permanent and temporary, volunteers, translators, and any other party in contact with clients, services or information. Staff sign confidentiality statements when hired and at least annually thereafter.

36. Yes _X__ No ___ A Client Grievance Procedure is in place with resultant staff training and input to assure that there is a mechanism to address client and staff concerns.

Control of Communicable Diseases

37. Yes _X__ No ___ There is a mechanism for reporting communicable disease cases to the health department.

38. Yes _X__ No ___ Investigations of reportable conditions and communicable disease cases are conducted, control measures are carried out, investigation report forms are completed and submitted in the manner and time frame specified for the particular disease in the Oregon Communicable Disease Guidelines.

39. Yes _X__ No ___ Feedback regarding the outcome of the investigation is provided to the reporting health care provider for each reportable condition or communicable disease case received.

Local Public Health Authority:
Date:

40. Yes _X__ No ___ Access to prevention, diagnosis, and treatment services for reportable communicable diseases is assured when relevant to protecting the health of the public.

41. Yes _X__ No ___ There is an ongoing/demonstrated effort by the local health department to maintain and/or increase timely reporting of reportable communicable diseases and conditions.

42. Yes _X__ No ___ There is a mechanism for reporting and following up on zoonotic diseases to the local health department.

43. Yes _X__ No ___ A system exists for the surveillance and analysis of the incidence and prevalence of communicable diseases.

44. Yes _X__ No ___ Annual reviews and analysis are conducted of five year averages of incidence rates reported in the Communicable Disease Statistical Summary, and evaluation of data are used for future program planning.

45. Yes _X__ No ___ Immunizations for human target populations are available within the local health department jurisdiction.

46. Yes _X__ No ___ Rabies immunizations for animal target populations are available within the local health department jurisdiction.

Environmental Health

47. Yes _X__ No ___ Food service facilities are licensed and inspected as required by Chapter 333 Division 12.

48. Yes _X__ No ___ Training is available for food service managers and personnel in the proper methods of storing, preparing, and serving food.

49. Yes _X__ No ___ Training in first aid for choking is available for food service workers.

50. Yes _X__ No ___ Public education regarding food borne illness and the importance of reporting suspected food borne illness is provided.

51. Yes _X__ No ___ Each drinking water system conducts water quality monitoring and maintains testing frequencies based on the size and classification of system.

52. Yes _X__ No ___ Each drinking water system is monitored for compliance with applicable standards based on system size, type, and epidemiological risk.

Local Public Health Authority:
Date:

53. Yes _X__ No ___ Compliance assistance is provided to public water systems that violate requirements.

54. Yes _X__ No ___ All drinking water systems that violate maximum contaminant levels are investigated and appropriate actions taken.

55. Yes _X__ No ___ A written plan exists for responding to emergencies involving public water systems.

56. Yes _X__ No ___ Information for developing a safe water supply is available to people using on-site individual wells and springs.

57. Yes _X__ No ___ A program exists to monitor, issue permits, and inspect on-site sewage disposal systems.

58. Yes _X__ No ___ Tourist facilities are licensed and inspected for health and safety risks as required by Chapter 333 Division 12.

59. Yes _X__ No ___ School and public facilities food service operations are inspected for health and safety risks.

60. Yes _X__ No ___ Public spas and swimming pools are constructed, licensed, and inspected for health and safety risks as required by Chapter 333 Division 12.

61. Yes _X__ No ___ A program exists to assure protection of health and the environment for storing, collecting, transporting, and disposing solid waste.

62. Yes _X__ No ___ Indoor clean air complaints in licensed facilities are investigated.

63. Yes _X__ No ___ Environmental contamination potentially impacting public health or the environment is investigated.

64. Yes _X__ No ___ The health and safety of the public is being protected through hazardous incidence investigation and response.

65. Yes _X__ No ___ Emergency environmental health and sanitation are provided to include safe drinking water, sewage disposal, food preparation, solid waste disposal, sanitation at shelters, and vector control.

66. Yes _X__ No ___ All license fees collected by the Local Public Health Authority under ORS 624, 446, and 448 are set and used by the LPHA as required by ORS 624, 446, and 448.

Local Public Health Authority:
Date:

Health Education and Health Promotion

67. Yes _X__ No ___ Culturally and linguistically appropriate health education components with appropriate materials and methods will be integrated within programs.

68. Yes _X__ No ___ The health department provides and/or refers to community resources for health education/health promotion.

69. Yes _X__ No ___ The health department provides leadership in developing community partnerships to provide health education and health promotion resources for the community.

70. Yes _X__ No ___ Local health department supports healthy behaviors among employees.

71. Yes _X__ No ___ Local health department supports continued education and training of staff to provide effective health education.

72. Yes _X__ No ___ All health department facilities are smoke free.

Nutrition

73. Yes _X__ No ___ Local health department reviews population data to promote appropriate nutritional services.

74. The following health department programs include an assessment of nutritional status:
a. Yes _X__ No ___ WIC
b. Yes _X__ No ___ Family Planning
c. Yes _X__ No ___ Parent and Child Health
d. Yes ___ No _X__ Older Adult Health
e. Yes ___ No _X__ Corrections Health **(Sheriff's Office program in Benton County)**

75. Yes _X__ No ___ Clients identified at nutritional risk are provided with or referred for appropriate interventions.

76. Yes _X__ No ___ Culturally and linguistically appropriate nutritional education and promotion materials and methods are integrated within programs.

77. Yes _X__ No ___ Local health department supports continuing education and training of staff to provide effective nutritional education.

Local Public Health Authority:
Date:

Older Adult Health

78. Yes _X__ No ___ Health department provides or refers to services that promote detecting chronic diseases and preventing their complications.

79. Yes ___ No _X__ A mechanism exists for intervening where there is reported elder abuse or neglect. **State Department of Human Services investigates / intervenes. BCHD does so in cases involving developmentally disabled older persons.**

80. Yes _X__ No ___ Health department maintains a current list of resources and refers for medical care, mental health, transportation, nutritional services, financial services, rehabilitation services, social services, and substance abuse services.

81. Yes _X__ No ___ Prevention-oriented services exist for self health care, stress management, nutrition, exercise, medication use, maintaining activities of daily living, injury prevention and safety education.

Parent and Child Health

82. Yes _X__ No ___ Perinatal care is provided directly or by referral.

83. Yes _X__ No ___ Immunizations are provided for infants, children, adolescents and adults either directly or by referral.

84. Yes _X__ No ___ Comprehensive family planning services are provided directly or by referral.

85. Yes _X__ No ___ Services for the early detection and follow up of abnormal growth, development and other health problems of infants and children are provided directly or by referral.

86. Yes _X__ No ___ Child abuse prevention and treatment services are provided directly or by referral.

87. Yes _X__ No ___ There is a system or mechanism in place to assure participation in multi-disciplinary teams addressing abuse and domestic violence.

88. Yes _X__ No ___ There is a system in place for identifying and following up on high risk infants.

89. Yes _X__ No ___ There is a system in place to follow up on all reported SIDS deaths.

Local Public Health Authority:
Date:

90. Yes _X__ No ___ Preventive oral health services are provided directly or by referral.

91. Yes _X__ No ___ Use of fluoride is promoted, either through water fluoridation or use of fluoride mouth rinse or tablets.

92. Yes _X__ No ___ Injury prevention services are provided within the community.

Primary Health Care

93. Yes _X__ No ___ The local health department identifies barriers to primary health care services.

94. Yes _X__ No ___ The local health department participates and provides leadership in community efforts to secure or establish and maintain adequate primary health care.

95. Yes _X__ No ___ The local health department advocates for individuals who are prevented from receiving timely and adequate primary health care.

96. Yes _X__ No ___ Primary health care services are provided directly or by referral.

97. Yes _X__ No ___ The local health department promotes primary health care that is culturally and linguistically appropriate for community members.

98. Yes _X__ No ___ The local health department advocates for data collection and analysis for development of population based prevention strategies.

Cultural Competency

99. Yes _X__ No ___ The local health department develops and maintains a current demographic and cultural profile of the community to identify needs and interventions.

100. Yes _X__ No ___ The local health department develops, implements and promotes a written plan that outlines clear goals, policies and operational plans for provision of culturally and linguistically appropriate services.

101. Yes _X__ No ___ The local health department assures that advisory groups reflect the population to be served.

102. Yes _X__ No ___ The local health department assures that program activities reflect operation plans for provision of culturally and linguistically appropriate services.

Local Public Health Authority:
Date:

Health Department Personnel Qualifications

Local health department Health Administrator minimum qualifications:
The Administrator must have a Bachelor degree plus graduate courses (or equivalents) that align with those recommended by the Council on Education for Public Health. These are: Biostatistics, Epidemiology, Environmental health sciences, Health services administration, and Social and behavioral sciences relevant to public health problems. The Administrator must demonstrate at least 3 years of increasing responsibility and experience in public health or a related field.

Answer the following questions:
Administrator name: **Charlie Fautin**
Does the Administrator have a Bachelor degree? Yes _**X**__ No ___
Does the Administrator have at least 3 years experience in public health or a related field? Yes _**X**__ No ___
Has the Administrator taken a graduate level course in biostatistics? Yes _**X**__ No ___
Has the Administrator taken a graduate level course in epidemiology? Yes _**X**__ No ___
Has the Administrator taken a graduate level course in environmental health? Yes _**X**__ No ___
Has the Administrator taken a graduate level course in health services administration? Yes _**X**__ No ___
Has the Administrator taken a graduate level course in social and behavioral sciences relevant to public health problems? Yes _**X**__ No ___

a. Yes _X__ No ___ The local health department Health Administrator meets minimum qualifications: If the answer is "No", submit an attachment that describes your plan to meet the minimum qualifications.

Local Public Health Authority:
Date:

b. Yes _X__ No ___ The local health department Supervising Public Health Nurse meets minimum qualifications:
Licensure as a registered nurse in the State of Oregon, progressively responsible experience in a public health agency;
AND
Baccalaureate degree in nursing, with preference for a Master's degree in nursing, public health or public administration or related field, with progressively responsible experience in a public health agency.
If the answer is "No", submit an attachment that describes your plan to meet the minimum qualifications.
c. Yes _X__ No ___ The local health department Environmental Health Supervisor meets minimum qualifications:
Registration as an environmental health specialist in the State of Oregon, pursuant to ORS 700.030, with progressively responsible experience in a public health agency
OR
a Master's degree in an environmental science, public health, public administration or related field with two years progressively responsible experience in a public health agency.
If the answer is "No", submit an attachment that describes your plan to meet the minimum qualifications.
d. Yes _X__ No____ The local health department Health Officer meets minimum qualifications:

Licensed in the State of Oregon as M.D. or D.O. Two years of practice as licensed physician (two years after internship and/or residency). Training and/or experience in epidemiology and public health.
If the answer is "No", submit an attachment that describes your plan to meet the minimum qualifications.

Local Public Health Authority:
Date:

Agencies are **required** to include with the submitted Annual Plan:
The local public health authority is submitting the Annual Plan pursuant to ORS 431.385, and assures that the activities defined in ORS 431.375–431.385 and ORS 431.416, are performed.

	Benton	2-14-14
Local Public Health Authority	County	Date

Mitchell Anderson
Director, Benton County Health Department

Charlie Fautin
Benton County Health Administrator

Local Public Health Authority 2014-2015 Plan

BUDGET ACCESS INFORMATION

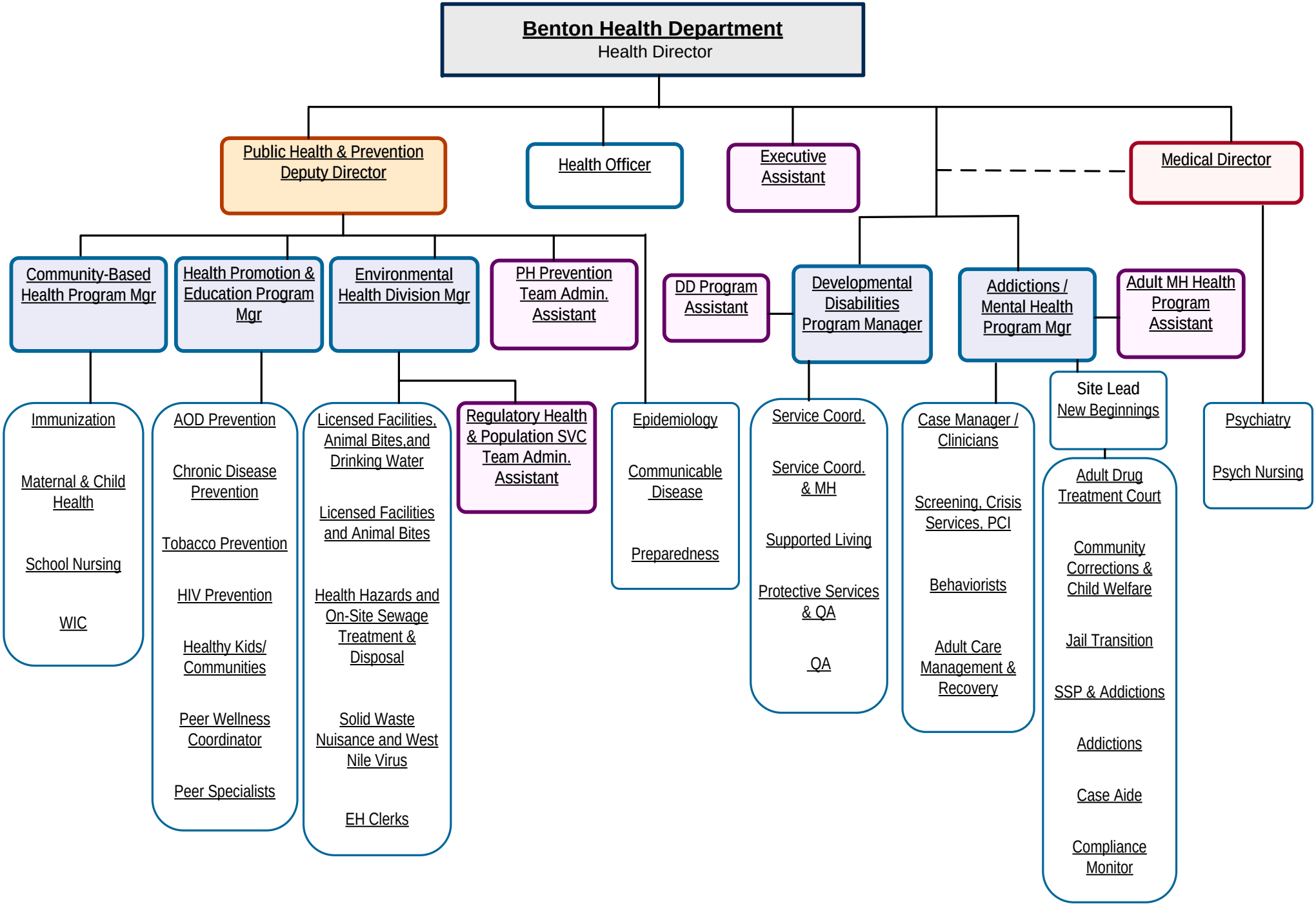
Benton County operates on a biennial budget.
The 2013-2015 Adopted Biennium Budget for the fiscal period July 1, 2013 to June 30, 2015 is available on the web at:

http://www.co.benton.or.us/budget/documents/1315/documents/AdoptedBudgetDraftone-Finalwithblanksandfootersrevised8-7-2013wlinks.pdf

Morry McClintock
Chief Financial Officer – Benton County Health Services
530 NW 27th Street, Corvallis, OR 97330
541-766-6291

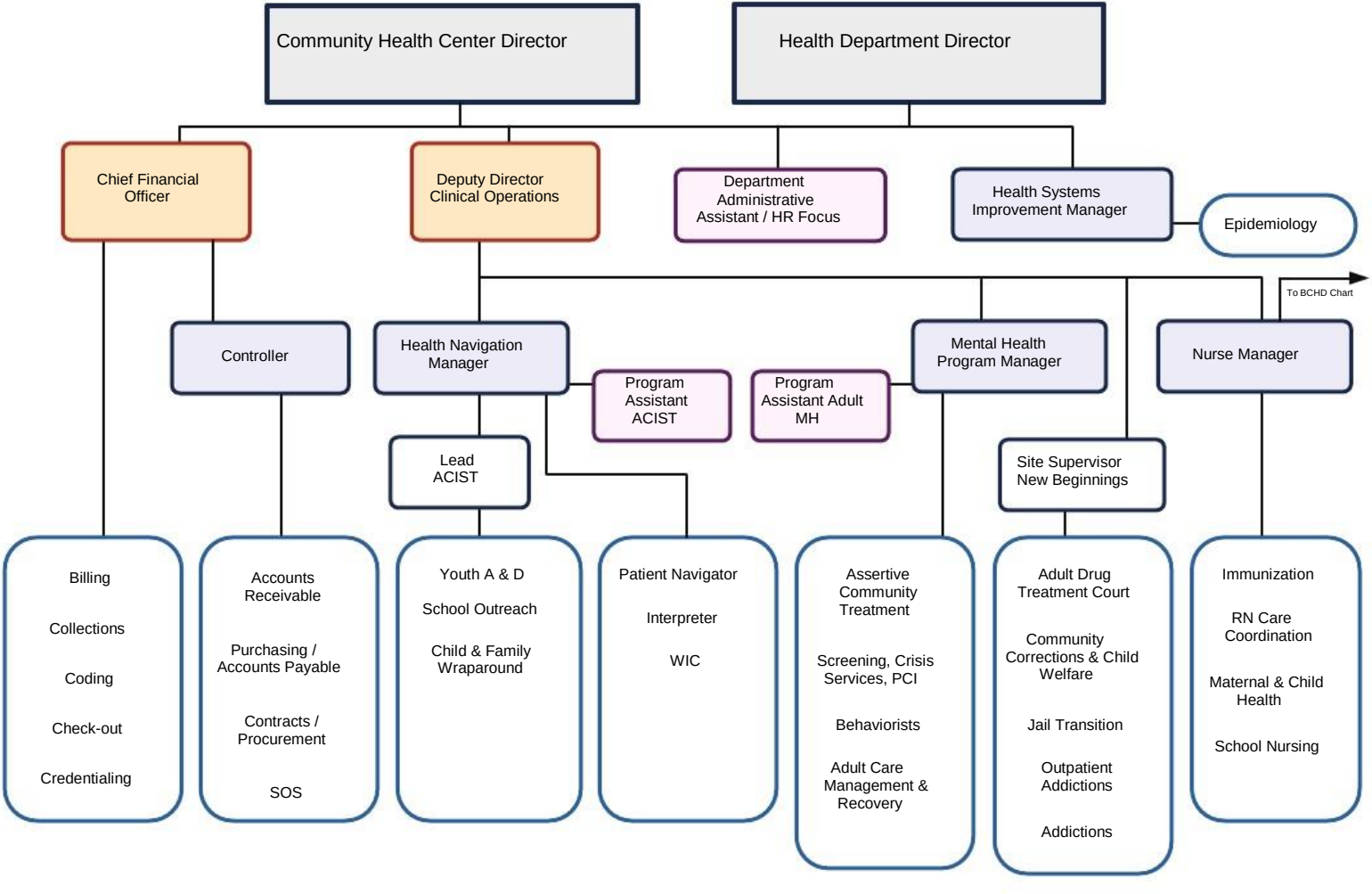
BENTON COUNTY HEALTH DEPARTMENT

(Direct Report Organizational Chart)



BENTON COUNTY HEALTH DEPARTMENT
HEALTH CENTERS OF BENTON AND LINN COUNTIES

(SHARED REPORT ORGANIZATION CHART)



HD CHC Org Chart
11/ 2011

Benton County Community Health Improvement Plan

2013 – 2018

Benton County Health Department

530 NW 27th St

Corvallis, OR 97330

Phone: (541) 766-6835

www.co.benton.or.us/health

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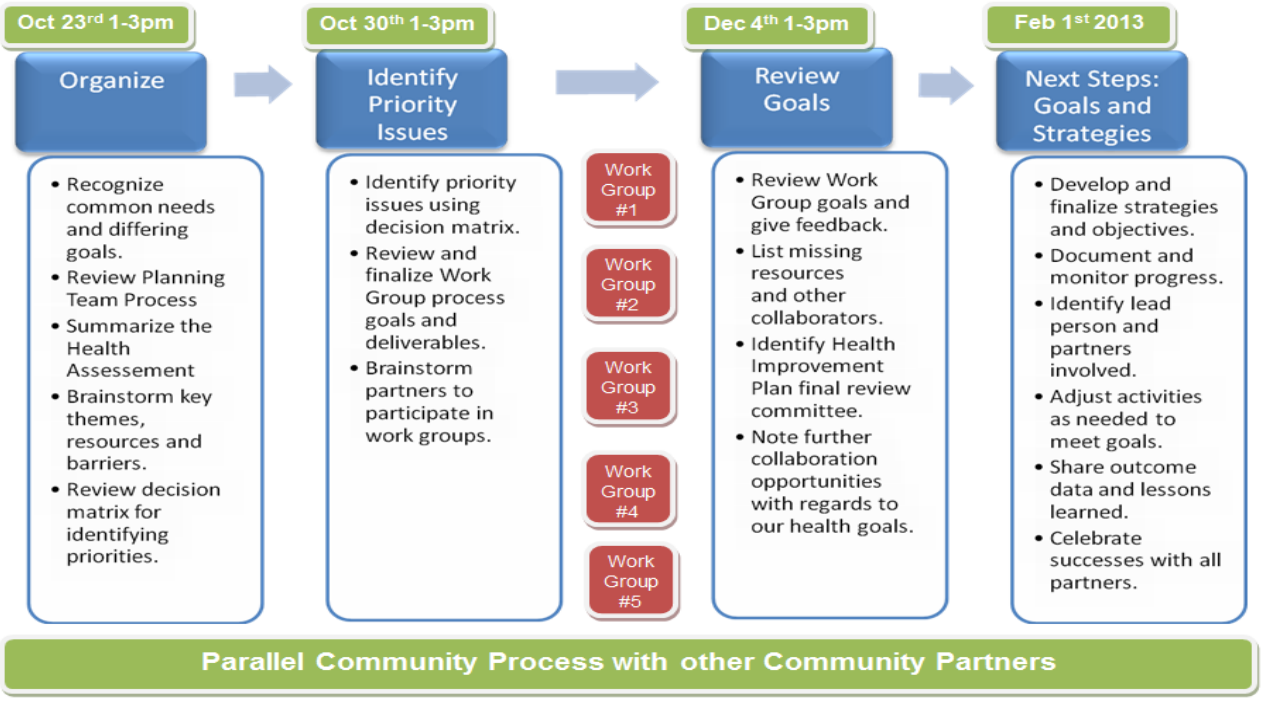
Introduction

In 2012, Benton County initiated a participatory community planning process to develop and implement a Community Heath Assessment (CHA) and Community Health Improvement Plan (CHIP). Completed in October 2012, the CHA synthesizes nine months of assessment and data collection conducted by Benton County Health Department (BCHD) in collaboration with numerous community leaders and other agency and organizational partners.

Benton County Health Department (BCHD) staff presented the CHA to elected officials, community-based organizations, and numerous local community interest groups to solicit their input and participation in the process. Electronic copies of the CHA are accessible on the Benton County Health Services website at www.co.benton.or.us/health/public_health/documents/community_health_assessment.pdf

Following completion of the CHA, community partners and stakeholders reconvened to develop the CHIP. The CHIP process was intended to result in a multi-disciplinary health planning document that could inform as many local activities as possible. CHIP participants used the CHA to identify priority health-related issues and create a five-year plan to improve the health of everyone who lives, works, learns, plays, and prays in Benton County.

Benton County Community Health Improvement Planning Process



Staff from every BCHD program and over 200 community partners contributed their time and expertise to ensure the CHIP reflects the needs, interests, perspectives, and knowledge of diverse communities throughout the county.

On April 9, 2013, the Benton County Board of Commissioners, convening as the Board of Health, formally adopted the 2013-2018 Benton County Community Health Improvement Plan and adopted a “call-to-action” resolution for collective county-wide efforts to implement and achieve the plan’s goals.

EXECUTIVE SUMMARY

After review and consideration of the CHA, CHIP participants identified five priority health issues in Benton County:

1) **Food security:** Oregon perennially ranks as one of the most food insecure states in the U.S. Over 14 percent (12,480) of Benton County residents live in households that meet the definition of being food insecure, representing 21.7 percent of Benton County's children. Two overarching goals were identified in this sector:
    - Improve access to fresh and healthy food; and
    - Improve utilization of food assistance programs.

2) **Obesity:** In Benton County, 35 percent of adults are overweight and another 21 percent are obese.[1] Among eighth graders, approximately 12 percent are overweight and 7 percent are obese. Three overarching goals were identified in this sector:
    - Decrease the prevalence of overweight and obesity across the lifespan;
    - Encourage physically active lifestyles; and
    - Reduce consumption of soda and other sugar-sweetened beverages among youth.

3) **Housing and Transportation:** Approximately 35 percent of homeowners with a mortgage and 62 percent of renters spent more than 30 percent of their income on housing costs in Benton County (2008-2011). Five overarching goals were identified in this sector:
    - Improve housing quality for all residents;
    - Improve home safety for young children and older adults;
    - Improve utilization of alternative transportation;
    - Improve safety for pedestrians and bicyclists on public roads; and
    - Expand trails, bike lanes and connections among all communities.

4) **Mental / Behavioral Health:** In Benton County, approximately 2,186 persons between the ages of 16 and 64 are living with an identified mental health disability.[2] In Benton County the suicide rate among adults, ages 25 to 44 (18.5 percent) is slightly higher than the state suicide rate of 17.9 percent.[3] A total of 9.3 percent of 11th graders in Benton County have considered suicide, and 7.2 percent have attempted suicide. Two overarching goals were identified in this sector:
    - Improve mental health and wellbeing among middle-school and high-school youth; and
    - Improve mental health and wellbeing among adults aged 18 and older.

5) **Health Care / Community Health:** Almost 12 percent of 18-64 year olds 6 percent of youth under the age of 18 are uninsured.[4] Differences in the rate of insured persons persist by race/ethnicity, employment status and income. Research clearly demonstrates that the conditions in which people live and work have more than five times the effect on personal health than the medical care they receive.[5] Three overarching goals were identified in this sector:

- Promote overall health and wellbeing;
- Increase access to health services; and
- Improve the health and wellbeing of women, infants, children and families.

In addition to the five focus areas, CHIP participants identified four "guiding principles" that they felt should be applied to inform planning activities in each of the five priority areas.

1) Coordination and Navigation: Promote a system of information, referral, and care coordination that ensures persons get the help they need when they need it. Maximize opportunities for organizations to work collaboratively across sectors and with various stakeholders, including community members, to decrease duplication and improve communication and coordination of services.

2) Prevention and Wellness: Promote health in the broadest way possible by fostering healthy, resilient neighborhoods and communities. Retain strong services to treat illness and respond to crises, but without losing focus on health promoting environments, services and supports so that community wellbeing is reinforced, injury, illness and chronic disease are prevented and managed.

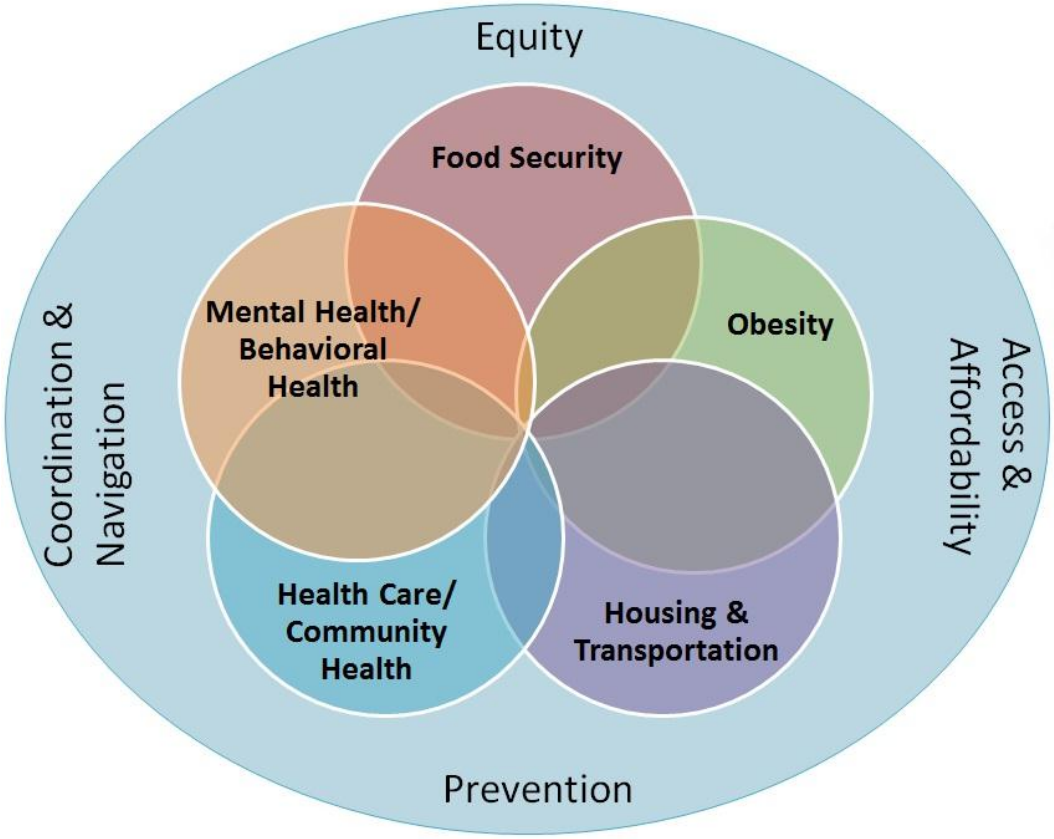
3) Access and Affordability: Recognize that income, transportation, language, and literacy, among other social determinants of health, are barriers for many residents in receiving needed services and advocating for the needs of their family and community. Overcome these barriers and design flexible, person/family centered systems and services.

4) Health Equity: Understand that policies and decisions about education, employment, housing, transportation, land use, economic development, and public safety impact health and wellbeing of our residents and communities. Respect and promote the assets and strengths of diverse cultural, linguistic, and geographic communities and partner with them in designing, implementing and evaluating services and systems.

Following identification of the five priority issues and overall guiding principles, BCHD convened five workgroups – one dedicated to each of the five priority topics. BCHD charged each workgroup to further analyze the CHA data using a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis.

Subsequently, each group selected interventions to address problems identified as high priorities in the CHA and recommended activities, strategies, and resources needed to implement the interventions.

Graphical Representation of the Five Priority Areas and Four Guiding Principles



At the conclusion of the community process, staff from BCHD organized each workgroup's products into a unified format, informing the development of the 2013-2018 Benton County Community Health Improvement Plan you are now reading.

NEXT STEPS

Both the Benton County CHA and CHIP are envisioned as a "living documents" that will help sustain, enhance and expand cross-sector partnerships, provide the foundation for ongoing public health planning and evaluation, help monitor progress toward identified objectives, and establish new goals and priorities as needs and resources change.

In the summer of 2013, BCHD in collaboration with other community partners will reconvene the five CHIP workgroups. Those groups will develop annual work plans and provide ongoing input and monitoring of progress toward addressing identified CHIP needs. BCHD staff will serve a facilitative role to assist with data collection and analysis and to engage partners in dialogue about what the results mean and implications for adjustment of CHIP initiatives.

As part of the Health Department's vision to work with community partners to have a collective impact on population health, the CHA and CHIP will undergo annual review with health data being updated as available and progress toward goals documented. Updated health data will be included in revised versions of the CHA as well as in the County's on-line Health Status Report at www.co.benton.or.us/health/health_status/index.php. BCHD will note progress toward improvement goals, changes in priorities, opportunities and barriers in updates to the CHIP.

All processes will remain open and transparent, and BCHD will reach out to new partners and stakeholders and incorporated them into ongoing planning efforts.

Benton County anticipates that over time, local public health assessment and planning efforts will align with health improvement efforts occurring throughout the region, improve coordination and leveraging of resources, and increase health equity.

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[1] Benton County Health Status Report, 2012
[2] U.S. Census Bureau, 2008-2010 American Community Survey
[3] Suicides in Oregon: Trends and Risk Factors, Oregon Violent Death Reporting System, Injury and Violence Prevention Program, Office of Disease Prevention and Epidemiology, 2010
[4] U.S. Census Bureau, American Community Survey, 2008-2012
[5] Frieden, T.R. (2010). The Health Impact Pyramid, American Journal of Public Health, 100(4), 590-595

Priority Health Issue: Food Security

Situational Analysis: Why is this is a concern?

One out of five residents in Benton County live below the Federal Poverty Level (FPL) (defined as $23,000 per year for a family of four) and one out of three lives below 185 percent of the FPL. These income levels qualify persons for federal nutrition programs such as the Women, Infant and Children's Program (WIC) and Supplemental Nutrition Assistance Program (SNAP). Over 14 percent (12,480) of Benton County residents live in households that meet the definition of being food insecure, representing 21.7 percent of Benton County's children.

During 2010-2011, 37.4 percent of students in Benton County schools were eligible for free or reduced lunch with the highest percentage in the Alsea School District 7J (75.9 percent) and the lowest in the Corvallis School District 509J (34.9 percent). In Corvallis, the percentage of students eligible for free or reduced lunch varies significantly from school to school. Mountain View (49.7 percent), Wilson (51.8 percent), Lincoln (68.2 percent) and Garfield (75.1 percent) have rates higher than the district average.

Access to healthy, nutritious food is a major community asset for combatting obesity. The U.S. Department of Agriculture (USDA) defines limited food access as residing more than a mile from the nearest grocery store. Nine percent of low-income Benton County residents live in areas that meet this definition. Forty-three percent have difficulty accessing healthy food as measured by the percent of residential zip codes in the county with a healthy food outlet.

Price and type of food sold locally may also present challenges to low income, rural and minority residents. For example, residents in north, south and west Benton County may travel thirty minutes or more to buy groceries at lower-priced grocery stores. Rural stores throughout the county report barriers that limit their ability to stock healthy foods. These include administrative barriers that make it difficult to become an authorized vender for SNAP and WIC programs and financial barriers to offering fresh fruits, vegetables, meat, dairy and other refrigerated foods due to costs of storage and refrigeration.

Food insecurity contributes to obesity and subsequent long-term health problems such as diabetes, heart disease[1] and cancer.[2] Fetal malnutrition can result in poorer overall school achievement and compromised health throughout a child's life.[3] Childhood food insecurity can contribute to behavioral problems and depression among school-aged children.[4] Parents of food insecure families report higher levels of stress[5] and depression.[6] Undernourished seniors can exhibit symptoms of dementia and are more prone to injuries from falls.[7]

Best Practices

The Oregon Hunger Task Force (OHTF) highlights the need for substantial changes to social and economic systems in order to end hunger before it begins. OHTF identifies three goals that can contribute to immediate and long lasting improvements:[8]

- Increase overall economic stability for people, communities, and the state.
- Cultivate a strong regional food system in Oregon.
- Improve regional food assistance safety nets.

Opportunities for Health

Goal 1: Improve access to fresh and healthy food in Benton County.

Outcome Objectives/Indicators

- Reduce food insecurity among Benton County households from 14.8 percent to 13.3 percent by 2018.[9]
- Reduce food insecurity among Benton County households with children from 21.7 percent to 19.5 percent.[10]
- Increase participation in the Supplemental Nutrition Assistance Program among seniors (65+) from 25 percent to 27.5 percent by Fall 2018.
- Increase consumption of at least 5 servings of fruits and vegetables per day by Fall 2018:
  - Among 8th graders from 31.7 percent to 34.9 percent.[11]
  - Among 11th graders, from 25.8 percent to 28.4 percent.[12]
  - Among adults 18 and older, from 34.8 percent to 38.3 percent.[13]

Goal 2: Improve utilization of food assistance programs among eligible people in Benton County.

Outcome Objective/Indicators

- Increase participation in free and reduced meal program among eligible students by 10 percent.
- Increase participation in the Supplemental Nutrition Assistance Program (SNAP) among eligible households from 42 percent to 46 percent by 2018.[14]

Action Steps for Community Health

Assessment

- Using GIS technology and other mapping software, describe points of food access for all communities.
- Assess impact of limited healthy food access on community health and the local economy.

Outreach and Education

- Offer universal breakfast/lunch programs in schools for all eligible participants.
- Include entire families in community meal activities.
- Address cultural and linguistic barriers that impede access to food programs.
- Improve market access to fresh food in low-income neighborhoods and rural areas of the county.
- Develop new models for redistributing extra food to local pantries, programs, and families.
- Educate policymakers on the research that correlates healthy food access and nutrition.

Participation in Policy and Planning Processes

- Continue planning efforts related to development of a Community Food Center in South Corvallis.
- Establish a Benton County Food Policy Council/Network to promote coordination among partners and advance policy initiatives related to healthy food access.
- Support full implementation of the City of Corvallis' Community Garden Master plan.

Potential Partners

Public Agencies

- Planning departments
- Economic/community development departments
- Local elected officials
- U.S. Department of Agriculture
- State and local WIC agency
- School Districts

Community Partners

- Parent-Teacher Associations
- OSU Cooperative Extension
- Hunger coalitions
- Farms and agricultural organizations
- Non-profit groups
- Grocers and Farmer's Market
- Multicultural groups

Additional Resources

- **Oregon Hunger Task Force** was created by the State Legislature in 1989 (ORS 458.532) to collaborate with state agencies, businesses, non-profits, public officials and local communities to end hunger in Oregon. www.oregonhunger.org
- **Oregon Food Bank** works with a cooperative, statewide network of partner agencies to distribute emergency food to hungry families. This organization fights hunger's root causes through public policy advocacy, nutrition and garden education and works to strengthen community food systems. www.oregonfoodbank.org
- **Healthy Eating Research** is a national program of the Robert Wood Johnson Foundation (RWJF). The program supports research on environmental and policy strategies with strong potential to promote healthy eating among children to prevent childhood obesity, especially among lower-income and racial and ethnic populations at highest risk for obesity. www.healthyeatingresearch.org

- **ChangeLab Solutions** works with neighborhoods, cities, and states to transform communities with laws and policies that create lasting change. www.changelabsolutions.org

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[1] Seligman, H.K., Laraia, B.A., & M.B. Kushel. (2011). Food insecurity is associated with Chronic Disease among low-income NHANES participants. *Journal of Nutrition, 141*,542

[2] Townsend, M.S., Peerson, J., Love, B., Achterberg, C. Murphy, S.P. (2001). Food Insecurity is Positively Related to Overweight in Women. *Journal of Nutrition, 131*, 1738-1745.

[3] Cook, J.T., Frank, D.A., Levenson, S.M., Neault, N., Heeren, T.C., Black, M.M., et al. (2006). Child food insecurity increases risks posed by household food insecurity to young children's health. *Journal of Nutrition, 136*, 1073-1076.

[4] Murphy, C., Ettinger de Cuba, S., Cook, J., Cooper, R., & Weill, J.D. (2008). Reading, writing and hungry: The consequences of food insecurity on children and our nation's economic success (p. 6p.)

[5] Siefert, K., Heflin, C.M., Corcoran, M.E., & Williams, D.R. (2001). Food Insufficiency and the Physical and Mental Health of Low-Income Women. *Women & Health,* 32, 159-177

[6] Margheim, J., & Leachman, M. (2007). Empty cupboards, empty feelings: Food insecurity, depression and suicide are intertwined. Silverton, OR: Oregon Center for Public Policy

[7] Vozoris, N.T., & V.S. Tarasuk. (2003). Household Food Insecurity is Associated with Poorer Health. *Journal of Nutrition, 133*, 120-126.

[8] Oregon Hunger Task Force (2010). Ending Hunger Before it Begins: Oregon's Call to Action 2010-2015. Retrieved from www.oregonhunger.org

[9] Map the Meal Gap, 2012

[10] Map the Meal Gap, 2012

[11] Oregon Healthy Teens, 2007-2008

[12] Oregon Healthy Teens, 2007-2008

[13] Behavioral Risk Factor Surveillance System Survey, 2006-2009

[14] Department of Human Services, 2012

Priority Health Issue: Obesity

Situational Analysis: Why is this is a concern?

Obesity increases the risk of a number of health conditions including hypertension, adverse lipid concentrations, certain cancers, and type 2 diabetes, among other conditions.[1] In 2009-2010, on average 35 percent of U.S. adults were obese;[2] however rates were higher among sub-populations such as women ages 60 and over, non-Hispanic Black women and Mexican American men and women.[3] In Benton County, over one-third (35 percent) of adults are overweight and another 21 percent are obese.[4]

Obesity in childhood can lead to early onset of chronic illnesses formerly seen in older adults. Research has shown that obese children are more likely to be overweight or obese as adults. In 2010, more than one-third of children and adolescents were overweight or obese in the United States.[5] Information collected in 2007-2008 among eighth graders in Benton County suggests that 12 percent were overweight, while 7 percent were obese. Rates were slightly higher for eleventh graders, 13 percent were overweight and 8 percent were obese.[6]

Access to healthy, nutritious food including fresh fruits and vegetables is a major community asset for combatting obesity. The U.S. Department of Agriculture (USDA) defines limited food access as residing more than a mile from the nearest grocery store. Nine percent of low-income Benton County residents live in areas that meet this definition. Forty-three percent of Benton County residents have difficulty accessing healthy food as measured by the percent of residential zip codes in the county with a healthy food outlet.

Research confirms a wide range of health benefits that derive from regular physical activity. Aerobic, muscle- and bone-strengthening physical activity of at least a moderately-intense level can slow the loss of bone density that comes with age. Being physically active lowers the risk for both colon and breast cancer. Moderate physical activity such as walking or bicycling can reduce the risk for heart disease and stroke. Physical activity that leads to weight loss can also significantly reduce the risk for type 2 diabetes and other metabolic disorders.

Best Practices

Preventing and reducing obesity requires comprehensive efforts to improve access to healthy food and make it easier to engage in physical activity. In 2012, the Institute of Medicine published *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation* which outlines five strategies for addressing the obesity epidemic.

- Make physical activity an integral and routine part of life.
- Create food and beverage environments that make healthy food and beverage options a routine, easy choice.
- Transform messages about physical activity and nutrition.
- Expand the roles of health care providers, insurers, and employers.
- Make schools a focal point.

Opportunities for Health

Goal 1: Decrease the prevalence of overweight and obesity across the lifespan.[7]

Outcome Objectives/Indicators

- Decrease the proportion of 8th graders in Benton County who are obese from 6.6 percent to 5.9 percent by 2018.[8]
- Decrease the proportion of 8th graders in Benton County who are overweight from 11.7 percent to 10.5 percent by 2018.[9]
- Decrease the proportion of 11th graders in Benton County who are obese from 8.0 percent to 7.2 percent by 2018.[10]
- Decrease the proportion of 11th graders in Benton County who are overweight from 12.6 percent to 11.3 percent by 2018.[11]
- Decrease the proportion of adults ages 18 and older in Benton County who are obese from 19.5 percent to 17.5 percent by 2018.[12]
- Decrease the proportion of adults ages 18 and older in Benton County who are overweight from 35.4 percent to 31.9 percent by 2018.[13]

Goal 2: Encourage physically active lifestyles in Benton County.[14]

Outcome Objectives/Indicators

- Determine and increase the proportion of children ages 3 to 5 who engage daily in at least 60 minutes of physical activity (determine by June 2014 and increase by 2018).
- Determine and increase the proportion of school children ages 6-11 years who engage daily in at least 60 minutes of physical activity (determine by June 2014 and increase by 2018).
- Increase the proportion of 8th graders who are physically active for 60 minutes a day at least 5 days a week from 54.0 percent to 59.4 percent by 2018.[15]
- Increase the proportion of 11th graders who are physically active for 60 minutes a day at least 5 days a week from 43.7 percent to 48.1 percent by 2018.[16]
- Increase the proportion of adults ages 18 and older who are physically active 30 minutes a day at least 5 days a week from 63.4 percent to 69.7 percent by 2018.[17]

Goal 3: Reduce the consumption of soda and other sugar sweetened beverages among youth.[18]

Outcome Objectives/Indicators

- Determine and reduce the proportion of children ages 12 to 36 months who consume sugar-sweetened beverages (determine by September 2014 and reduce by 2018).
- Determine and reduce the proportion of preschoolers (ages 3 to 5 years) who consume sugar-sweetened beverages (determine by September 2014 and reduce by 2018).
- Decrease the proportion of 8th graders who report drinking 7 or more sodas/sugar-sweetened beverages per week from 13.3 percent to 12.0 percent by 2018.[19]
- Decrease the proportion of 11th graders who report drinking 7 or more sodas/sugar-sweetened beverages per week from 14.1 percent to 12.7 percent by 2018.[20]

Action Steps for Community Health

Assessment

- Using GIS technology and other mapping software, describe walkable routes and transportation options to schools and parks.
- Research and compile evidence base linking public transit use to health outcomes.

Outreach and Education

- Disseminate information regarding policy and built environment impacts on health.
- Increase availability of culturally and linguistically appropriate obesity prevention programs and planning strategies.
- Implement social media messages to promote healthy eating, active living, and the importance of making healthy choices.

Community Collaboration and Mobilization

- Identify opportunities for collaborative and coordinated planning to maximize obesity prevention initiatives across diverse sectors.
- Explore integrated funding approaches among key institutional partners to maximize resources and reduce duplication.
- Foster policy, systems, and environmental changes that promote physical activity, healthy eating and positive wellbeing.

Participation in Policy and Planning Processes

- Promote participation of public health experts in planning processes.
- Promote the use of Health Impact Assessments to inform food and built environment-related decisions and help avoid unintentional obesity risks.

Potential Partners

Public Agencies

- Planning departments
- Economic/community development departments
- Local elected officials
- Local/regional transportation agencies
- School Districts
- Parks, Open-Spaces and Recreation Departments
- Senior Centers

Community Partners

- Parent-Teacher Associations
- Neighborhood groups
- OSU Cooperative Extension
- Non-profit groups
- Community benefit organizations
- Medical Providers
- Grocers and Farmer's Markets
- Farms and agriculture organizations
- Recreation and sports clubs
- Multicultural groups

Additional Resources

- **Let's Move Active Schools**. In collaboration with the First Lady's *Let's Move!* Initiative, several national organizations have united to boost physical activity in schools. www.letsmoveschools.org
- **Robert Wood Johnson Foundation: Childhood Obesity** supports research on environmental and policy strategies that have the greatest potential to promote healthy eating and physical activity among children, and focuses on six policy priorities that will have the greatest and longest-lasting impact on children. http://www.rwjf.org/en/about-rwjf/program-areas/childhood-obesity
- **ChangeLab Solutions: Childhood Obesity** works with neighborhoods, cities, and states to transform communities with laws and policies that create lasting change. http://changelabsolutions.org/childhood-obesity
- **Health in All Policies** (HiAP) is a project of the National Association of County & City Health Officials. The project is an innovative, systems change approach to the processes through which policies are created and implemented. www.naccho.org

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[1] National Institutes of Health. (1998). Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults- The evidence report. Obesity Research, 6(Suppl2); 51S-209S
[2] Ogden, C.L., Carroll, M.D, Kit, B.K., Flegal, K.M (January 2012). Prevalence of Obesity in the United States, 2009-2010. NCHS Data Brief, No. 82. 8 pages
[3] Ogden C.L, Lamb M. Carrol MD, Flegal KM (December 2010). Obesity and Socioeconomic Status in Adults: United States, 2005-2008. NCHS Brief. No, 50. 8 pages
[4] Benton County Health Status Report, 2012
[5] Ogden CL, Carroll MD, Kit BK, Flegal KM. (2012).Prevalence of obesity and trends in body mass index among U.S. children and adolescents, 1999-2010. *Journal of the American Medical Association, 307*(5): 483-490
[6] Benton County Health Status Report, 2012
[7] Healthy People 2020 and Oregon Community Health Improvement Plan, 2011-2020
[8] Oregon Health Authority, 2007-2008
[9] Oregon Health Authority, 2007-2008
[10] Oregon Health Authority, 2007-2008
[11] Oregon Health Authority, 2007-2008
[12] Behavioral Risk Factor Surveillance System Survey, 2006-2009
[13] Behavioral Risk Factor Surveillance System Survey, 2006-2009
[14] Healthy People 2020 and Oregon Community Health Improvement Plan, 2011-2020
[15] Oregon Health Authority, 2007-2008
[16] Oregon Health Authority, 2007-2008
[17] Behavioral Risk Factor Surveillance System Survey, 2006-2009
[18] Oregon Health Improvement Plan, 2011-2020
[19] Oregon Health Authority, 2007-2008
[20] Oregon Health Authority, 2007-2008

Priority Health Issue: Housing and Transportation

Situational Analysis: Why is this is a concern?

The scientific evidence demonstrating the positive correlation between housing and health has grown substantially in recent decades. That data is now guiding policies and preventive health measures for housing construction, renovation, use and maintenance which have been demonstrated to result in better overall health for families and communities.

Examples of housing-related health risks include respiratory and cardiovascular diseases resulting from indoor air pollution, illness and death resulting from temperature extremes, transmission of communicable diseases resulting from poor or crowded living conditions, and unintentional injuries resulting from poor maintenance and structural conditions.

In 2009, approximately 154 total individuals accessing shelter services in Benton County were homeless. This does not include individuals living with families and friends; sleeping in vehicles, campgrounds or the woods. It also likely does not include those who have exhausted looking for housing services or have never attempted to access them.

Households that spend too large a proportion of their income on housing often find themselves without sufficient funds for other necessities such as food, health care, transportation, child care, and clothing. In general, housing expenses are considered excessive when they exceed 30 percent or more of household income. In Benton County, approximately 35 percent of homeowners with a mortgage and 62 percent of renters spent more than 30 percent of their income on housing costs (2008-2011).

Transportation policies influence land use and how communities and neighborhoods are designed and built, which in turn impact health outcomes.[1] A growing body of evidence shows that dependence on automobiles and roadways has profound adverse effects on human health, including decreased opportunities for physical activity, increased exposure to air pollution, higher number of traffic crashes, and corresponding premature deaths.

Best Practices

The National Prevention Strategy and Action Plan (June 2011)[2] is working to boost Americans' health in part through encouraging development of healthy and safe community environments. Recommendations to address healthy and safe community environments include:

- design and promote affordable, accessible, safe and healthy housing
- Integrate health criteria into decision making, where appropriate, across multiple sectors
- Provide affordable, accessible transportation options including, bike lanes, and other healthy transit options
- Enhance cross-sector collaboration in community planning and design to promote health and safety. www.healthcare.gov/center/councils/nphpphc

Opportunities for Health

Goal 1: Improve housing quality for all residents in Benton County.

Outcome Objectives/Indicators

- Identify housing assessment criteria and methods to assess and reduce the number of housing units in Benton County with moderate or severe physical and other structural problems.
- Collaborate with key housing partners to conduct a rental survey by 2015.

Goal 2: Improve home safety for young children and older adults.

Outcome Objectives/Indicators

- Reduce the rate of hospitalization due to falls among children ages 1 to 4 years from 65.8 to 59.2 by 2018.[3]
- Reduce the rate of hospitalization due to falls among adults ages 75 to 84 from 1115.7 to 1004.13 by 2018.[4]

Goal 3: Improve utilization of alternative modes of transportation in Benton County.

Outcome Objectives/Indicators

- Increase the proportion of commuters who use active transportation (i.e. walk and bicycle) to travel to work and school[5] from 18 percent to 23 percent by 2018.[6]
- Increase the proportion of commuters who use public transit to travel to work and school[7] from 3 percent to 7 percent by 2018.[8]

Goal 4: Improve safety for pedestrians and bicyclists on public roads in Benton County.[9]

Outcome Objectives/Indicators

- Decrease the number of pedestrian injuries from the 2008-2011 calendar base year average of 13.5 to 12.2 by 2018.
- Decrease the number of bicyclist injuries from the 2008-2011 calendar base year average of 34 to 30 by 2018.[10]

Goal 5: Expand trails, bicycle lanes and connections among all communities within Benton County.

Outcome Objectives/Indicators

- Assess and increase the ratio of bike lane/path miles to road miles.
- Assess and increase the percentage of the population that lives within a quarter-mile radius of a multi-use path.

Action Steps for Community Health

Assessment

- Conduct assessments of dwellings and identify health and safety hazards.
- Determine the scope of housing needs in Benton County including an inventory and conditions of housing stock.

Outreach and Education

- Assemble and disseminate evidence of the relationships between housing conditions and health.
- Increase public awareness of effective strategies for reducing asthma trigger exposures in homes.
- Mobilize community support for Walk to School and Safe Routes to Schools (and Parks) programs.
- Educate policymakers and housing providers on the benefits of green building practices.

Community Collaboration and Mobilization

- Develop neighborhood demonstration projects that explore the benefits of safe, active, and healthy transportation to local families.
- Develop programs to assist with remediation of structural defects in existing dwellings.
- Expand trails, bicycle lanes and multi-modal connections among all communities within Benton County.[11]

Participation in Policy and Planning Processes

- Promote participation of public health experts in housing and transportation planning processes.
- Encourage the use of Health Impact Assessments to help decision makers recognize the correlation between housing and health.
- Expand options for safe, healthy, affordable housing for lowest income families and individuals.

Potential Partners

Public Agencies

- Local housing authorities
- Oregon Environmental Protection Agency
- Planning departments
- Economic/community development departments
- Redevelopment agencies
- Code enforcement agencies and housing and building inspectors
- Law enforcement agencies
- School Districts
- Corvallis Transit System
- Citizen's Advisory Commission on Transit

Community Partners

- Corvallis Homeless Shelter Coalition
- Tenants' rights groups
- Private and non-profit housing developers
- Healthy planning coalitions
- Affordable housing membership organizations
- Community advocates, non-profits and faith communities
- Corvallis Bicycle Transportation Alliance

Additional Resources

- Robert Wood Johnson Foundation, Commission to Build a Healthier America. (April 2009). **Beyond Health Care: New Directions to a Healthier America**, Chapter 5: Create Healthy Homes and Communities. www.commissiononhealth.org/Publications
- Robert Wood Johnson Foundation. (May 2009). **Action Strategies Toolkit: A Guide for Local and State Leaders Working to Create Healthy Communities and Prevent Childhood Obesity**. www.leadershipforhealthycommunities.org
- **National Center for Bicycling and Walking** (NCBW) provides information about the NCBW, a program of the Bicycle Federation of America Inc. NCBW provides community-based workshops consulting services, training programs for public and transportation agencies, and economic development and tourism planning analysis. www.bikewalk.org

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[1] American Public Health Association, *The Hidden Health Costs of Transportation,* 2010
[2] National Prevention Council, National Prevention Strategy, Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011.
[3] Oregon Health Authority, Hospitalization due to Injury, 2004-2006
[4] Oregon Health Authority, Hospitalization due to Injury, 2004-2006
[5] National Prevention Strategy Indicator, U.S. Census Bureau's ACS
[6] American Community Survey, 2008-2010
[7] National Prevention Strategy Indicator, U.S. Census Bureau's ACS
[8] American Community Survey, 2008-2010
[9] Robert Wood Johnson Foundation (May 2009). Action Strategies Toolkit: A Guide for Local and State Leaders Working to Create Healthy Communities and Prevent Childhood Obesity
[10] Oregon Department of Transportation, 2008-2011
[11] Robert Wood Johnson Foundation (May 2009). Action Strategies Toolkit: A Guide for Local and State Leaders Working to Create Healthy Communities and Prevent Childhood Obesity

Priority Health Issue: Mental and Behavioral Health

Situational Analysis: Why is this a concern?

An estimated 26 percent of Americans age 18 years and older live with a mental health disorder in any given year, and 46 percent experience a mental health disorder during their lifetime. In Benton County approximately 2,186 persons between the ages of 16 and 64 are living with an identified mental health disability. Of these, 31.5 percent are unemployed and 17.6 percent live below the federal poverty level.[1]

On average, people with serious and persistent mental illness die 25 years earlier than the general population due largely to higher rates of chronic illnesses. Tobacco use is almost twice that of the general population. Other associations include high rates of cardiovascular disease, diabetes, obesity, asthma, arthritis, epilepsy, and cancer. Rates for both intentional and unintentional injuries are 26 times higher among people with a history of mental illness than for the general population.[2]

In Oregon, 36 percent of low income women and 16 percent of high income women experience maternal depression. By ethnicity, 31 percent of Hispanic women experience maternal depression in contrast with 17 percent of white women. Benton County's child abuse rate of 6 children per 1,000 is lower than the state average.[3]

Latino students in Benton County miss school at a higher rate than their non-Latino peers (6th grade, 12.5 percent vs. 6.3 percent; 11th grade, 10 percent vs. 3.9 percent).[4] Almost ten percent of Benton County 11th graders report experiencing harassment because someone thought they were gay, lesbian, bisexual or transgender compared to 8 percent of 11th graders in Oregon.[5]

In Benton County the suicide rate among adults, ages 25 to 44 (18.5 percent) is slightly higher than the state suicide rate of 17.9 percent.[6] Fifteen percent of 8th graders and 16.8 percent of 11th graders in Benton County have exhibited signs of depression. A total of 9.3 percent of 11th graders in Benton County have considered suicide, and 7.2 percent have attempted suicide. In 2010, 14 percent of 11th graders in Benton County reported alcohol binge drinking.[7]

Best Practices

The Substance Abuse and Mental Health Services Administration (SAMHSA), the Centers for Disease Control and Prevention (CDC), and the World Health Organization (WHO) all emphasize the importance of preventive strategies that promote positive mental health and wellbeing. These efforts can reduce the need for more costly treatment services. WHO further recommends that mental health promotion be implemented in a variety of venues including schools, housing, transportation, and health care to foster social cohesion and community wellness and identify opportunities for prevention, screening, and early intervention.

Opportunities for Health

Goal 1: Improve mental health and wellbeing among middle-school and high-school youth in Benton County.

Outcome Objectives/Indicators

- Reduce the proportion of adolescents who report seriously considering suicide[8] by 2018:[9]
  - Among 8th graders, from 9.3 percent to 8.4 percent.
  - Among 11th graders, from 11.3 percent to 10.2 percent.
- Reduce suicide attempts by adolescents from 4.7 percent to 4.2 percent by 2018.[10]
- Reduce the proportion of adolescents who report experiencing harassment in the past 30 days by 2018:[11]
  - Among 8th graders from 49.2 percent to 44.3 percent.
  - Among 11th graders from 37.3 percent to 33.7 percent.

Goal 2: Improve mental health and wellbeing among adults, ages 18 and older, in Benton County.

Outcome Objectives/Indicators

- Assess and increase the proportion of primary care physicians who screen adults[12] for depression in Benton County.
- Decrease the number of poor mental health days reported by Benton County residents from 2.9 in the last 30 days to 2.6 in the last 30 days by 2018.[13]

Action Steps for Community Health

Assessment

- Review evidence of links between social isolation and poor physical health, particularly for rural, linguistically isolated, and older adult populations.
- Map public gathering spaces and proximity of community amenities and social service agencies.
- Strengthen data collection and analysis of pre/post-partum maternal depression at the county level.
- Support efforts by the regional CCO and partners to use Electronic Health Records to promote better coordination of care and use data for population health improvement planning efforts.

Outreach and Education

- Promote positive early childhood development, including positive parenting and violence free homes.
- Increase outreach and training on bullying prevention and reporting for parents, students, school staff, recreational staff, and other adults.
- Strengthen and fully implement Benton County's 211 telephone information system, to ensure an accessible clearinghouse of all social services. Ensure accessibility by all populations in Benton County, regardless of language, culture or literacy levels.

Outreach and Education (continued)

- Improve processes for referrals and linkage to high quality mental health services.
- Increase participation of persons with mental health challenges in evidence-based chronic disease self-management programs.

Community Collaboration and Mobilization

- Support implementation of Oregon's primary care medical home model with a focus on integrating mental, physical, and oral health services.
- Promote better communication and coordination among agencies using wrap-around mental health service models that deploy community/mental health outreach workers.
- Investigate best practice models shown to be successful in helping older adults age well in their homes and neighborhoods.

Participation in Policy and Planning Process

- Explore and develop resources for establishing detox services regionally.
- Explore and develop resources for establishing children's acute care services regionally.
- Explore promising practices related to co-location of services, telemedicine, and use of non-traditional community health workers.
- Expand the capacity of the mental health service system to respond to increased referrals.

Potential Partners

Public Agencies

- Local housing authority
- Redevelopment agency
- Planning departments
- Local/regional transportation agencies
- School Districts
- County Mental Health Services
- Community Coordinated Care Organizations

Community Partners

- Mental Health professionals
- Primary Care physicians
- Obstetric/Family/Internal Medicine providers
- Organizations working to prevent violence and substance abuse
- Multicultural groups
- Neighborhood groups

Additional Resources

- U.S. Department of Health and Human Services. (1999). **Mental Health: A Report of the Surgeon General.** Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health. http://profiles.nlm.nih.gov/ps/retrieve/ResourceMetadata/NNBBHS
- National Prevention Council. (2011). **National Prevention Strategy: America's Plan for Better Health and Wellness**, **Mental and Emotional Well-Being**. Washington DC: U.S. Department of Health and Human Services, Office of the Surgeon General http://www.surgeongeneral.gov/initiatives/prevention/strategy/report.pdf
- National Research Council and Institute of Medicine. (2009). ***Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities.*** Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions. Mary Ellen O'Connell, Thomas Boat, and Kenneth E. Warner, Editors. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press. http://www.iom.edu/Reports/2009/Preventing-Mental-Emotional-and-Behavioral-Disorders-Among-Young-People-Progress-and-Possibilities
- Eaton, W.W. (2012). **Public Mental Health**. New York, New York: Oxford University Press, Inc.

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[1] U.S. Census Bureau, 2008-2010 American Community Survey
[2] National Association of State Mental Health Program Directors Medical Directors Council. (2006). Morbidity and Mortality in People with Serious Mental Illness. Retrieved from http://www.dsamh.utah.gov/docs/mortality-morbidity_nasmhpd.pdf
[3] Benton County Health Status Report, 2012
[4] Oregon Student Wellness Survey, 2007-2009
[5] Oregon Department of Human Services Addictions and Mental Health Division, 2012
[6] Suicides in Oregon: Trends and Risk Factors, Oregon Violent Death Reporting System, Injury and Violence Prevention Program, Office of Disease Prevention and Epidemiology, 2010
[7] Benton County Health Status Report, 2012
[8] National Prevention Council. National Prevention Strategy: America's Plan for Better Health and Wellness, Mental and Emotional Well-Being. http://www.iom.edu/Reports/2009/Preventing-Mental-Emotional-and-Behavioral-Disorders-Among-Young-People-Progress-and-Possibilities.aspx
[9] Oregon Student Wellness Survey, 2012
[10] Oregon Student Wellness Survey, 2012
[11] Oregon Student Wellness Survey, 2012
[12] National Prevention Council. (June 2011)
[13] Oregon Behavioral Risk Factor Surveillance System, 2005-2011

Priority Health Issue: Health Care and Community Health

Situational Analysis: Why is this is a concern?

Access to comprehensive, quality health care is a major determinant of health. People without health insurance (inclusive of both medical and dental) are more likely to skip routine medical care due to the associated costs, increasing their risk for serious and progressively disabling health conditions.

Benton County residents identify lack of health insurance and the cost of medical care as the two most important barriers limiting their access to health care. In Benton County, almost 12 percent of 18-64 year olds are uninsured. Among youth under the age of 18, almost 6 percent are uninsured.[1] Differences in the rate of insured persons persist by race/ethnicity, employment status and income. Respondents to the 2012 Benton County Public Health Assessment survey were also concerned about improving access to medical care for undocumented residents and persons with disabilities.[2]

Benton County has ranked at the top of Oregon counties in the annual County Health Rankings Report (#1 in 2010, 2011, 2012 and #2 in 2013).[3] Benton County's overall positive health indicators are a demonstration of the health influences of its community circumstances including low unemployment, high insurance coverage, high average educational achievement and high average household income.

A growing body of public health research clearly demonstrates that the conditions in which people live and work have more than five times the effect on personal health than the medical care they receive.[4] Good health begins in homes, schools and places of employment, long before the need for medical care.[5] All Benton County residents should have opportunities to make healthy choices.

Best Practices

In 2008, the World Health Organization published *Closing the Gap in a Generation: Health equity through action on the social determinants of health to guide international health planning efforts*. The U.S. Department of Health and Human Service's *Healthy People 2020* emphasizes the importance of addressing common causes of poor health by "creating social and physical environments that promote good health for all." Other U.S. health initiatives such as the National Partnership for Action to End Health Disparities and the National Prevention and Health Promotion Strategy also share this vision.[6]

Strategies to address causes of poor health include:

- Improving the performance of the health care system:[7]
  - Focus on comprehensive primary health care
  - Employ decision making processes that involve local communities
  - Implement planning, including allocation of resources, based on the needs of populations within a social determinants of health framework
- Working with other sectors to improve health for all:
  - Enhance training and education of professionals (including planners, teachers and architects) on the importance of the social determinants of health
  - Use Health Impact Assessments to review needed, proposed, and existing social policies for possibly unanticipated impacts on health; and
  - Apply "health in all policies" strategies, which emphasizes improved health for all and closing health gaps as shared goals across all areas of government

Oregon is at the forefront of national health transformation efforts, creating unprecedented opportunities to improve the health of the population by containing costs, improving quality and increasing access to health care (the "Triple Aim" of health system reform). The Oregon Health Authority with local, public, private, and non-profit partners is working to improve services for Oregon Health Plan (Medicaid) members, and fundamentally improve systems for medical care delivery and compensation.

Benton County's diverse public health collaborations work to maximize opportunities for health and increase the focus on prevention and early intervention given poor health is only partially due to lack of medical care.

Opportunities for Health

Goal 1: Promote overall health and wellbeing in Benton County.

Outcome Objectives/Indicators

- Reduce premature death[8] among Benton County residents ages 0 to 75 years old from 4650 years of potential life lost to 4185 by 2018.
- Decrease the number of physically unhealthy days[9] reported in the past 30 days from 3.3 to 3.0 days by 2018.[10]
- Increase the proportion of adolescents and adults who report good or excellent physical health status by 2018.[11]
  - Among 8th graders from 91.7 percent to 95.0 percent.[12]
  - Among 11th graders from 91.5 percent to 95.0 percent.[13]
  - Among adults 18 years of age and older from 89.8 percent to 98.7 percent.[14]

Goal 2: Increase access to health services in Benton County.

Outcome Objectives/Indicators

- Decrease the proportion of persons without health insurance from 12.1 to 10.3 by 2018.[15]
- Increase the proportion of adults with a primary care provider from 79 percent to 87 percent by 2018.[16]

Decrease the number of adults who access emergency department for dental pain from the 2007-2012 calendar base year average of 204 to 184 by 2018

Goal 3: Improve the health and wellbeing of women, infants, children and families.

Outcome Objective/Indicators

- Reduce the proportion of live births that are low birth weight from 5.5 percent to 4.9 percent by 2018.[17]
- Increase the proportion of pregnant women who receive early and adequate prenatal care from 80 percent to 85 percent by 2018.[18]

Action Steps for Community Health

Outreach and Education

- Establish community health workers in neighborhoods and schools to improve access to health services, improve health knowledge and behaviors, and navigate complex health and social service systems.
- Strengthen and fully implement Benton County's 211 telephone information system, to ensure an accessible clearinghouse of all social services. Ensure 211 is fully accessible to all populations in Benton County, regardless of language, culture or literacy levels.

Community Collaboration and Mobilization

- Convene partners to plan, implement and evaluate a neighborhood/school-based Community Health Navigator initiative including disseminating results and making recommendations for potential expansion.
- Support community capacity building and mobilizing of low-income, disabled, minority, rural and other groups to assure meaningful input into CCO, public health, and other health transformation efforts.

Participation in Policy and Planning Process

- Explore collaborative planning approaches among community partners to identify common areas of interest and coordinate funding opportunities for new prevention initiatives, address gaps in health and social services, and increase access and affordability.
- Promote Health Impact Assessments to help assure that policy decisions do not inadvertently harm built or social health environments.

Potential Partners

Public Agencies

- Local Health Department
- Federally Qualified Health Center
- Economic/community development departments
- Local elected officials
- Local/regional transportation agencies
- U.S. Department of Agriculture
- State and local WIC agency
- School Districts

Community Partners

- Parent-Teacher Associations
- Health Care advocacy groups
- OSU Cooperative Extension
- United Way
- Non-profit care providers
- Hospitals

Additional Resources

- **The Guide to Community Preventive Services** is a free resource to help you choose programs and policies to improve health and prevent disease in local communities. Systematic reviews answer these questions: Are there effective interventions that are right for my community? What might effective interventions cost; what is the likely return on investment? www.thecommunityguide.org
- Marmot, M. (2006). **Health in an unequal world**. Lancet, 356: 2081-2094. www.who.int/social_determinants/publications/health_in_an_unequal_world_marmott_lancet.pdf
- **Commission to Build a Healthier America.** The Robert Wood Johnson Foundation (RWJF) formed the Commission to Build a Healthier America to investigate why Americans aren't as healthy as they could be and to look outside the health care system for ways to improve health for all. From February 2008 to December 2009, the Commission studied prevention, wellness and the broader factors that influence good health – conducting site visits, hearing testimony from experts, and issuing 10 recommendations to dramatically improve health for all Americans. www.commissiononhealth.org

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[1] U.S. Census Bureau, American Community Survey, 2008-2012
[2] The Health of Benton County: 2012 Community Health Assessment
[3] Robert Wood Johnson Foundation (2013). County Health Rankings & Roadmaps. Retrieved from www.countyhealthrankings.org
[4] Frieden, T.R. (2010). The Health Impact Pyramid, American Journal of Public Health, 100(4), 590-595
[5] Baum, F.E., Begin, M., Houweling, T.A.J., Taylor, S. (2009). Changes not for the fainthearted: Reorienting health care systems toward health equity through action on the social determinants of health. American Journal of Public Health, 99: 1967-1974
[6] http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=39
[7] Baum et al. (2009). Changes not for the fainthearted: Reorienting health care systems toward health equity through action on the social determinants of health. AJPH, 99(11), 1967-1974
[8] County Health Rankings & Roadmap
[9] County Health Rankings & Roadmap
[10] Behavioral Risk Factor Surveillance System Survey, 2005-2011
[11] Oregon Health Improvement Plan, December 2010
[12] Oregon Healthy Teens

[13] Oregon Health Teens
[14] Behavioral Risk Factor Surveillance System Survey
[15] Behavioral Risk Factor Surveillance System Survey, 2006-2009
[16] Behavioral Risk Factor Surveillance System Survey, 2006-2009
[17] Healthy People 2020 and County Health Rankings and Roadmaps
[18] Healthy People 2020

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Acknowledgements

The 2013-2018 Benton County Community Health Improvement Plan is a collaborative effort of the many organizations and providers in the community with a commitment to improve the health of everyone who lives, works, learns, plays, and prays in Benton County. Listed below are the organizations represented by individuals who worked on the Improvement Plan either as a member of the Steering Committee and/or as a member of one or more of the subcommittees which developed the components of the plan. Much of the data upon which the plan is based comes from the 2012 Benton County Community Health Assessment.

Accountable Behavioral Health Alliance

Alpine Community Center

Alsea Rural Clinic

Benton County

Benton County Board of Commissioners

Benton County Foundation

Benton County Oral Health Coalition

Benton Hospice

Boys & Girls Club of Corvallis

Casa Latinos Unidos de Benton County

Cascade West Council of Governments

Center Against Rape and Domestic Violence

City of Adair Village

City of Corvallis

City of Monroe

City of Philomath

Coast to Cascades Community Wellness Network

Community Health Centers of Benton and Linn Counties

Community Outreach, Inc.

Community Services Consortium

Corvallis Area Metropolitan Planning Organization

Corvallis Environmental Center

Corvallis Farmers Market

Corvallis School District

Corvallis Sustainability Coalition

Dial-A-Bus

Emanuel Iglesia

Grace Center

Head Start

Health Equity Alliance

ICHN/CCO

Jackson Street Youth Shelter

Linn-Benton Community College

Linn Benton Food Share

Linn-Benton Housing Authority

Linn County Department of Human Services

Linus Pauling Institute – Healthy Youth Program

Love, Inc.

Mental Health, Addictions, Developmental Disabilities Advisory Committee

Mid-Valley Bike Advocates

Mid-Valley Health Care Advocates

Milestones Family Recovery

Multi-Cultural Resource Center

Acknowledgements (continued)

National Alliance on Mental Illness Mid-Valley/Benton

Old Mill Center

Oregon Family Support Network

Oregon Food Bank

Oregon State University

Oregon State University Extension Services

Philomath School District

Philomath Youth Activities Club

Public Health Planning and Advisory Committee

Samaritan Health Services

Shangri-La

St. Mary's Church/Stone Soup

Strengthening Rural Families

Ten Rivers Food Web

The Corvallis Clinic

Trillium Family Services

The Arc

United Way of Benton & Lincoln Counties

Western Oregon University

Willamette Neighborhood Housing Services

Special acknowledgement to individual community members who contributed to the Improvement Plan.

REQUIRED REPRODUCTIVE HEALTH ANNUAL PLAN
FY 2015
July 1, 2014 to June 30, 2015

As a condition of Title X funding, sub-recipient agencies are required to submit an annual plan to the OHA Reproductive Health (RH) Program, as well as a projected budget for the time period of the plan. In order to increase the relevance of the process, we have developed a new required format which more accurately reflects the services – both direct and indirect – that lead to better health outcomes.

The following goals (also located in the drop-down menu of the annual plan form) are derived from OPA Priorities and cover the areas of Clinical Services, Counseling Services, Program Outreach and Health Systems Transformation.

- **A.** Assure that delivery of quality family planning and related preventive health services is in accordance with Title X Program requirements and nationally recognized standards of care.
- **B.** Assure that delivery of reproductive health services to adolescents is in accordance with Title X Program requirements and nationally recognized standards of care (where they exist).
- **C.** Direct services to address reproductive health disparities among your community's high priority and underserved populations.
- **D.** Identify strategies for addressing the provision of health care reform and for adapting the delivery of reproductive health services to a changing health care environment.

To complete your annual plan, please choose a minimum of two goals, and then choose one corresponding objectives for each goal from the objectives drop-down list. It is also acceptable to choose two or more objectives for one goal. The objectives reflect National Standards of Care, where available, and best practices. Describe the activities you will conduct to achieve your benchmark and explain how you plan to evaluate your outcomes.

Additional information to help with this process, including suggested activities and program data, can be found at:
http://public.health.oregon.gov/HealthyPeopleFamilies/ReproductiveSexualHealth/Resources/Documents/TitleX/annual_plan_supporting_information.pdf The new data reports provided here reflect your agency's work in many of these areas during the past fiscal year. The RH program suggests that you review your county's current status for each objective and make your decision based on the needs or issues for your agency.

Our intention is to evaluate your progress by periodically reviewing your agency data when objectives are measurable. For objectives that are not data driven, we will request periodic progress updates

NOTE: We will not be asking for your progress report for FY2014 until after June 30, 2014. You may want to take the opportunity to look at your current plan and evaluate your own progress as you determine your new goals.

If you have any questions, please contact Connie Clark @ (541) 386-3199 x 200 or Linda McCaulley @ (971) 673-0362.

REQUIRED REPRODUCTIVE HEALTH ANNUAL PLAN
FY 2015
July 1, 2014 to June 30, 2015

Goal # 1 A. Assure that the delivery of quality family planning and related preventive health services is in accordance with Title X requirements and nationally recognized standards of care			
Objective	**Current Status**	**Activities**	**Evaluation timeframe**
Choose an item. By June 30,2015 to have family planning RN staff member trained as STD examiner with services offered in two clinic sites and all accompanying necessary protocols in place in accordance with national standards of care.	___0____%	1. RN to attend STD examiner training 2/19-2/20/2014 in Seattle. 2. RN to complete and medical director to approve protocols for RN STD exam visits and oversight. 3. Lab staff to manage transition and certification for necessary CLIA lab status for RN exams.	1. Training to be completed including clinic rotations by 5/1/2014 2. Protocols completed and approved by 5/1/2014 3. Lab transition time TBD

Goal # 2 C. Direct services to address reproductive health disparities among your community's priority and underserved populations			
Objective	**Current Status**	**Activities**	**Evaluation timeframe**
C2. By June 30, 2015, complete a plan to reach individuals from ---_adolescents (list at least one high priority group) with reproductive health information and services.	__50___%	1. Complete final teen community survey and compile data by 4/2014. 2. Increase RH information availability on new health department facebook page. 3. Continue visits to area HS health classes and increase school district staff knowledge by coordinating a presentation at one of their regularly scheduled meetings.	1. Evaluate data and begin outreach plan by 9/2014. 2. Start after 9/2014 3. Attend district meeting by end of spring term 6/2014.

REQUIRED REPRODUCTIVE HEALTH ANNUAL PLAN
FY 2015
July 1, 2014 to June 30, 2015

Goal # 3 Choose an item.			
Objective	**Current Status**	**Activities**	**Evaluation timeframe**
Choose an item.	_____%	1. 2. 3.	

FY 2013 - 2014 Oregon WIC Nutrition Education Plan Form

County/Agency: Benton County
Person Completing Form: Kelly Volkmann
Date: November 14, 2012
Phone Number: 541-766-6839
Email Address: Kelly.volkmann@co.benton.or.us

Return this form electronically (attached to email) to: sara.e.sloan@state.or.us
by December 1, 2012
Sara Sloan, 971-673-0043

Goal : **Oregon WIC staff will continue to provide quality participant centered services as the state transitions to eWIC.**

Objective 1: **During planning period, WIC agencies will assure participants are offered and receive the appropriate nutrition education contacts with issuing eWIC benefits.**

Activity 1: By December 1, 2013, each agency will develop and implement a procedure for offering and documenting nutrition education contacts for each participant based on category and risk level while issuing benefits in an eWIC environment.

Note: Information and guidance will be provided by the state office as local agencies prepare for the transition to eWIC.

Implementation Plan and Timeline:

Benton County is slated to be one of two pilot sites for eWIC implementation beginning in late summer or early fall 2013. In July-August 2013, BC WIC Coordinator, Kelly Volkmann, will work with Cheryl Alto, Nutrition Consultant, to develop a procedure for offering and documenting NE contacts based on category and risk level while issuing benefits using eWIC. Timing of procedure implementation will be based on start date of eWIC pilot.

Objective 2: **During planning period, Oregon WIC Staff will increase their knowledge in the areas of breastfeeding, baby behavior and the interpretation of infant cues, in order to assist new mothers with infant feeding and breastfeeding support.**

Activity 1: By March 31, 2014, all WIC certifiers will complete the new Baby Behavior eLearning online course.

Note: Information about accessing the Baby Behavior eLearning Course will be shared once it becomes available on the DHS Learning Center.

Implementation Plan and Timeline:

By March 31, 2014, all Benton County WIC certifiers will have completed the new Baby Behavior eLearning online course.

Activity 2: By March 31, 2014, all new WIC Staff will complete the Breastfeeding Level 1 eLearning Course.

Note: Information about accessing the Breastfeeding Level 1 eLearning Course will be shared once it becomes available on the DHS Learning Center.

Implementation Plan and Timeline:

By March 31, 2014, all new Benton County WIC staff will have completed the new Breastfeeding Level 1 eLearning Course.

Objective 3: **During planning period, each agency will assure staff continue to receive appropriate training to provide quality nutrition and breastfeeding education.**

Activity 1: Identify your agency training supervisor(s) and projected staff in-services dates and topics for FY 2013-2014. Complete and return Attachment A by December 1, 2012.

Implementation Plan and Timeline: See Attachment A

FY 2014 - 2015 Oregon WIC Nutrition Education Plan Form

County/Agency: Benton County
Person Completing Form: Kelly Volkmann
Date: Dec 4, 2013
Phone Number: 541-766-6839
Email Address: Kelly.volkmann@co.benton.or.us

Return this form electronically (attached to email) to: sara.e.sloan@state.or.us
by December 1, 2013
Sara Sloan, 971-673-0043

Goal : **Oregon WIC staff will provide ongoing nutrition education related to Family Meals and Baby Behaviors utilizing quality participant centered services.**

Objective 1: **WIC agencies will assure participants are offered and receive consistent nutrition education messages on the topics of Family Meals and Baby Behaviors.**

Activity 1: During plan period, each agency will develop and implement a plan for incorporating Family Meals messages into ongoing nutrition education for WIC families in order to emphasize the physical emotional and social benefits of sharing meals with others.

Note: Additional information and resources for promoting Family Meals will be provided by the State WIC Office.

Implementation Plan and Timeline:

During plan period (July1, 2014 – June 30, 2015) Benton County will develop and implement a plan for incorporating Family Meals messaging into ongoing nutrition education for WIC using the information and resources provided by State WIC.

Activity 2: During plan period, each agency will develop and implement a plan for incorporating Baby Behavior messages and the interpretation of infant cues into ongoing nutrition education in order assist WIC families with breastfeeding support and appropriate infant feeding practices.

Note: Additional information and resources for promoting Baby Behaviors will be provided by the State WIC Office.

Implementation Plan and Timeline:

During plan period (July1, 2014 – June 30, 2015) Benton County will develop and implement a plan for incorporating Baby Behavior messages and the interpretation of infant cues into ongoing nutrition education for WIC using the information and resources provided by State WIC.

Objective 2: **During plan period, each agency will assure staff continue to receive appropriate training to provide quality nutrition and breastfeeding education.**

Activity 1: Complete and return Attachment A by December 1, 2013. This attachment identifies your agency training supervisor(s), projected staff in-services dates and topics for FY 2014-2015.

Public Health Emergency Preparedness (PHEP) Work Plan
7/8/2013

This work plan shows what activities are currently planned for, and happening in the Benton County Health Department PHEP program. The chart that follows shows the work that will be implemented for the next four years to help improve the response capabilities of Benton County Public Health. This work plan is based off of the 15 capabilities set by the Center for Disease Control and Prevention (CDC). The next four years will provide guidance on what will occur within the planning process of the PHEP program and will be integral to keeping the PHEP program in compliance with PE-12 PHEP grant.

Definitions

Sustained: Activities that the PHEP program will continue to do to maintain the strength of the capabilities/requirements

Further Develop: The PHEP program has started a task and it is showing great progress, but still needs some work

Build: The PHEP program needs to implement these areas in order to improve the overall response capabilities of the program

PHEP: Public Health Emergency Preparedness Planner

PE-12 Grant: This provides the guidance on the local PHEP program, which is provided from Oregon Health Authority

HPP: Healthcare Preparedness Planning Coalition

LHD: Local Health Department

EM: Emergency Management

EH: Environmental Health

PHEP – Annual Activities

Regular Scheduled Monthly Meetings (Sustained)

HPP Region 2	3rd Friday
PHEP/LHD Teleconf	1st Tuesday
HAN/HOSCAP Teleconf	3rd Thursday
EM Divisional Meeting	1st and 3rd week
EH Meeting	2nd and 3rd Wednesday
Health Promotions	1st and 3rd Tuesday

Regular Scheduled Required Tasks (Sustained)

Semi-Annual Reports
- PHEP Program

Annual Reports
- PHEP Program

Annual Plan Development
- PHEP Program

Triennial Plan Development
- PHEP Program

PHEP - Annual Real World Events and Exercises (Sustained)

Three Training Exercise Planned Events:

- **September 2013:** Department Operation Center- Seminar & HAN testing
- **December 2013:** HAN testing
- **March 2014:** HAN testing
- **April 2014:** HEP A- Table Top
- **August 2014:** Behavioral Health Plan- Workshop
- **September 2014:** HAN testing

- **February 2015:** Mental Health Response- Table top
- **August 2015:** Communications- Table Top

PHEP Plans (Sustained)

The following plans will be updated according to internal procedures and policies per Benton County Health Department:

- Biological Incident Response Plan
- Chemical Incident Response Plan
- Emergency Communications Plan
- Continuity of Operations Plan
- Benton County Health Department Operations Center Policy
- Emergency Support Function- 8 Annex Public Health and Medical Services
- Health and Medical Annex
- Isolation and Quarantine Policy
- Mass Medication Dispensing Point of Distribution (POD) Plan
- Mass Fatality Plan
- Behavioral Health Response Plan
- Major Emergency/Natural Disaster Response Plan
- Pandemic Influenza Response Plan
- Strategic National Stockpile/Mass Dispensing Plan
- Radiological Incident Response Plan
- Vulnerable Populations Emergency Plan An Annex to the Linn-Benton County Emergency Operations Plan

PHEP - Activities that are Important to Initiate

Initiate

Preparedness Booth at Community Health Fairs
Home Owner Preparedness Planning (Further Develop)

Pharmacy Contact List (Further Develop)

Planned Conferences/Training

Conferences:

- Public Health Emergency Preparedness Conference (Sustain)
- Oregon Emergency Management Conference (Build)
- Oregon Public Health Association (Sustain)
- Oregon Epidemiology Conference (Sustain)

Benton County PHEP Work Plan

Capability	Planned Activity (Build)	Start Date	End Date	Expected Outcomes	Actual Outcomes	Gaps Closed Due to Improvements	Notes
Year 2013-2014							
3 Emergency Operations Coordination							
	Acknowledgement page put into the plans.	7/1/2013	6/1/2014	To show agencies involved in updating the plans.		CAP3 F1 Q1; F2 Q24	10/4/2013- Communications/COOP/Health Annex updated so far. Found in copy of plans in the PHEP Office and with Janet Black at the main Health Department.
	List of communication equipment	8/1/2013	9/30/2013	Completed list of communication equipment within the Benton County Health Department.		CAP3 F1 Q2	10/18/2013 the list of communications has been completed. List can be found in with the communications plan. Found: L:\Health\POLICIES AND PROCEDURES\Preparedness\Communications Plan
4- Emergency Public Information and Warning							
	List of Communication Equipment	8/1/2013	9/30/2013	Completed list of communication equipment within the Benton County Health Department.		CAP4 F2 Q11	10/18/2013 the list of communications has been completed. List can be found in with the communications plan. Found: L:\Health\POLICIES AND PROCEDURES\Preparedness\Communications

							Plan
	Procedure policy on updating contact list.	10/1/13	11/30/13	Updated contact list of external partners		CAP4 F3 Q13	12/19/2013 list has been updated. Need to forward on to managers to update their contact list on their jump drives. Found: G:\Hd\Health\Emergency Preparedness Planner Documents\Benton County Phone List
	Pre-Drafted messages into languages other than English.	1/3/2014	2/28/2014	Translated messages to send out to the community		CAP4 F5 Q34	
6-Information Sharing							
	List of Healthcare Organizations.	10/1/2013	1/31/2014	Completed contact list of all Healthcare Organizations within Benton County		CAP6 F1 Q10	List of Healthcare Organizations list completed. Update August 1, 2013
	HAN training completed list	10/1/2013	11/1/2013	List of everyone that has completed the training for their respective roles on HAN		CAP6 F1 Q16	Email sent to Nick May about the HAN Training on 11/12/2013 at 9:28am. No response on whether or not he has a list of those who have completed training for the Health Department.
9-Medical Materiel Management and Distributions							
	List of Pharmacy Contacts	11/1/2013	12/31/2013	Updated contact list of all pharmacies within Benton County		CAP9 F2 Q1	List of Pharmacy Contacts completed. Update August 1, 2013.
Year 2014-2015							

10- Medical Surge							
	HOSCAP access	7/1/2014	7/30/2014	One more person with HOSCAP access		CAP10 F1 Q1	Bill Emminger has access to HOSCAP now.
	List of Health Care Organizations	10/1/2013	1/31/2014	Updated list and contact information		CAP10 F1 Q2	List of Healthcare Organizations list completed. Update August 1, 2013
	Patient Tracking	8/1/2014	10/1/2014	Method of Tracking Patients through the POD		CAP10 F3 Q5	
13-Public Health Surveillance and Epidemiological Investigation							
	Provider Education Document	10/1/2014	10/30/2014	Ability to track Provider Education on disease through the CD Nurses		CAP13 F1 Q1	
	CD 101 and 103	10/1/2014	10/15/2014	Add CD 1010 and 103 training to IS training document to track those who have received the training		CAP13 F1 Q8 CAP13 F2 Q11	
	Exposure Roster	10/1/2014	11/1/2014	Exposure Roster template created		CAP13 F2 Q10	CD Nurses may already have this, but there is a need to make sure this step is in place.
1- Community Preparedness							
	IS 120, 130, and 139	7/1/2014	7/30/2014	Possibly ID another individual to take this training for Exercise		CAP1 F1 Q10	This may not be beneficial, but something to talk about.

				Planning			
	Acknowledgement Page	7/1/2013	6/1/2014	Plans to have Acknowledgement Page, so partners are identified as having input on plans		CAP1 F1 Q15	
	Community Feedback	7/1/2014	12/1/2014	Community Involvement in Emergency Plans		CAP1 F1 Q20	Need to find ways to get the community involved, so they understand the plans that are currently in place.
	Critical Incident Stress Management Plan	7/1/2014	6/30/2015	A Mental Health plan that also includes taking care of responders and not just the communities health		CAP1 F1 Q22	A Critical Incident Stress Management Plan would be beneficial in helping to increase the care for those responding to and caring for the community during a disaster.
2- Community Recovery							
	COOP Exercise	2/1/2015	4/1/2015	Help internal personnel to understand the COOP and the reason behind having one		CAP2 F1 Q10	Work with EM to do a COOP exercise.
Year 2015-2016							
5- Fatality Management							
	Training Mass Fatality Plan	8/1/2015	9/30/2015	Appropriate staff trained on roles/responsibility of mass fatality		CAP5 F1 Q6	

7- Mass Care							
	Mass Care Facilities lead	10/1/2015	1/30/2016	Identify Mass Care Facilities Plan within different organizations.		CAP7 F1 Q2	
	Identify Roles of Public Health in Mass Care Facilities	10/1/2015	1/30/2016	Lead/Support roles identified during Mass Care		CAO7 F1 Q6; Q7; Q9; Q10 F2 Q20 and Q21	
	Identify Mass Care Facility Sites with Partners	10/1/2015	1/30/2016	Locations identified for Mass Care		CAP7 F2, Q12	
8- Medical Countermeasure Dispensing							
	Buy bins/bags for organization of POD trailer	1/30/2016	5/30/2016	Easy access to equipment needed for each specific area within in the POD (ex. IC, triage, etc.)		CAP 8 F1 Q1 F2 Q2; Q3; Q4	Bags may have to be bought 2013-2014 due to decrease in budget.
11- Non-Pharmaceutical Interventions							
	Update Isolation and Quarantine Policy	5/2/2013	6/3/2013	Updated Policy	Policy was updated	CAP11 F1 Q1;Q2;Q3;Q5 F2 Q7	Opportunity opened up early and so this was completed a head of schedule.
	Training on I&Q	5/2/2013	6/3/2013	Staff Awareness of	Identified Staff	C11 F3 Q10	Opportunity opened up early and so this was

				Policy	were a part of the policy update and trained		completed a head of schedule.
Year 2016-2017							
12- Public Health Laboratory Testing							
	Training documentation on hazardous specimen packaging and shipment	7/1/2016	7/30/2016	Training list of all identified with this training.		CAP12 F1 Q7	Talk with EH/CD Nurses and Lab tech to see if training does exist.
14- Responder Safety and Health							
	Mental Health Training Certification	8/1/2016	8/30/2016	List of who has been trained in mental health first aid		CAP14 F1 Q4	Talk with Mental Health to see who was trained in Mental Health first aid.
	Critical Incident Stress Management Plan	9/1/2016	10/30/2016	Plan on taking care of those responding to a disaster (during and after)		CAP14 F4 Q6	Identify mental health capabilities Steps on assessing staff during and after a disaster for mental health problems Robust follow-up plan (long-term and after employment)- This could be completed earlier.
15- Volunteer Management							
	Emergency Response Volunteer Plan	1/3/2017	4/30/2017	Policy/Procedure of Volunteer Management		CAP15 F3 Q1	This plan needs to talk about how volunteers are recruited (internal/external), tracking volunteers, and debriefing volunteers.

				during a disaster			