



Community Health
Needs Assessment

Curry Community Health
2013



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EXECUTIVE SUMMARY

Known as the Wild Rivers Coast, Curry County, OR spans 15 miles north of Port Orford and 90 miles south to the California border. Curry's 22,635 residents bask among emerald lined coastlines, pristine rivers, and old growth forests. Traditionally, Curry's economy has relied on significantly diminished timber and fishing industries. Curry is the top ranked county in Oregon for its natural environment. Curry, however, has education, unemployment, child poverty, immunizations, tobacco use, obesity, substance abuse, and premature death rates worthy of consideration when considering planning for community health improvement. High blood cholesterol, arthritis, asthma, and suicide are on the rise warranting additional consideration.

Curry Community Health's Community Health Needs Assessment seeks to illuminate our interpretation of the health status of Curry's residents, realizing the challenges associated with data and the multiple sources of varied and often conflicting information. Quantitative data in this report reflects the analysis of multiple compared data sources including the US Census, Oregon Department of Vital Statistics, Centers for Disease Control and Prevention, County Health Rankings and Roadmaps, and regional medical provider ICD-9/10 codes.

The accompanying Community Themes and Strengths Assessment reflects the voices of 671 individuals representative in regards to geographic, age, gender and socio-economics of Curry County. Residents overwhelmingly described Curry as a great place to raise children and grow old. They also recognize causes for concern- a poor economy, inadequate access to health care, substance abuse, and limited opportunities for youth development.

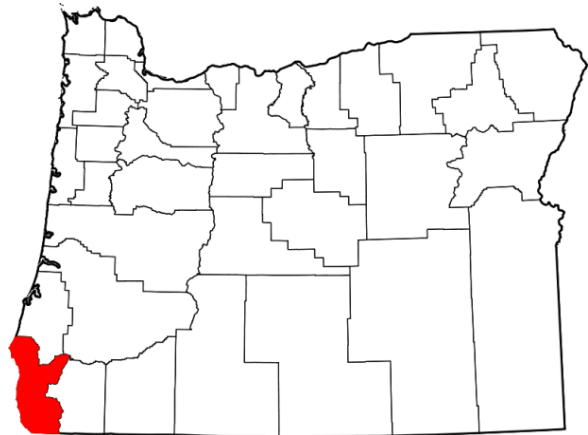
Much of the data in this report is in comparison to regional, state and national percentages and rates. Comparison data helps Curry assess its health indicators relative to other places, but the analysis should not stop there. The question isn't how healthy is Curry related to similar places, but rather what are the opportunities to increase the quality of life for Curry residents.

Quantitative data is tricky, especially in rural areas with small populations. Rates are used frequently throughout this report and when compared across the state, are often age adjusted per 100,000 individuals. An increase in just one death, for example, can increase the incident rate significantly, inciting unwarranted alarm. For this reason, Curry's assessment triangulates data- juxtaposing localized qualitative and quantitative data with relevant and timely literature to paint a comprehensive picture of the multiple variables influencing the health of Curry residents.

INTRODUCTION TO CURRY COUNTY

Geography and Transportation Curry County was founded December 18, 1855. Largely rural, Curry spans 1,648 square miles nestled between Oregon's Southwest Coast and the Siskiyou National Forest. US Highway 101 is coastal and the most accessible route in and out of Curry County. Relatively isolated, Curry is bordered on the south by California, on the west by the Pacific Ocean, on the north by Coos County, and on the east by the Klamath Mountains and Josephine County. The Forest Service owns 59% of land within county borders and only approximately 20% of land available for private ownership. The county also houses four rivers endowed with the Wild and Scenic designation; the Chetco River, Rogue River, Illinois River, and Elk River.

There are 3 incorporated cities in Curry County, Port Orford, Gold Beach, and Brookings, which lie along scenic Highway 101. Access to Interstate 5 is supported via Highway 199 and 42. Most of the highways' length is undivided two-lane, mountainous, and windy. Many parts of the highways are subject to closure due to landslides caused by excess rainfall. USFS Title I funding is used to support county road program budgets. Title I funds are critical to the maintenance of county road infrastructure. Six counties (Curry, Douglas, Klamath, Lane, Lincoln, and Linn) received over 40% of their annual road program budget, on average, from USFS Title I payments. Curry receives the greatest proportion of federal road program payments of any county in Oregon and comprises 61% of the county road fund. Air transportation is available in the three coastal communities via light aircraft. Commercial air transportation is available from the Jack McNamara Field in Crescent City, CA and the Southwest Oregon Regional Airport located in North Bend.



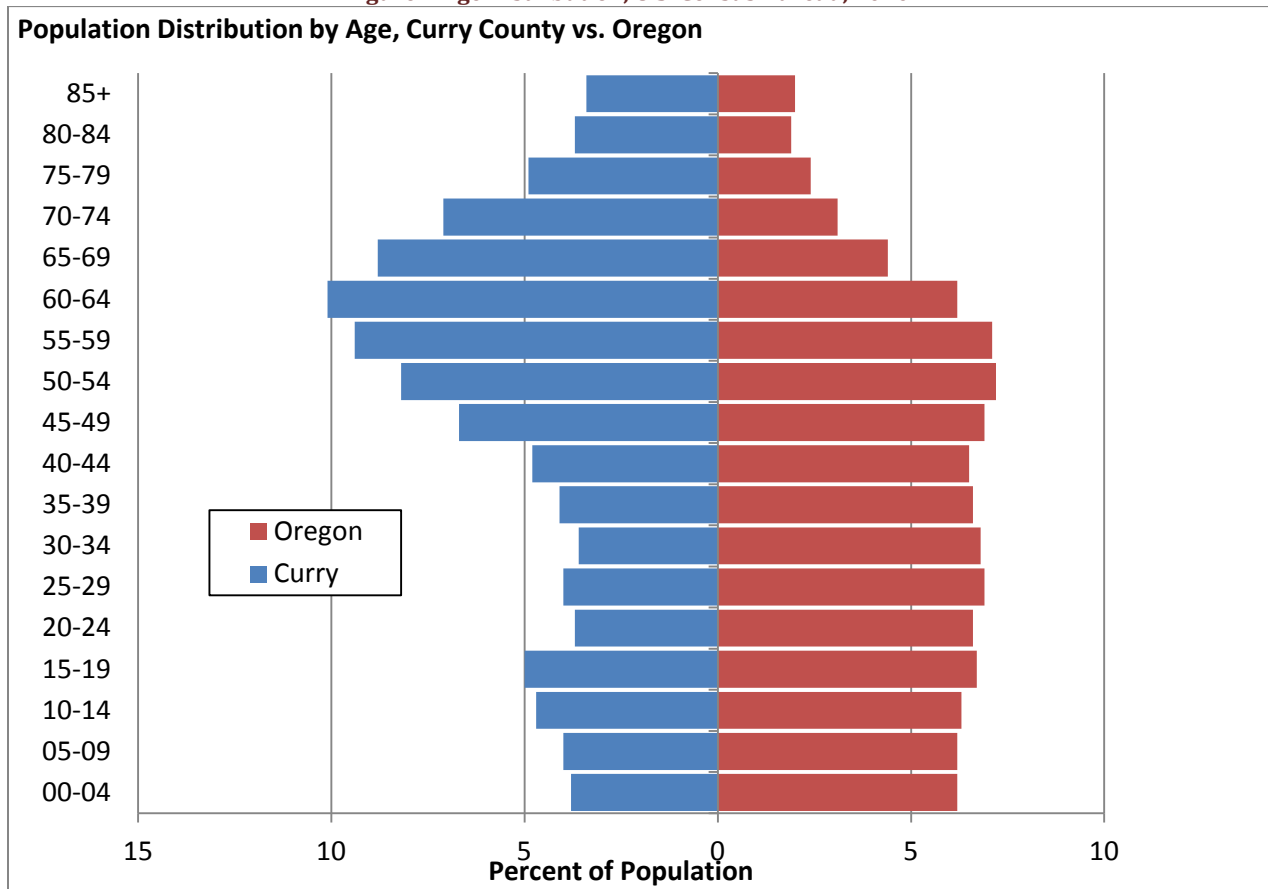
Population and Demographics Curry County is comprised of approximately 22,364 individuals and 10,350 households consisting of an average 2.6 inhabitants (2010 census). Population density is 13.6 people per square mile designating the area as rural. Curry's population growth rate (5.8%) is much lower than the state average rate of 11.97% and the national average rate of 9.71%. Age distribution is as follows: 3.9% >5 years old, 15.7% >18 years, 11.3% 20 to 34, 15% 35 to 49, and 55.7% 50 years or older. The rate of males to females is 49.3% to 50.7%, respectively.

The Brookings-Harbor area encompasses 49.7% of Curry's population (11,120). Port Orford 0.05% (1,225) and Gold Beach, the county seat, 11% (2,445). 66% of Curry's total population resides in incorporated areas, indicating 34% of residents live in highly remote areas of great distance from health care services and healthy food outlets. This is an area worthy of further analysis- what are the health care conditions and needs of these residents? How do transportation costs already influence limited disposable income?

Curry is largely Caucasian; however its population base diversified significantly over the last decade due to migratory agricultural workers, and the volume of Pelican Bay State Prison employees residing within the Brookings-Harbor area. Ethnic breakdowns are as follows: 93%

white, 5.9% Hispanic/Latino, 3.4% bi-racial, 2.0% American Indian/Alaska Native, 0.4% African American, 0.8% Asian, 0.1% Native Hawaiian/Pacific Islander. 4.6% of the population speaks a language other than English.

Figure 1 Age Distribution, U.S. Census Bureau, 2010



Outside of the Brookings-Harbor areas, Curry County is considered rural-frontier. Curry’s culture is an amalgamation of working-class communities with values and ethics grounded in an ethos of hard-work rewarded with hard-play, educated retirees of professional vocations committed to developing arts and culture and maintaining the pristine landscape, and younger families spanning the spectrum of education and socio-economics, their social communities largely shaped by the activities of their children.

All of these distinct communities bring assets to the physical, environmental, and economic health of Curry. This Community Health Needs Assessment seeks to identify these assets within the context of need within these sub-cultures.

SOCIAL DETERMINANTS OF HEALTH

Social determinants of health are the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics. There is a social gradient in health that runs from top to bottom in the socioeconomic spectrum, meaning that health inequities affect

everyone. Social and economic conditions and their effects on people’s lives determine their risk of illness and the actions taken to prevent them from becoming ill or treat illness when it occurs (World Health Organization).

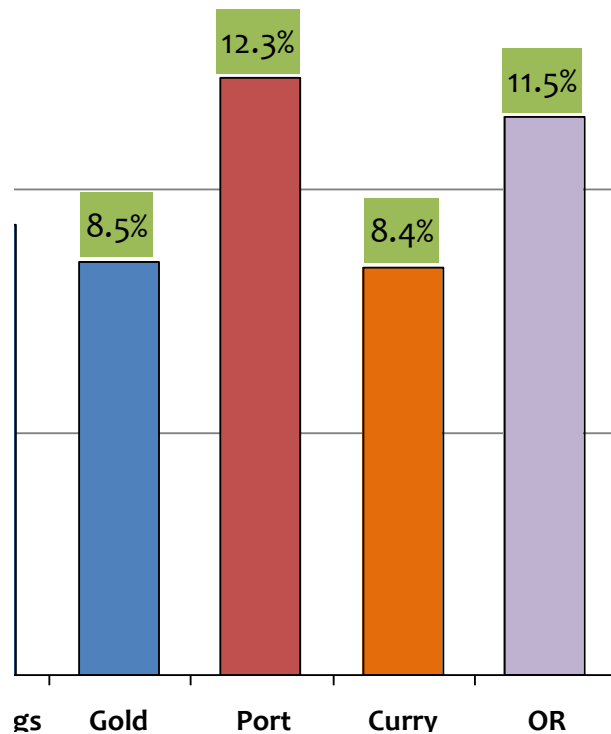
Education Educational attainment is among the greatest indicators of positive health outcomes in adulthood. Individuals without high school educations are significantly more likely to engage in high-risk health behaviors, conceive children out of wedlock, experience high rates of unemployment, and not access preventative care. Health needs assessments are not merely a snapshot of the present, but rather a lens into the future of health related conditions, needs, and necessary infrastructures. Consequently, educational attainment is an area worthy of consideration in health improvement planning.

The Oregon Department of Education, Adequate Yearly Progress Reports for Curry schools illustrate the variances among communities. The overall high school graduation rates for Curry County from 2009-2010 were 79.6%. Brookings-Harbor had the lowest graduation rate at 75.4%, followed by Port Orford at 80.6% and Gold Beach at 82.8%. High school dropout percentages have more than doubled in Curry County since 2005, from 2.30% to 5.36% in 2010. Conversely, state dropout rates have steadily declined over the past 10 years from 5.25% in 2000 to 3.35% in 2010 (County Level Data, Oregon and California Departments of Education).

Notably 30% of Curry’s males have “failed academically,” embarking towards adulthood without a high school diploma significantly reducing lifetime earnings. While not in the purview of deliverables for health systems, school failure amongst males significantly impacts the health of children, families, and communities. Men without jobs are more likely to be depressed, abuse substances, and engage in antisocial behavior.

The most recent measure of illiteracy is obtained from the National Center for Education Statistics and is based on the 2003 National Assessment of Adult Literacy. This measure reflects the percent of the population 16 years and older that lacks basic prose literacy skills. Curry County is consistent with Oregon’s adult illiteracy average at 10.2%.

Figure 2 Percent >25 without High School Diploma, U.S. Census Bureau, 2010



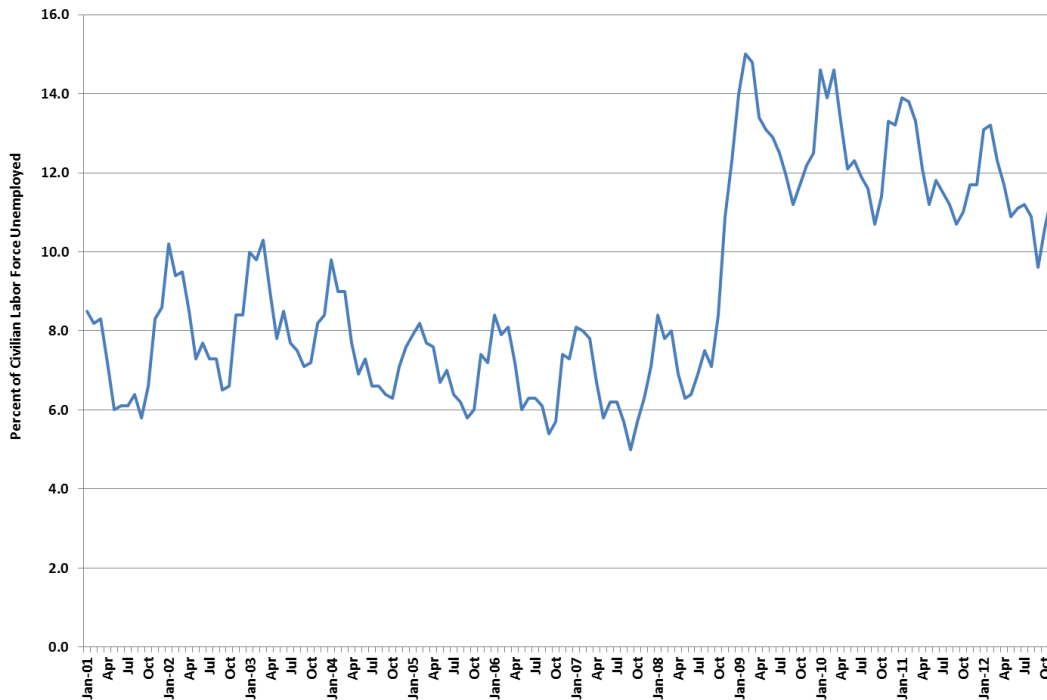
The Oregon education and business sectors have a set goal of having 40% of Oregon residents possessing college degrees, 40% possessing junior college degrees or technical certifications, and 20% only possessing high school diplomas by the year 2025 (The Oregon Community Foundation, March 2011). This is an ambitious agenda to ensure 100% high-school graduation rates, with 80% seeking and achieving higher education certification. The outcomes of this agenda could prove promising as we look towards economic and health standards for Curry's future.

Employment Employment is a critical indicator of a community's physical and economic health. Unemployment is correlated with depression, substance abuse, domestic violence, high-risk health behaviors, and criminality. From 2010 to 2012, Curry County's seasonally adjusted unemployment rate has steadily decreased from 12.9% to 11.5% indicating that only 40% of Curry residents are currently employed. This has significant implications for Curry's tax base and the infrastructure it funds. The civilian labor force includes employed and unemployed individuals 16 years and older by place of residence and have steadily decreased from 9751 to 9208. An employed status reflects nonfarm payroll employment, self-employed, unpaid family workers, domestics, agriculture, and labor disputants. Unemployment rates are calculated by dividing the unemployed by the civilian labor force (WorkSource Oregon Employment Department). The employment rate has remained steady at approximately 89%. Therefore, the apparent decrease in unemployment rates may be attributed to residents leaving the county to find work, retiring, or dying.

Figure 3 Longitudinal Unemployment Trends

Curry County Unemployment Rates, 2001 - 2012

Source: Oregon Employment Department, Local Area Unemployment Statistics; Seasonally Unadjusted



A dominant trend in the region is a shift away from goods producing jobs that have historically anchored many communities, to service sector jobs. In 2001, Oregon's private sector had roughly 75% service-providing and 25% goods-producing jobs. In 2010, these percentages shifted to 80% and 20%, respectively.

Across all counties there has been a decline in manufacturing jobs related to the timber industry, lumber and wood products sectors, and wood product manufacturing. Construction employment in Oregon followed a common national trend of gradual increase until 2007, followed by a sharp decline as a result of the housing market crash and the Great Recession. Statewide, federal government employment experienced a slight decrease from 1990 to 2010, roughly 4,000 jobs. (The Sierra Institute for Community and Environment Spatial Informatics Group, August 2012)

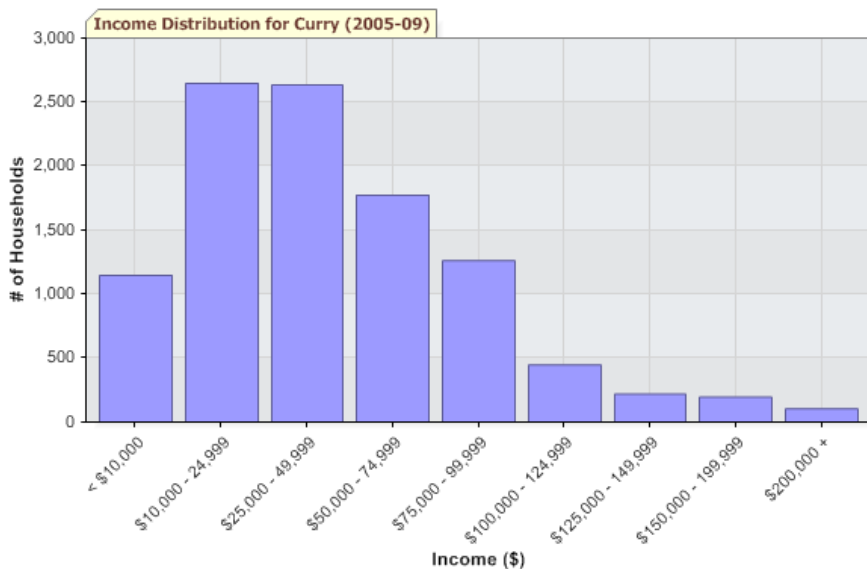
In 2010, Curry County lost a total of 120 jobs over the year with losses in mining and logging, construction, manufacturing, and financial services industries, yet gained some jobs in education and health services. Curry County total payroll employment fell by 130 jobs in October 2012. The private sector added 60 jobs, government employment fell by 40, construction fell by 30, and leisure and hospitality fell by 120. Government employment rose by 10, with a gain of 30 local government posts offset by 10 losses in federal and state government. Over the year, retail trade posted the largest gain, up by 80. A few industries lost jobs over the year. The declining sectors included financial activities (-30), construction (-10), federal government (-10), and local government (-50). (South Coast Labor Trends, WorkSource Oregon Employment Department)

From 2006 to 2013, Oregon and California Railroad grant land (O&C) funds and Federal Forest payments were phased out from the Curry County budget and approximately \$7.5 million dollars of the total budget vanished. Counties continue to recognize the need to diversify their economies in light of a declining timber industry.

Available employment data mentions briefly healthcare as an industry in Curry. This is an important observation for many reasons, most specifically the healthcare needs of Curry’s increasingly aging population as an area for economic growth. Absence of data shortchanges how additional investments in local healthcare systems, specifically primary care homes, coordinated care, and telemedicine, might keep more financial resources inside Curry and improve the quality of care and quality of life for our residents. Deeper analysis should be considered during the community health improvement planning process.

Income and Poverty In 2000, the five Oregon counties with the lowest median family income were Curry, Lake, Josephine, Coos, and Klamath. These five counties were also among the highest in terms of percentages of families, individuals, and families with children under 18 living under the

Figure 4 American Community Survey



federal poverty line. In 2000, the median household income of all residents in a household over the age of 18 was \$35,627 and in 2012 it was \$36,994 (US Census Bureau, Small Area Income and Poverty Estimates). Figure 4 demonstrates the income distribution for Curry. The percent of Curry County residents with income below poverty level is 13.7%. Approximately 5.2 % of these individuals are

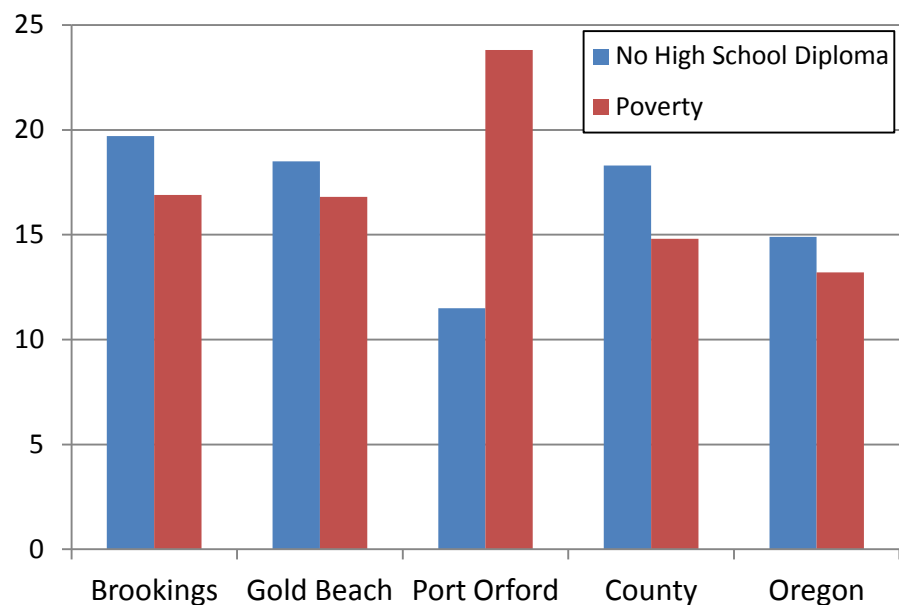
considered to be living in extreme poverty (family income less than 50% of the poverty threshold).

Children typically live in greater poverty than adults, as is the case for Curry. Child poverty is correlated with a lack of health care, exposure to violence, inadequate schools, learning delays, and lower lifetime earnings. In December of 2012, the Small Areas Estimates Branch estimated poverty in 2011 to be 17.9% or 3973 Curry residents. (Oregon Office of Rural Health, US Census Bureau, 2005-2009 American Community Survey)

Another measure of economic hardship is the percent of households receiving food stamp/Supplemental Nutrition Assistance Program (SNAP) benefits. 14.6% percent of Curry County households have SNAP benefits. School Free and Reduced-Price Meals (FRPM) enrollment data is another useful tool for understanding socioeconomic conditions. Because of the frequency of collection of data at every school, and accuracy due to federal reimbursement for the meals, this information is particularly useful for analyzing and understanding socioeconomic conditions at multiple scales of analysis.

In Curry County, 56.4% of public school children were eligible to receive free or reduced price lunches during the school year. On average, 1479 children ate free/reduced price lunches on a given day, while 10377 lunches were served to children during the summer. (Status of Oregon’s Children 2010)

Figure 5 Relation of Poverty to Education Status



Retirement Payments Approximately one-third of households in Curry receive retirement payments. The percentage of households with retirement income and social security has slowly increased in Curry County during 1990 to 2009. In 1990, the percentage of households with retirement income was 23.9% (2,480) and with social security was 42.9% (4,277); from 2005-2009, these percents increased to 28.3% (2,953) and 45.9% (4,791). Oregon follows a similar pattern only at a much lower rate, in 1990, 16.8% and 27.7%, and from 2005-2009, 17.7% and 27.5%, respectively. These data sets are consistent with the high rates of elderly residing in Curry County comparative to the state of Oregon.

Housing In 2010, the median house price in Curry County was \$205,000. Housing prices in the county are below the state average of \$244,000. Affordable housing costs (rent or mortgage) generally fall below 30% of a family’s household income. An indicator of a community’s affordability is the percent of families who pay more than 30% of their income in housing costs. A large portion of South Coast Region residents spend more than 30% of their income on housing costs; 50% of homeowners and 55% of renters in Curry County, more than the state and national

averages. In December 2010, the foreclosure rate for the county was 1.3 per 1000 houses, below the state average of 1.7 per 1000. (The Oregon Community Foundation, March 2011)

Housing burden is an important consideration in health improvement planning as an indicator of limited disposable income. Residents in Curry have less income available for purchasing healthy food, recreational activities, and gym membership.

Table 1 Renter Housing Burden, U.S. Census Bureau, American Community Survey

	Brookings	Curry County
Total Population	6,274	22,411
Total Households	2,852	10,473
Median Income	\$41,000	\$37,469
Number of Renter Households whose annual income is 30-60% of County's Median Income	334	853
Number of Renter Households Burdened (paying more than 30 percent of their income for rent)	326	708
Percentage of Renter Households, Burdened (paying more than 30 percent of their income for rent)	2006-2010 97.5%	2006-2010 83.0%
	2005-2009 96.1%	2005-2009 79.3%

HEALTH FACTORS AND BEHAVIORS

Health behaviors are any activity undertaken for the purpose of preventing or detecting disease or for improving health and well being. Interest in such health behaviors is based upon two assumptions; (a) that a significant proportion of the mortality from the leading causes of death is caused by the behavior of individuals, and (b) that such behavior is modifiable. Behavior is held to exert its influence on health in three basic ways: by producing direct biological changes, by conveying health risks or protecting against them, or by leading to the early detection or treatment of disease. (Conner, 2002)

Health behaviors can be health enhancing or health impairing. Health impairing behaviors have harmful effects on health or otherwise predispose individuals to disease. Such behaviors include smoking, excessive alcohol consumption, and high dietary fat consumption. In contrast, engagements in health enhancing behaviors convey health benefits or otherwise protect individuals from disease. Such behaviors include exercise, fruit and vegetable consumption, and condom use in response to the threat of sexually transmitted diseases. (Conner, 2002)

A variety of factors have been found to account for individual differences in the performance of health behaviors. Demographic variables show reliable associations with the performance of health behaviors. For example, there is a curvilinear relationship between many health behaviors and age, with high incidences of health risking behaviors such as smoking in young adults and much lower incidences in children and older adults. Such behaviors also vary by gender, with females being generally less likely to smoke, consume large amounts of alcohol, and exercise regularly, but more likely to monitor their diet, take vitamins and engage in dental care. Differences by socioeconomic status and ethnic group are also apparent for behaviors such as diet, exercise, alcohol consumption and smoking. (Conner, 2002)

Generally speaking, younger, wealthier, better educated individuals, under low levels of stress, with high levels of social support are more likely to practice health protective behaviors. Higher levels of

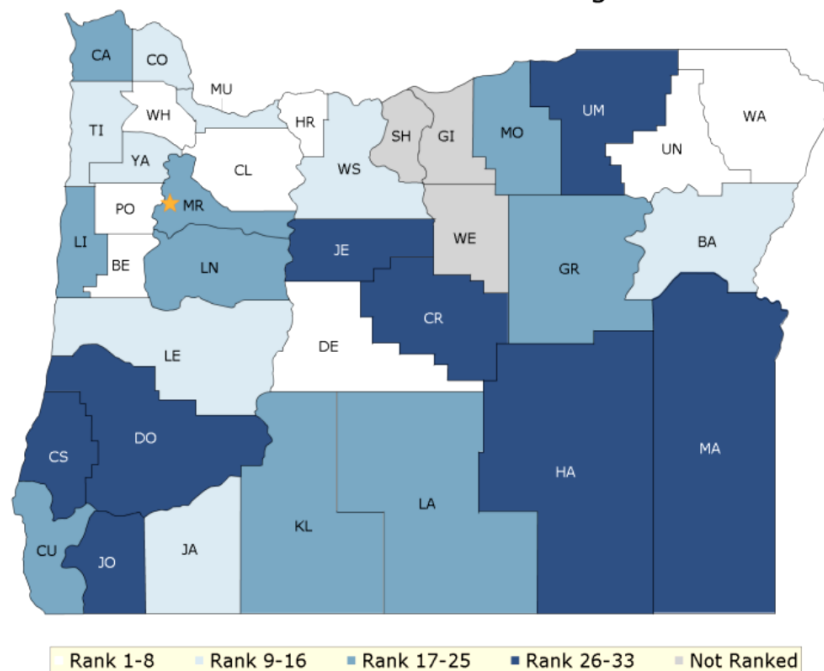
stress and/or fewer resources are associated with health risking behaviors such as smoking and alcohol abuse. Social factors are important for instilling health behaviors in childhood. Parent, sibling and peer influences are important, for example in the initiation of smoking. Cultural values also have a major impact on health behaviors, for example: diet, physical activity, smoking and alcohol use. (Conner, 2002)

County Health Factor Rankings The County Health “Rankings and Roadmap” project provides information about county level health and well-being. It offers a unique perspective on health outcomes and health factors that determine overall county health. This information is useful for assessing and comparing county health. While no single measure sufficiently captures multiple dimensions of human health and no mix of measures is perfect, the comprehensive scale established by health experts captures critical dimensions of health and facilitates comparison of overall county health. One is the best ranking and higher numbers on the multi-item scale reflects those counties that have fallen behind. Examination of the individual measures helps explain why.

Oregon’s rural counties are consistently ranked as unhealthy in state rankings. Of the ten counties ranked worse than the county average of 16.1 for health factors, all of them are rural. Of the nine counties ranked below the state average of 17.1 for health outcomes, all are rural. Of the nine counties to rank below the 16.3 average for tobacco use, all are rural. The same is true of the 10 counties below the average ranking of 17 for diet and exercise, and the 10 counties below the average 17 ranking for alcohol use. Health factors

in the context of County Health “Rankings and Roadmap” encompass individual health behaviors, clinical care, socioeconomic factors, and physical environment. Curry County is ranked 19 for health factors overall (see figure 6), 15 overall for health behaviors, 10 for tobacco use, 30 for diet and exercise, 25 for alcohol use, 23 for socioeconomic factors, 26 for clinical care, and number 1 for physical environment (air/water quality and access to recreation and healthy foods).

**Figure 6 County Health Rankings & Roadmaps
2012 Health Factors - Oregon**



Physical Environment Curry County ranked number 1 in the physical environment. In 2012, there were 4 days of air pollution-particulate matter and 0 days of air pollution-ozon. National amenities are a measure of the physical characteristics of a county area that enhance the location as a place to live. The scale was constructed by combining six measures of climate, typography, and water area that reflect environmental qualities most people prefer. These measures are warm

winter, winter sun, temperate summer, low summer humidity, topographic variation, and water area. The natural amenities are ranked in all US counties by their scale value. The last year of completion for Curry County was in 2000 by the Economic Research Service, USDA. Ranks run from 1 to 7 with 7 being best amenities. Curry County ranked 6 with moderately high amenities.

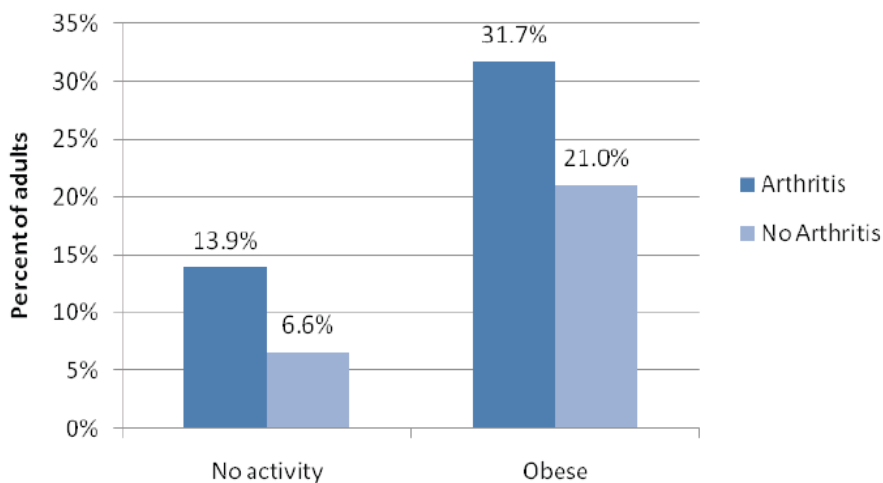
Crime Curry crime rates are significantly lower than the state of Oregon’s, indicating neighborhoods are relatively safe. Property crime rates in Curry County were 227 versus the state rate of 546; domestic disturbance offenses in the county are 23 versus 47 for Oregon; and crimes against persons (homicide, kidnapping, and assault) reported to police was 53 in Curry versus 108 in Oregon (Uniform Crime Reports 2005, 2007). Updated 2012 information on some indicators is available: Total Violent Crimes: 15; Total Property Crimes: 462; Robberies: 1; Motor-Vehicle Theft: 34; Larceny and Theft: 328; Aggravated Assaults: 11; Burglaries: 100; Forcible Rapes: 3. Crime and safety are well recognized as outcomes of poor social determinants of health and potential barriers to outdoor physical activity.

Physical Activity, Obesity, and Built Environment Obesity has become a national health crisis. In Oregon, obesity contributes to the deaths of about 1,400 Oregonians each year, making it second only to tobacco as the state’s leading cause of preventable death. Overweight and obesity are also major risk factors for chronic diseases such as diabetes, cancer, high blood pressure, high cholesterol, arthritis, heart disease and stroke. Nearly 73 percent of adult Oregonians with a history of heart attacks were overweight or obese in 2009. In Curry County, the age adjusted percent of residents classified as overweight is lower than Oregon at 30.4% vs. 36.1%. However, the percent classified as obese, or with a body mass index greater than or equal to 30 kg/m², is higher in the county at 29% vs. 24.5%. (Oregon BRFSS, 2006-2009)

49.4% of adults met CDC recommendations for physical activity in Curry County and 37.4% consumed at least five servings of fruits and vegetables per day (Oregon BRFSS, 2006-2009). Supermarkets, farmer’s markets, and grocery stores are more likely to have fresh fruits and vegetables. Only 50% of zip codes in Curry have a healthy food outlet (North American Industrial Classification System (NAICS) code 722211).

Cost, time, safety, and access are major factors affecting an individual’s decision to assume or increase regular physical activity. The built environment refers to human-made (versus natural) resources and infrastructure designed to support human activity, such as buildings, roads, parks, restaurants, grocery stores and other amenities. A number of research studies have identified links between the built environment and physical

Figure 7 Arthritis Status Compared to Obesity and No Physical Activity in Oregon Adults



activity. Changes in the built environment which remove barriers can make it more possible to walk or bike to destinations. (Edberg, 2007)

In 2009, 24% of Curry adults reported zero leisure physical activity. Numerous studies have shown physical activity decreases disability from chronic diseases, such as arthritis. There are 24 recreational facilities in Curry County, specifically fitness and recreational sports facilities, including gyms, exercise classes, yoga studios, etc. Brookings-Harbor is the only community with seasonal access to a swimming pool, outdoor tennis courts, a skating rink, and a bowling alley. Approximately 50% of Curry's residents have no access at all to recreational facilities and live great distances from gyms and exercise classes.

Even in the Brookings-Harbor area, inadequate disposable income contributes to the underutilization of these facilities among lower-income individuals and those living in remote areas. The seasonality of facilities further limits access, the Brookings swimming pool is open June-August. Increasing access to recreational facilities for all Curry residents should be identified as an area for consideration in community health improvement planning efforts.

Tobacco Use Tobacco related illnesses cause the highest number of preventable deaths in Curry County. According to the Oregon Health Authority (Curry County Tobacco Fact Sheet 2011), over 21 percent of deaths, or 65 deaths annually, are linked to tobacco use. 3,302 Curry adults regularly smoke cigarettes and 1,261 suffer from a serious illness caused by tobacco use. There are many illnesses related to tobacco use that contribute to the high death rate and high number of sufferers such as, asthma, lung and bronchus cancer, bladder cancer, cancer of the mouth, coronary artery disease, and heart attack. These illnesses cost \$12 million in medical care expenses related to illnesses and \$11 million in lost productivity related to deaths.

The age-adjusted percentage of tobacco users in Curry County is 18.4 compared to 17.1 percent in Oregon. Based on local focus groups, smokeless tobacco use is prevalent throughout the county but is potentially underreported in state databases which reflect only 4.2 percent non-age adjusted use by males (Oregon BRFSS, 2006-2009). Reasons given for smokeless tobacco use might include the local Forest Service, which employs a large number of young-adult males provides a place where using chew and tobacco patches is normal; another factor is that local logging companies also employ many young-adult males who use chew on the job, a social norm, as a method of staying awake (however unreliable), or out of peer pressure. In these industries, smoking is unsafe, but smokeless tobacco is still considered very acceptable.

It should be noted 59 percent of smokers did make an attempt to quit during the last year and 87% of homes have no-smoking rules. This percentage is consistent with data demonstrating declining tobacco use. Youth prevention is imperative as research suggests addiction to tobacco significantly decreases after the mid-twenties. In Oregon, the Quitline is widely promoted as an effective method to support tobacco users that are trying to quit. The Quitline is available in many languages and is free to all callers. It also can offer nicotine-replacement therapies for individuals with or without health insurance.

Preventative Health Screenings Preventive medicine or preventive care consists of measures taken to prevent diseases (or injuries) rather than curing them or treating their symptoms. The methods used to prevent illness are classified into three categories: primary prevention, secondary prevention and tertiary prevention. Primary disease prevention is usually

aimed at the population as a whole and is considered the most cost-effective preventative health care available, according to Fitzgerald Health Education Associates.

Primary Prevention Immunizations are probably the best example of primary prevention, while health education, such as promoting the use of condoms to prevent HIV, is also a significant aspect of primary prevention efforts. Of vaccine preventable diseases, there were a total of 4 cases of Pertussis in Curry County and 285 cases in Oregon in 2010 but no others reported for Curry County (Oregon Department of Human Services). The most recent information on pneumococcal and influenza vaccination percents is dated back to 2007. 41% of adults 45 years and older reported having a pneumonia shot. Similarly, 41% of adults 45 years and older had a flu shot within the past 12 months. 60.8% of those aged 65 and older reported receiving a flu shot in the past 12 months from 2003-2009 (Oregon BRFSS, Center for Health Statistics, DHS). Since 2009, adult vaccine data has not been tracked in the state database system warranting deeper analysis with the Oregon Health Authority. Vaccine trends cannot be identified data is unavailable.

Table 2

Influenza Vaccination Rates among Health Care Workers, Oregon, 2008 (Oregon BRFSS)		
In past 12 months	Persons who work in a health care facility	Persons with direct patient contact
Flu shot received	51.9%	49.4%
FluMist received	1.0%	1.3%

It is also worth noting the number of individuals working in healthcare who have not received flu immunizations. Influenza can be highly contagious and fatal in vulnerable populations, especially the ill and elderly. This is an area for deeper analysis and should be considered as a policy issue within Curry's local health system.

Secondary Prevention Secondary disease prevention is intended for those who have risk factors for an infection or disease but do not yet have a diagnosis or symptoms. Screening tests are an excellent example of secondary prevention. By diagnosing diseases quickly, especially in cases of some cancers and heart disease, the progression of the disease can often be altered in favor of the patient to minimize its effects.

Cholesterol and Colon Cancer Screenings The percentage of adults 18 and older who had their blood cholesterol checked within the past five years is approximately 50%. Of adults aged 50-75 years, an average of 61.9 percent screened for colonoscopy/sigmoidoscopy within the past year during the years of 2006-2009.

Pap-smears and Mammograms There is currently no data for Curry County on Pap-smear rates, an important screening for cervical cancer and other abnormalities among women. In the state of Oregon, 85.8% of females 18 and older reported receiving a pap smear within the last 3 years. The unadjusted percent of women aged 50 and older receiving a

mammogram within the past 2 years in Curry County was 65.9%. The percent of Medicare women ages 67-69 receiving a mammogram is 64% in Curry County.

Diabetic Screening 9.2% of adults report having diabetes in Curry County, significantly higher than the state average of 6.9%. Diabetic screening is calculated as the percent of diabetic Medicare patients whose blood sugar control was screened in the past year using a test of their glycated hemoglobin (HbA1c) levels. In Curry, 86% of diabetics are receiving HbA1c screening. A weakness of these last two measures is the utilization of Medicare claims data, limiting the evaluated population to individuals ages 65 and older. Data relegated to these measures reflects less than 50% of Curry's population. Diabetic screening among younger age groups is an area warranting more investigation as a potentially vital early intervention.

MATERNAL AND CHILD HEALTH

One of the most significant areas for monitoring and comparison relates to the health of a vulnerable population: infants and children. Because maternal care is correlated with birth outcomes, measures of maternal access to, and/or utilization of, care is included. Also included is Adverse Childhood Experiences, known to be one of the most significant predictors of adult health outcomes.

Birth Outcomes Curry averages approximately 180 live births annually. Healthy babies are important to the well-being of communities and families and birth outcomes are an important indicator of this measure. Many variables influence birth outcomes including: the mother's diet and weight; drug, tobacco and alcohol use; prenatal care, and psychosocial stressors while pregnant. Overall, Curry's rate of infant mortality is slightly higher than the state average. Curry's rate of low and very low birth weight, 5.5 and 3.3 lbs respectively, is also slightly higher than the state average. In 2009, 3 babies were born weighing less than 3.3 pounds and during 2005-2009, 13 born under 5.5 lbs. On average, 7 low birth weight babies are born annually. Three babies were born to adolescents in 2009, representative of a statewide trend in reduced rates of teen pregnancy.

Overall, it appears fewer than 3% of Curry babies have been born of low-birth weight since 2005. While this number appears small, the costs associated with preterm births are significant, up to \$51,600 per infant born preterm (Medicaid rates, National Institute for Health, 2012). These costs merely reflect the care associated with birth, not the long-term investment in caring for developmental disabilities often attributed to low-birth weight.

Prenatal Care Accessing prenatal care in the 1st trimester is an important variable to birthing a healthy baby. In 2009, 115 of 180 (63%) of pregnant women accessed 1st trimester care. In 2010, 172 of 180 (95.6%) women received prenatal care in Curry. This means 32.6% who did not access first trimester care, did so in the 2nd and 3rd trimesters. Considering the importance of 1st trimester care, it is important to ask questions about the barriers amongst this 32% and identify strategies for increasing access. Of note is the number of pregnant women seeking prenatal care in Crescent City, CA. There tends to be more women and therefore longer waiting times to access care which may be an influencing variable in rates of prenatal care access.

Critical components of quality prenatal care include care coordination, ensuring that basic needs of housing, nutrition, drug and alcohol treatment, smoking cessation, and depression screening. Curry

has traditionally enrolled fewer than 5% of pregnant women in BabiesFirst!, a home-visiting program for first time mothers. In October of 2012, Curry's public health department received funding from AllCare, the Ford Family Foundation, and the Gordon Ellwood Foundation to increase the numbers of pregnant women participating in BabiesFirst! with the intention of improving 1st trimester prenatal care rates and birth outcomes.

Adverse Childhood Experience (ACE) Adverse Childhood Experiences have an impact on the long-term health of our citizens, prenatally and beyond. The Adverse Childhood Experiences (ACE) Study is one of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being. The study is a collaboration between the Centers for Disease Control and Prevention and Kaiser Permanente's Health Appraisal Clinic in San Diego.

The ACE Study findings suggest that certain experiences are major risk factors for the leading causes of illness and death as well as poor quality of life in the United States. Progress in preventing and recovering from the nation's worst health and social problems is likely to benefit from understanding that many of these problems arise as a consequence of adverse childhood experiences.

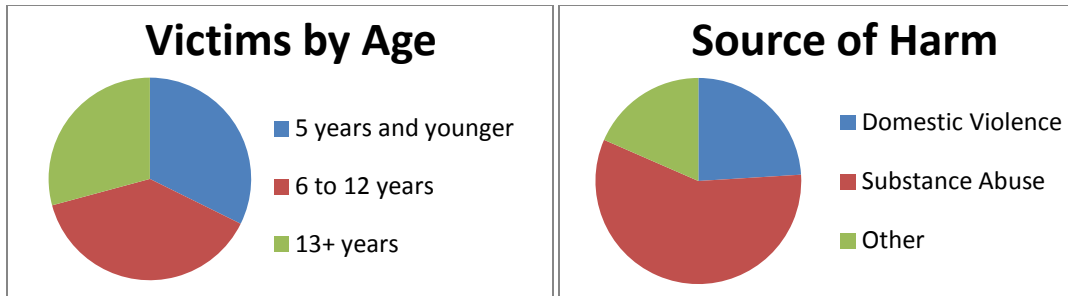


Progress in preventing and recovering from the nation's worst health and social problems is likely to benefit from understanding that many of these problems arise as a consequence of adverse childhood experiences.

Center for Disease Control, 2012

Adverse childhood experiences range from poverty to abuse and neglect to bullying and witnessing violence. Statistics only capture a small segment of the forms of adversity with life-long health problems. ACE contexts for which we have data currently available are foster care, reports of abuse and neglect, and threat of harm referrals. Approximately 3% or 89 of 3,296 children were in foster care in Curry during 2011. 23.3% of abuse, neglect, and/or threat of harm referrals were related to domestic violence and 55.8% were related to substance abuse. 13% of children experiencing their first out-of-home placement were living with relatives.

As indicated in previous sections, living in poverty is a stressor that can impact health during childhood with implications for adulthood. 59.9% of Curry school-age children were eligible to receive free/reduced lunches during the school year. On average, 1,072 children ate free/reduced price lunches on a given day, 9,060 lunches were served to children during the summer.

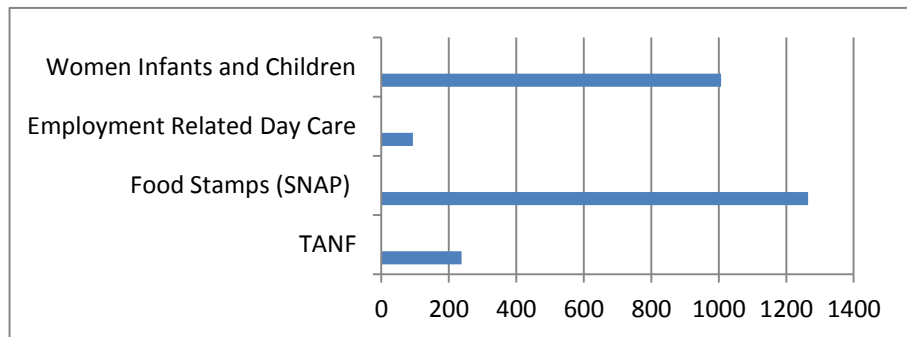


Other Childhood Health Indicators In 2011, Curry child immunization rates were 12% below the state average at a rate of 67.7% and 14.3% below the national average. Overall, immunizations rates have been declining in Curry from 71.6% in 2005 to 63.8% in 2009. This mirrors a national trend which following years of increasing immunization rates, progress towards full immunization of all two-year-olds has stalled since 2004, standing at 82 percent in 2011. The proportion of children ages 19 to 35 months receiving the combined series (4:3:1:3) vaccines increased from 69 to 83 percent between 1994 and 2004. Since that time, however, there has been no progress. This decline could be attributed to parental concerns regarding speculations linking childhood immunizations with Autism and other developmental disabilities.

Aside from obesity, immunizations and child welfare data there is very little data available about the most common health conditions among Curry children. This is a critical data gap as it helps us understand how early interventions, especially with mental health conditions, can impact the health of children as they progress towards adulthood. Rates of youth obesity are 29.4% in Curry, approximately 12% higher than the Oregon average. Given the relationship between childhood and adult obesity, this is a relevant area for consideration in community health improvement planning.

Insurance and Family Supports From June 2009 to September 2011, Oregon Healthy Kids enrollment increased from 1,115 to 1,648 children, representing 48% of Curry’s children. Because the uninsured child data is compiled regionally between Coos and Curry, it is difficult to estimate how many children remain uninsured. Regionally, 1200 children appear to be without insurance (Children First Data Books, 2009-2011). The figure

Figure 8 State Support for Children, 2012

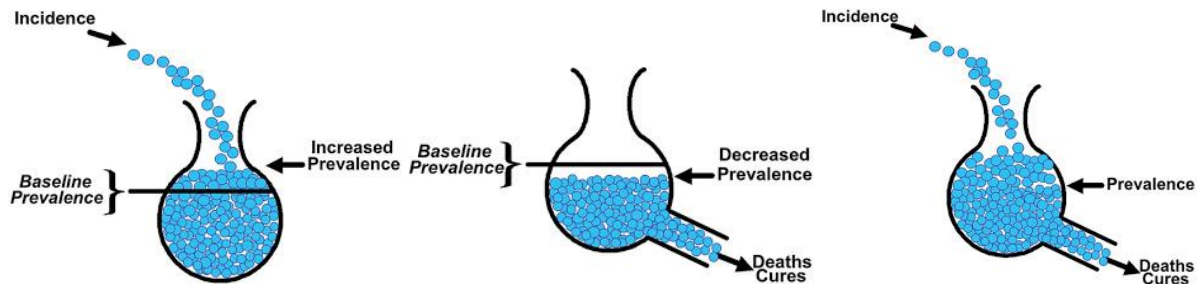


shows the number of children helped by several key family supports in a month. Curry’s total number of low-income children is 1,961. Curry County’s WIC program (Women Infants and Children) promotes child health through prenatal nutrition, breast feeding promotion, and service linkages. In 2010, Curry served 53% of pregnant women and 410 families, 64% of which are from working families. Curry has among the highest rates of breastfeeding, 93.9%, and distributes \$354,709 in food vouchers to local authorized retailers.

MORBIDITY & CHRONIC DISEASE

Morbidity refers to the diseased state of an individual or the incidence of illness in a population. It is measured by using incidence (the number of new cases in a population during a specified time) and/or prevalence (the number of disease present in the population at a specified time). The relationship between incidence and prevalence is demonstrated further by the illustration below. Assume that the flask is a community, and the beads in the flask represent the prevalent cases of a disease in this community. The first picture shows the baseline of prevalence, then the three pictures below show three different ways that incidence could affect prevalence.

Gordis, Leon. Epidemiology 4th Edition, 2008



Mental and Physical State 18.6% of Curry County residents reported fair or poor health consistent with national BRFSS data indicating that Americans were increasingly likely to report “fair” or “poor” health over the last decade. The average number of mentally unhealthy days per month is 3.4 in Curry County congruent with state days of 3.3. 4.1 physically unhealthy days per person were reported in Curry again similar to the state average of 3.8 days. About 30% of Curry County residents have limitations on activity, attributed either to physical, mental, or emotional problems. 11% have limitations which require use of special equipment, such as a cane, wheelchair, or special bed. 36% of adults 45 and older are reportedly disabled. These percentages are slightly higher than the state averages. The BRFSS is a self reporting system and as such, errors may occur, particularly due to the decrease usage of land line phone systems. (BRFSS 2003-2009)

Heart Disease Heart disease refers to several types of heart conditions. Heart disease is the most common cause of death among men and women in the United States. The most common type in the United States is coronary artery disease which can cause heart attack, angina, heart failure, and arrhythmias (WHO). In 2008, coronary artery disease claimed roughly 6,500 lives in Oregon. More Oregonians die from diseases of the heart than the total number of diabetes, Alzheimer’s, pneumonia, influenza, car accidents, and HIV combined (Ngo, 2011). The prevalence of heart attack and angina in Curry County is higher than that of Oregon’s but has decreased since 2004. In 2006-2009, heart attack prevalence in Curry was 4.4% and 3% in the state. During the same time, angina prevalence was 6% in Curry and 3.4% across Oregon (Oregon BRFSS). Heart attack prevalence jumps to 12% in adults 45 and older who reside in Curry County (Oregon BRFSS, 2004-2007).

Hypertension It is estimated 1 in 4 adults have high blood pressure, also known as hypertension. If left untreated, high blood pressure can lead to life threatening medical problems such as stroke, heart attack, or kidney failure. Hypertension is the most common cause of cerebrovascular disease, the fourth leading cause of death in Curry County. High blood pressure decreased in Curry County from 35% to 25.8% from 2004-2009. Another risk factor for heart disease is high blood cholesterol.

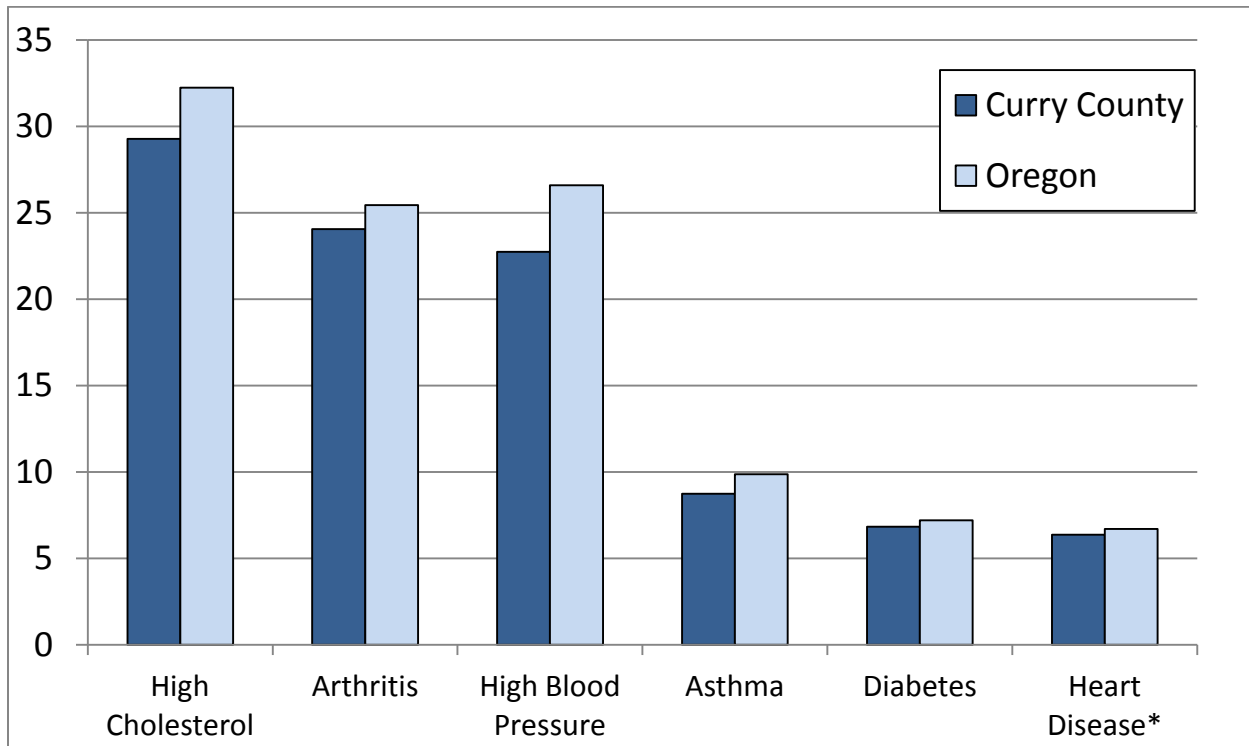
Blood Cholesterol According to the American Heart Association, cholesterol is one of the most controllable risk factors for heart disease, heart attack, and stroke. High blood cholesterol has risen since 2004 in Curry County. From 2004-2007, the age-adjusted prevalence was 26.6%, well below the state average of 32.3%. In 2006-2009, the number rose to 32.6% while the state average remained relatively constant at 33%. While consistent with Oregon overall, high-cholesterol is an opportunity for early intervention that should be considered as a community health improvement effort.

Arthritis During 2006-2009 arthritis prevalence increased from 27.2% to 34.1% while the state prevalence slightly decreased to 15%. Arthritis commonly occurs with other chronic conditions, such as diabetes, heart disease, and obesity. Arthritis can occur at any age and racial or ethnic group but is more common in women and prevalence increases with age. Of adults 45 and older in Curry County, 47% report having arthritis. Arthritis is the most common cause of disability, affecting 1 in 5 Americans. The direct medical cost for arthritis in Oregon is \$1.0 billion and another \$586 million in indirect cost (lost earnings attributable to arthritis) among adults. Arthritis is often associated with reported days of poor mental and/or physical health. Exercise and diet are proven strategies for reducing the onset and symptoms of arthritis. Arthritis prevention and intervention should be considered as an area of focus in community health improvement efforts.

Diabetes In 2009, 15% of Oregon adults reported having both arthritis and diabetes. The prevalence of both conditions is higher in females and increases significantly with age. In addition, prevalence for both conditions is three times higher in obese individuals compared to those with a healthy weight. Diabetes is the 7th leading cause of death in Oregon, claiming approximately 1,200 lives each year. The incidence of diabetes in Oregon is 7,100. The adult diabetes rate was 9.7% in Curry County in 2007, since then it has decreased to approximately 6% but remains the 6th leading cause of death in the county (Oregon BRFSS). (Ngo, 2011)

Asthma An incurable yet manageable illness, asthma is the most common disease among children, especially children who have low birth weight, are exposed to tobacco smoke, are black, and are raised in low income environments. Almost all asthma sufferers have allergies. Allergic reactions and asthma symptoms are often the result of indoor air pollution from mold or noxious fumes from household cleaners and paints. Studies have also shown obese adults have twice the risk of contracting asthma (Medical News Today). Asthma has increased in Curry County, yet remained stable in Oregon. From 2004-2009 asthma prevalence in Curry has increased from 9.9% to 12.6% in 2006, impacting approximately 2,829 residents (Oregon BRFSS). Reasons for such a large increase in asthma prevalence may be associated with increased poverty and obesity. Rates may also be impacted by substandard housing infested with mold and other air-borne toxins known to cause or trigger asthma symptoms. As indicated in earlier sections, youth specific data on chronic conditions such as asthma are unavailable. Asthma should be analyzed deeper as part of the community health improvement process. Data should be collected by age and should consider housing conditions and other allergen triggers.

Figure 9 Chronic Disease Prevalence, 2008-2011 (*Heart disease includes angina, heart attack, and stroke)



MORTALITY

Mortality rates, also known as death rates, are a measure of the number of deaths in a population in generally, but can also be tailored to specific diseases, ages, or time frames.

Years of Potential Life Lost (YPLL) Choosing a measure for quantifying the health status of a population or for comparing health status across populations has been, and is worthy of, debate. Several measures exist yet no measure alone is sufficient. Historically, age-specific and age-adjusted mortality rates have been used to compare health status across populations. These measures provide a description of the death rates in a population but do not fully account for the

$$YPLL = \sum_{i=0}^{65} [(65 - i)] \times d_i$$

where 65 is the upper age limit established, i is the midpoint of the grouped year of age at death (e.g. 59.5 for age group 55-64) and d_i is the number of deaths at age i .

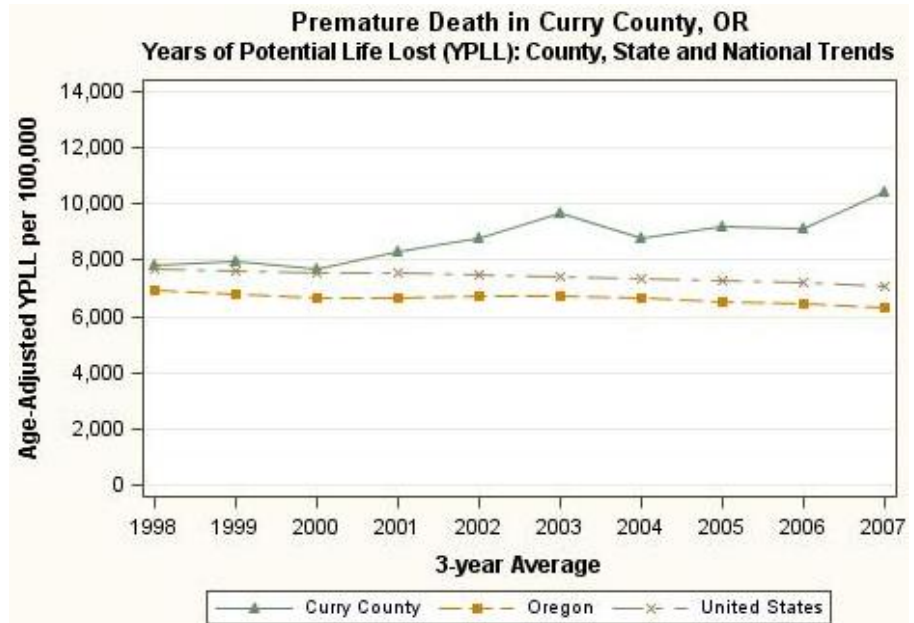
burden of **premature** mortality, an important indicator of a population's health status. In fact, because most deaths occur among older age groups (65+), crude and age-adjusted mortality data are dominated by the underlying disease processes of aging. Another measure used is the years of potential life lost in a population in a given time period, or "YPLL." (Dranger & Remington, 2004)

The YPLL measure weights death at younger ages, placing more value on them as a consideration of lost life. Deaths at younger ages are more likely to be attributable to preventable causes and therefore subject to public health intervention. However, YPLL may be more difficult to understand, calculate, and explain than the commonly used methods, such as age-adjusted mortality. Any chosen age cutoff (65, 75, etc.) may present drawbacks, for example,

underestimating the chronic and later life conditions. YPLL that uses a set age (e.g. 65) does not count all deaths in a population.

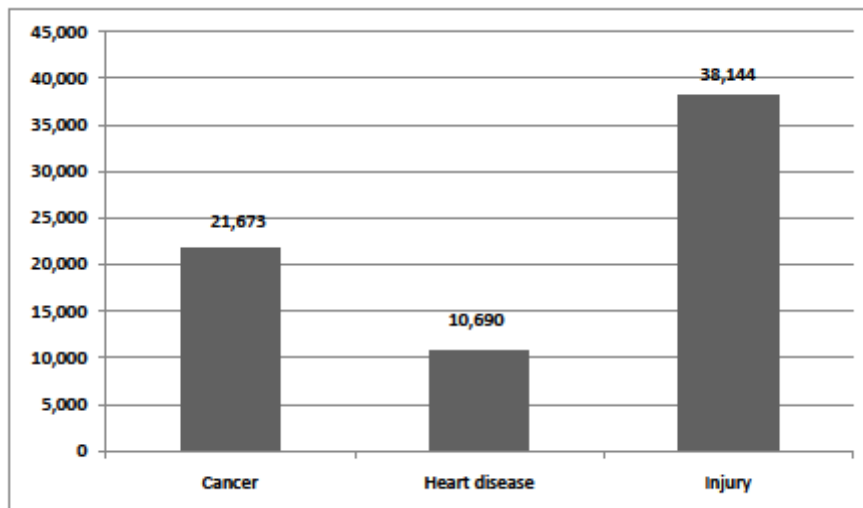
County Health Rankings and Roadmaps use YPLL before age 75 per 100,000 population (age-adjusted). The following information is based off a 3 year average, using 2006-2008 data. The average deaths were 439 in Curry and the YPLL rate was 10,448. Jefferson and Sherman County were comparable with an YPLL rate above 10,000.

Figure 10 YPLL in Curry County, OR



Deaths due to injury have the greatest impact on communities. While deaths from cancer and heart disease occur mostly among the elderly, deaths from injury occur among both young and old. The morbidity and mortality experienced by Oregonians as a result of all injuries, caused by accidents (unintentional injury), suicide, homicide, and undetermined causes are responsible for more years of potential life lost in Oregon than cancer, heart disease, or stroke. Injury is the leading cause of death among Oregonians under 45 years of age. (Injury and Violence Prevention Program, 2011)

Figure 11 YPLL Due to Top 3 Leading Causes of Death among Oregonians, 2009 (OHA)



Leading Causes of Death The top ten causes of death in Curry County from 2005-2009 in order of greatest to least (death rate per 100,000) were cancer, heart disease, chronic lower respiratory disease, cerebrovascular disease (stroke), unintended injuries, diabetes, Alzheimer's, suicide, alcohol induced, and flu and pneumonia. The table below demonstrates the variation in disease by each community. Additional information on unintentional injuries and suicide is found in the following section: Age and Manner of Death. In 2012, there were 320 deaths and the death rate per 1000 people was 14.4. There were 2 infant deaths in 2012 (150 years of potential lost life).

About 30% of all deaths from heart disease in the U.S. are directly related to cigarette smoking. Smoking is a major cause of coronary artery disease, especially in younger people. Tobacco smoking is the most significant risk factor for lung cancer and Chronic Lower Respiratory Disease. People who smoke a pack of cigarettes a day have more than twice the risk of heart attack than non-smokers. In 2011, 23% of Curry deaths were tobacco-linked.

Chronic Lower Respiratory Disease (CLRD) is the fourth leading cause of death in the United States and Oregon but the third leading cause of death in Curry County. CLRD is comprised of three major diseases: chronic bronchitis, emphysema, and asthma. CLRD increased 163% in the USA from 1963 to 1998, a factor associated with smoking trends. Tobacco smoking is the most important risk factor, accounting for approximately 80% of cases. Cigarette smokers are 10 times more likely to die from CLRD than nonsmokers. The remaining 20% of cases are attributable to environmental exposures and genetic factors. Thirty to fifty percent of all asthma cases are due to an inherited predisposition.

Cerebrovascular disease (stroke) refers to a group of conditions that affect the circulation of blood to the brain, causing limited or no blood flow to affected areas of the brain. The most common forms are cerebral thrombosis (40%), cerebral embolism (30%), and cerebral hemorrhage (20%). Hypertension is the most common cause, damaging the blood vessels by making them narrow, stiff, deformed, uneven, and more vulnerable to fluctuations in blood pressure. Smoking increases the risk of hypertension.

Table 3

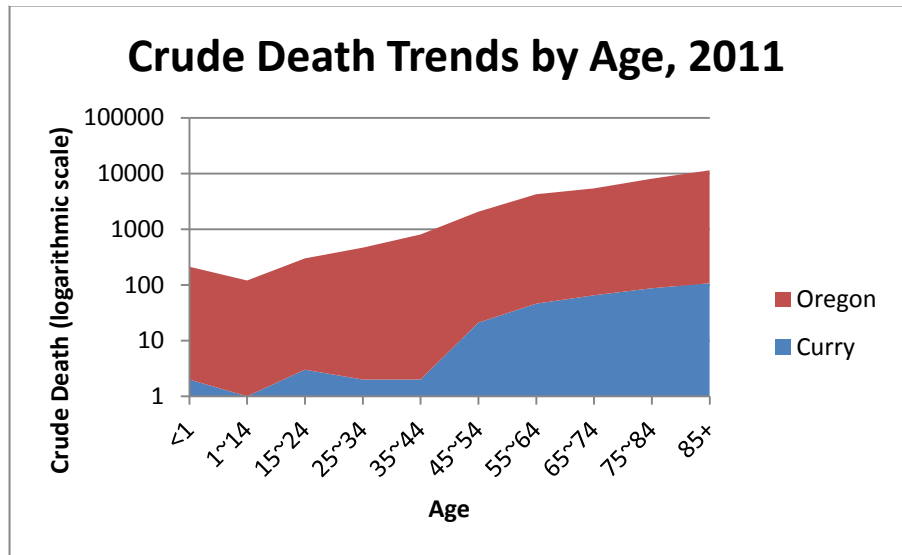
Leading Causes of Death (2005-2009): Crude Death Rates per 100,000					
Source: Oregon Department of Human Services and Oregon Office of Rural Health					
	Brookings	Gold Beach	Port Orford	Curry County	Oregon
Cancer	420.2	397.7	436.1	425.1	191.4
Heart Disease	391.0	445.8	383.8	397.6	169.4
Chronic Lower Respiratory Disease	96.3	107.3	104.7	101.5	48.8
Cerebrovascular Disease (Stroke)	99.2	87.4	61.1	91.1	51.2
Unintended Injuries	61.3	39.3	95.9	63.6	41.0
Diabetes	43.8	78.7	61.1	54.1	28.4
Alzheimer's	67.1	21.9	34.9	52.2	32.0
Suicide	35.0	21.9	69.8	35.1	15.3
Alcohol Induced	20.4	30.6	52.3	25.6	13.8
Flu and Pneumonia	29.2	13.1	17.4	24.7	13.5

Age and Manner of Death YPLL weights death at an earlier age; therefore, it is important to know the causes of death in relation to age, especially in recognition of abnormal trends. Age specific data associated with cause of death should be collected to develop a more accurate picture of years of lost life within specific age groups, years, and associative costs of death. In Curry County the greatest number of deaths occurs in the 85 and older population, 343 over a 3 year period, 2008-2010. The next greatest number of deaths in the same three year period was 75-84 at 319, 65-74 at 207, 45-64 at 192, 25-44 at 27, and 15-19 and 20-24 both held 4 deaths. There were 2 deaths between 0-4 years of age. (Oregon Vital Statistics)

Figure 12 displays crude death rates for the year 2011 in Curry County and Oregon to compare trends in ages. Crude death trends by age in the county differ slightly from the state.

Areas for consideration and more analysis are between 24 and 55 years of age, where there is a decrease then sharp increase in Curry County. Migration patterns in and out of Curry might be a variable. In general, populations over 55 die from Curry County's and Oregon's aforementioned leading causes of death. Younger fatalities, those populations under 55, are attributable to suicides, unintentional injuries, and alcohol-induced death.

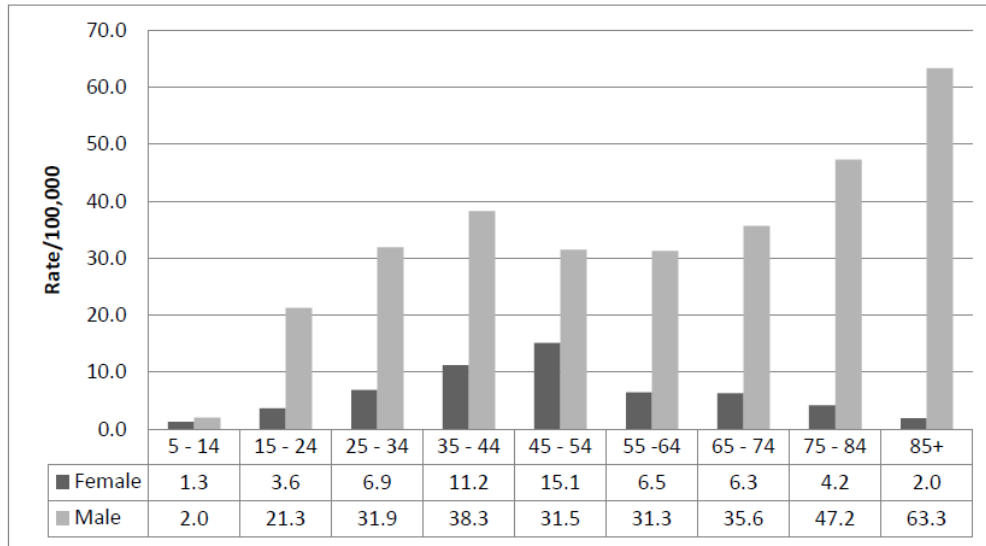
Figure 12 Crude Death Rate Trends



Suicides In 2009, there were 10 violent deaths reported for Curry County, all of which were suicides. Suicides are the 8th leading cause of death in Curry. In 2011, there were 5 suicides. In general, suicides increase with age and are four times higher among men than women. For those 15-34, suicide was the 2nd leading cause of death. In Oregon, women have a higher rate of hospitalization due to suicide attempt, and the highest rates occur among women 15-24 years old. The most common mechanisms of injury in suicide are firearms, poisonings, and suffocation followed by cuts/piercings and falls (Oregon Violent Death Reporting System, 2012).

In Oregon firearms are the primary mechanism of suicide among 62% of men compared with 31% of deaths among women. The proportion of firearm suicides increases with age among men and alcohol is related in 50% of cases. In contrast, poisoning was more prevalent for women (43%) versus men (13%). Suffocation was equally utilized for men and women (18%). Among 938 suicides due to poisoning between the years 2003-2010, more than 60 percent of them resulted from a single substance, predominantly prescription medication. Prescription medications were involved in 54 percent of male poisoning suicides and 74 percent of female poisoning suicides. (Oregon Violent Death Reporting System, 2012)]

Figure 13 Suicide Death Rates per 100,000 by Age and Sex, Oregon, 2011



Source: Oregon Center for Health Statistics

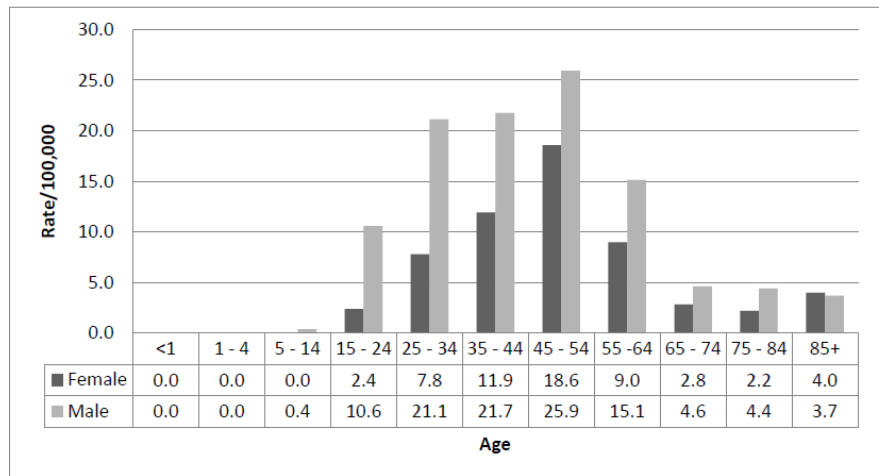
Among the 36 counties in Oregon, suicide rates varied from 7.4 to 35.2 per 100,000 between 2003 and 2010. The counties of Baker, Coos, Curry, Douglas, Grant, Harney, Jackson, Klamath, Lincoln, and Tillamook had a higher than state average suicide rate. Curry County’s suicide rate between these years was 35.2 per 100,000. For those under 17, the suicide rate was 0; 18-24 was 37.1; 25-44 was 33.8; 45-64 was 33; and for those older than 65 was 60.7. (Oregon Violent Death Reporting System, 2012)

Unintentional Injuries Unintentional injuries are the number 1 cause of death for persons aged 1-44 years in Oregon. In Curry County, unintentional injuries are the 5th leading cause of death overall. In 2011, there were 18 deaths due to unintentional injuries in Curry County, specifically attributed to motor vehicle traffic fatalities, falls, accidental poisoning, drowning, and fires.

(Injury and Violence Prevention Program, 2011)

In Oregon, unintentional poisonings accounted for 399 deaths in 2011 with a rate of 10.3 per 100,000. There were 1,618 hospitalizations in 2011 with a rate of 41.9 per 100,000. Poisoning deaths outnumber motor vehicle traffic deaths. 95% of these deaths

Figure 14 Average Unintentional Poisoning Mortality by Age and Sex, Oregon, 2011



Source: Oregon Center for Health Statistics

are due to prescription drug overdose. Males have significantly higher rates of both deaths and hospitalizations. The poisoning mortality rate is highest among those 45-54 years of age but is a significant issue for all those 25-64 years. Between 2002 and 2006, there were 10 unintentional poisoning deaths in Curry and in 2011 there were 2 deaths.

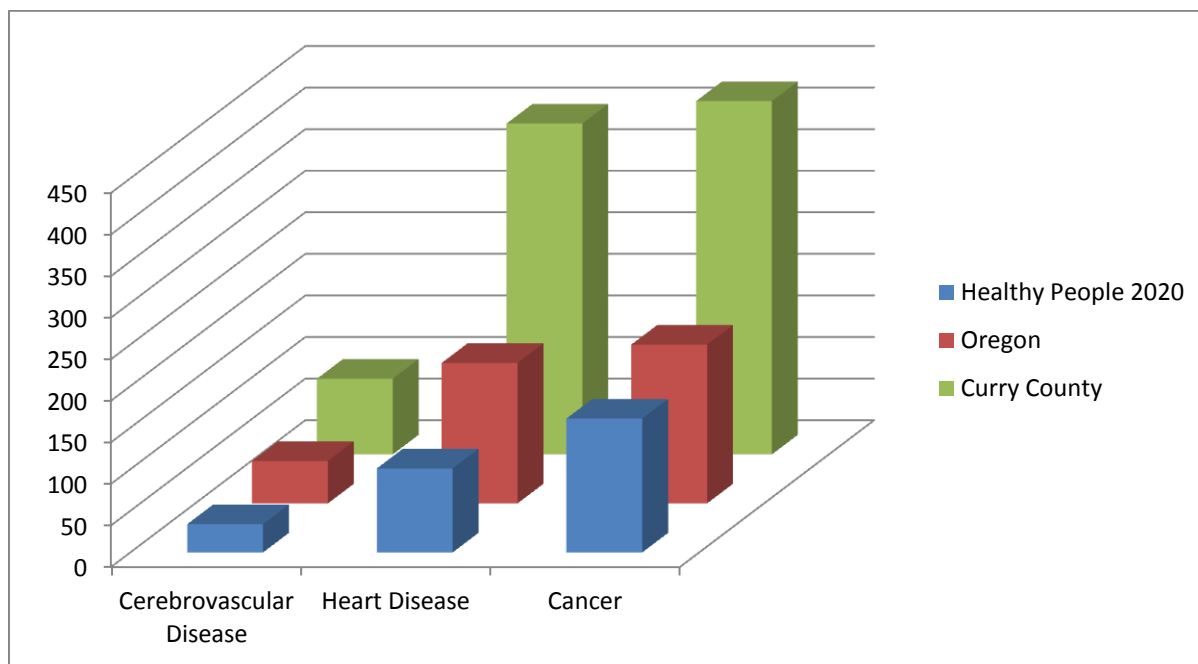
In 2011, 339 Oregonians died in motor vehicle traffic crashes (8.8 per 100,000) and 1,716 Oregonians were hospitalized (44.5 per 100,000). Motor vehicle traffic injuries include occupants of vehicles, pedestrians, motorcyclists, and pedal cyclists involved in crashes on public streets and highways. From 2002-2006 there were 22 motor vehicle traffic fatalities in Curry County. More deaths occurred among 15-24 year olds than any other age group. Since 2000, motor vehicle death rates have steadily decreased in Oregon. The percentage of motor vehicle crash fatalities where alcohol was involved decreased by nearly half from 47% (2000-2005) to 25% (2006-2010). Given the decrease in law enforcement during this period in Curry, the dramatic drop in alcohol related fatalities is worthy of additional investigation, i.e. what were the conditions influencing decreased rates of alcohol related vehicular deaths?

In Oregon, injuries by fall are among the leading causes of injury hospitalization and injury-related death for older adults (65 and older). More hospitalizations are due to falls than any other single injury-related cause. Fall mortality rates in Oregon have increased since 2000 from 7.8 per 100,000 to 15.3 per 100,000 in 2011. In 2011, 522 deaths and 9,095 hospitalizations in Oregon were fall related. In 2011, there were 5 fatal falls in Curry County. As the baby boomer population continues to age and more retirees move to Curry County increasing fall rates should be anticipated and considered during the community health improvement process (Injury and Violence Prevention Program, 2011)

Healthy People 2020 Healthy People sets ten-year national objectives for improving the health of Americans. There are nearly 600 measurable objectives in Healthy People 2020, each with reliable data, baseline measures, and specific targets to be achieved by 2020. The program provides vast information and evidence-based interventions to help guide state and local health departments in improving their community health outcomes.

Seen in Figure 15 are three leading causes of death in Oregon and Curry County and how current progress compares to the Healthy People 2020 objectives. Oregon is on track to meeting the national benchmark with the greatest discrepancy in death rates of heart disease, 169 per 100,000 in Oregon versus 101 per 100,000. The death rates per 100,000 in Curry County in 2009 were 425 for cancer, 398 for heart disease, and 91 for cerebrovascular disease. The Healthy People 2020 objectives are 161 for cancer, 101 for heart disease, and 34 for cerebrovascular disease. In order for Curry County to meet these objectives, there would need to be a greater than 2-fold decrease in cancer and cerebrovascular disease deaths and a greater than 3-fold decrease in heart disease deaths.

Figure 15 Healthy People 2020 Leading Causes of Death



INFECTIOUS DISEASE

Infectious diseases, also known as communicable diseases, are caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one person to another. Zoonotic diseases are infectious diseases of animals that can cause disease when transmitted to humans (World Health Organization). The increase in life expectancy during the 20th century is largely due to improvements in child survival associated with reductions in infectious disease mortality, due largely to immunization. Despite these efforts, US citizens continue to contract vaccine preventable diseases. Viral hepatitis, influenza, and tuberculosis (TB) remain among the leading causes of illness and death in the United States. In 2010, the total number of communicable disease cases reported in Curry County was 56.

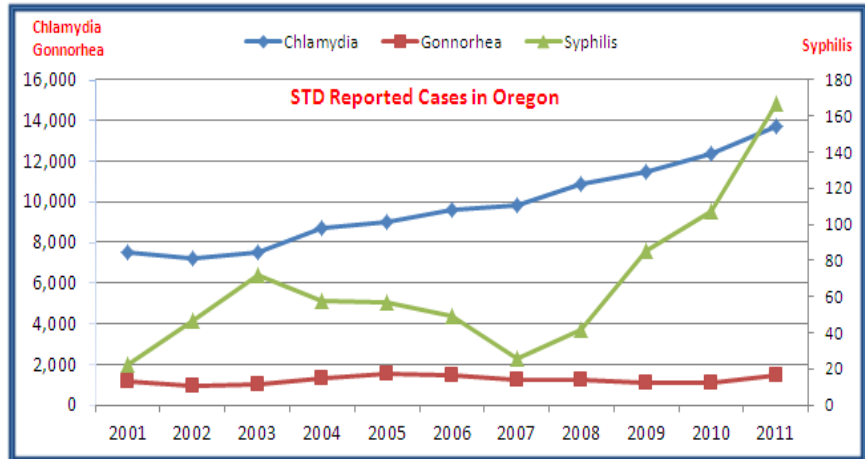
Infectious Diseases of the Lungs There were four reported cases of Pertussis (Whooping Cough), a highly contagious disease of the upper respiratory system. Most children are immunized before entering school, consequently rates of contraction are higher among adolescents and adults. There was one reported case of Legionellosis in 2010, a potentially fatal pneumonia infection caused by inhaling airborne particles containing the bacteria. The disease is particularly associated with hotels, fountains, cruise ships, and hospitals with complex potable water and cooling systems.

Sexually Transmitted Diseases Since 1981, there have been 21 diagnoses of HIV infection in Curry County. In 2010, there were 12 individuals with AIDS/HIV living in Curry (a rate of 0.5 per 1000). Oregon's reported incidence for the same period was 5226 (a rate of 1.4 per 1000).

In 2011, the incidence of Gonorrhea was 4.7 per 100,000 in Curry County, while the incidence of Chlamydia significantly higher, 156 per 100,000. Coos County reported an incidence of 3.2 per 100,000 for Gonorrhea and 284.4 per 100,000 for Chlamydia. Neither Coos nor Curry County reported any cases of Syphilis. There were 3 cases of Hepatitis B reported in 2010, a chronic inflammatory illness of the

liver caused by the Hepatitis B virus. The virus is transmitted by exposure to infectious blood or body fluids. There are several vaccines available to prevent infection recommended especially for those who work in a healthcare setting.

Figure 16 STD Reported Cases in Oregon



Food/Waterborne Disease There were 4 cases of giardiasis, an intestinal illness caused by ingesting a microscopic parasite from contaminated water; 1 case of cryptosporidiosis, a diarrheal illness caused by ingesting a protozoan parasite often through contaminated water; 3 cases of salmonellosis, a gastrointestinal illness caused by ingesting the bacteria from contaminated foods or handling reptiles which carry the bacteria; and 6 cases of campylobacteriosis, a bacterial infection with several modes of transmission, most commonly, consumption of contaminated food, fecal-oral route, and drinking contaminated water.

Preventable communicable diseases result in substantial spending on the related consequences of infection (U.S. Department of Health and Human Services, 2013). In contrast, spending on communicable disease (CD) case management, i.e. case containment to prevent proliferation is minimal. Curry Community Health receives a yearly allotment of \$1,723 for CD management. One reported case could require weeks of work tracking down infected individuals, testing people who may have been exposed, and reporting in Orpheus, the state CD database. The lack of investment in CD management relative to the costs of outbreaks should be an area of consideration in community health improvement efforts.

HEALTH CARE

OHP Coverage Twenty-three percent of residents in Curry County were uninsured in 2012. As of August 2011, there were 3,473 total medical assistance enrollees. There are 2769 currently eligible clients in Oregon Health Plan Plus (TANF, PLMC, AB/AD, GA, OAA, CHIP, Child Protective Services, and PLMW) and 471 Oregon Health Plan Standard (Adults/Couples and Families) clients. As of January 2012, numbers rose significantly with 3336 enrollees in the Oregon Health Plan, Medicaid, and CHIP. 16.5% of Curry residents were eligible for OHP in 2011, consistent with the state average 16.4%. In 2012, there were 587 dually enrolled individuals in Medicare and Medicaid.

Dental Coverage Dental decay is a significant public health problem for Oregon's children. In 2009, 56% of 6-8 year old children in Oregon suffered from tooth decay, far above the Healthy

People 2010 mark of 42% (Oregon Smiles Survey). In 2001, fewer than 58% of low-income children visited a dentist compared to moderate-high income children. Survey respondents primarily cited cost as the barrier to accessing dental care. In Curry County, this problem is significantly exacerbated by a dearth of OHP providers (one for all of Curry), and the transportation costs associated with visiting non-Curry providers. In total, there were 12 dentists in Curry in 2011: 3 in Gold Beach, 9 in Brookings, and 0 in Port Orford.

In January 2012, there were 2670 persons in Curry County enrolled with Advantage Dental Care Organization and 661 persons on fee-for-service arrangements. Ready to Smile was launched in 2010 by The Oregon Community Foundation’s South Coast Leadership Council. Coordinated through Coos County Public Health Department, Ready to Smile delivers dental health services to eligible children in grades 1, 2, 6, and 7 in Coos and Curry counties. The estimated value of these services, which include screenings, sealants, fluoride varnishes, and distribution of dental kits, totaled \$135,945 between September 2011 and May 2012.

Provider Supply Healthy People 2020 aims for a provider supply ratio of 631 residents or clients to 1 primary care physician. Provider supply is a significant concern in Curry County. The ratio of primary care physicians in Curry is 2,124:1, while the state ratio in 2012 was 984:1 (County Health Rankings & Roadmaps, 2012). Table 4 below, summarizes the numbers and types of health care professionals and providers and compares the supply of providers to Oregon’s population-to-practitioner ratios. It should be noted, however, that Sutter Coast Hospital located in Crescent City, CA is utilized by many Curry residents, especially residents of the Brookings-Harbor area. Data is currently not available on the numbers of individuals listing a Sutter Coast provider as their source for primary care. Improved communication and collaboration among Sutter Coast as a member of Curry’s CCO Primary Care Home network should be investigated as an area of opportunity for meeting the needs of Curry’s residents.

Table 4 Provider Ratio

Health Care Provider Type	Curry County Numbers	Curry County Ratio	Oregon Ratio
Primary Care Physicians	12	1:2124	1:984
Emergency Physicians	0		1:5820
General Surgeons	0		1:10418
Obstetricians/Gynecologists	1	1:10918	1:3386
Physician Assistants	2	1:10670	1:4165
Registered Nurses	87	1:245	1:107
Nurse Practitioners	12	1:1778	1:1956
Nurse Anesthetists-CRNA	1	1:21340	1:12451
Pharmacists	4	1:5335	1:1716
Psychiatrists	3	1:7113	1:6437
Physical Therapists	11	1:1940	1:1593
Dieticians	1	1:21340	1:1614
Dental Hygienists	9	1:2371	1:1614
Dentists	12	1:2041	1:2360

Hospitals Curry County is served by a single hospital, Curry General, which is a Type A Critical Access Hospital. Curry General Hospital supports 24 staffed beds. In 2010, the hospital provided 2407 inpatient days, for an average length of stay of 3.38 days, and an occupancy rate of 27.5%.

Brookings Medical Center is an Urgent Care and primary care access center but is not classified as Critical Access. Sutter Coast Hospital is located in Crescent City, CA, approximately 30 minutes from the Brookings-Harbor area. Curry General and Sutter Coast represent 52% of all Curry County resident hospitalizations and 55% of all Brookings-Harbor hospitalizations.

Table 5 Curry County Hospitalizations in Oregon and California, 2010

Hospital Name	Curry Residents	Brookings/Harbor
Curry General	712	314
Sutter Coast	605	593
Rogue Valley	382	313
Bay Area	335	70
Sacred Heart - Riverbend	113	30
Oregon Health Sciences	80	41
Southern Coos General	75	0
Three Rivers	48	41
All other Oregon	111	76
All other California	92	81
Total Oregon and California Hospitalizations	2,553	1,559

Table 6 Curry Resident Conditions Seen at Curry General and Sutter Coast, 2010

Diagnosis Rollup Conditions or Diseases	%
Live Born	9.5
Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	6.3
Septicemia (except in labor)	5.1
Congestive heart failure; non-hypertensive	4.1
Prolonged pregnancy	2.7
Urinary tract infections	2.7
Gastrointestinal hemorrhage	2.7
Cardiac dysrhythmias	2.3
Alcohol-related mental disorders	2.1
Acute cerebrovascular disease	1.9
Pancreatic disorders (not diabetes)	1.9
Nonspecific chest pain	1.8
Asthma	1.6
Deficiency and other anemia	1.6
Skin and subcutaneous tissue infections	1.5

Preventable Hospitalizations Hospitalization for an ACSC, ambulatory sensitive condition (aka preventable hospitalizations), is a considerable measure of access to adequate primary health care. While not all admissions for these conditions are avoidable, it is assumed that appropriate ambulatory care could prevent the onset of this type of illness or condition, control an acute episodic illness or condition, or manage a chronic disease or condition. These include many common conditions such as asthma, diabetes, hypertension, and pneumonia. A disproportionately high rate is presumed to reflect problems in obtaining access to appropriate primary care. Studies have shown that areas with high numbers of low-income or uninsured residents tend to have higher rates of preventable hospitalizations.

An ACSC ratio of less than 1.00 indicates that the area has a lower preventable hospitalization rate than the state as a whole, while a value of greater than 1.00 indicates above average hospitalizations. Rural service areas have a mean ACSC ratio of 1.25 in Oregon, indicating rural

populations have an overall higher rate of hospitalizations for preventable conditions. Curry County ranks 100 out of 105 for preventable hospitalizations. Gold Beach has an ACSC ratio of 2.41, Port Orford 1.91, whereas Brookings is less than 1.00. Gold Beach has the second largest ratio compared to the state, just under Warm Springs with an ACSC ration of 4.81. This is highly indicative of serious primary care access problems, quality of care provided, or both.

Unmet Healthcare Needs Percent of primary care visits met involves estimating the total number of primary care visits that are needed by a specific population, using a complex formula that factors for gender and age. The total number of visits annually is divided by the total number of primary care visits needed, to arrive at the percentage of primary care visits met. In Oregon, for all rural service areas in 2011, the mean percentage of primary care visits met was 91%. Port Orford was the only community in Curry which scored poorly, only 28.7% of all primary health care visit needs were met.

$$V_1 = \frac{\text{Total Visits Provided}}{\text{Total \# of Primary Care Visits Needed}}$$

Curry County’s Community Health Needs Assessment is intended as a planning tool for Coordinated Care Organizations and our local health care providers to identify core areas for improvement. Healthcare access is a barrier in most of America’s rural and frontier communities. Opportunities for innovation such as telemedicine, improved stroke and STEMI protocols, electronic medical records, and certified Primary Care Homes can go a long way in addressing health disparities for our region. Other critical variables include the recruitment and retention of highly qualified providers to serve as the hubs of primary care homes, coordinating care between health care systems to navigate barriers such as transportation, housing, medication management, and complicated insurance claim processing.

SUBSTANCE USE AND MENTAL HEALTH

Substance use and behavioral health disorders impact families, schools, workplaces and the community. They can cause long-term health problems; lead to premature death; and contribute to injuries, abuse and violence. Identifying difficulties which are early signs and symptoms of adverse substance use and behavioral health outcomes and preventing those symptoms, increases the chances of an individual to live a healthy life. Among adults reporting a mental or substance use disorder in their lifetime, more than half report the onset occurred in childhood or adolescence. As a result, it is important, that children reach the milestones of healthy development.

Even from early ages social, emotional, cognitive, and other skills help young people grow into healthy adults. Because successful development in childhood, adolescence and early adulthood is critical to preventing substance use and mental health disorders, this report provides a substantial amount of data about youth. Whenever possible, the adult prevalence data have been split into adults 18 to 25 years old and those 26 or older.

It is worth noting that the qualitative data in the Community Themes and Strengths report suggests Curry residents have strong awareness on their communities. The three most predominant health risks identified were all related to substance abuse: alcohol abuse and dependence, illicit or prescription drug abuse, and youth drug and alcohol abuse. Secondary risk factors identified were unhealthy eating and weight control, family and domestic violence, and tobacco use. These

conditions are often attributed as a contributor to, or a reflection of, mental health and/or substance abuse disorders.

The quantitative data on substance and mental health has been collected over several months and, as much as possible, is longitudinal. Data sets are derived from the Addictions and Mental Health, Curry County’s Epidemiological Data on Alcohol, Drugs and Mental Health 2000-2012, and CCH’s EHR.

Dependence Abuse and dependence are clinical terms used to characterize patterns of drug and alcohol use, resulting in significant social, psychological, and physical problems for the user and others. Persons meeting the criteria for abuse or dependence from the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-IV) need treatment services. (National Survey on Drug Use and Health, 2008-2012)

Figure 17

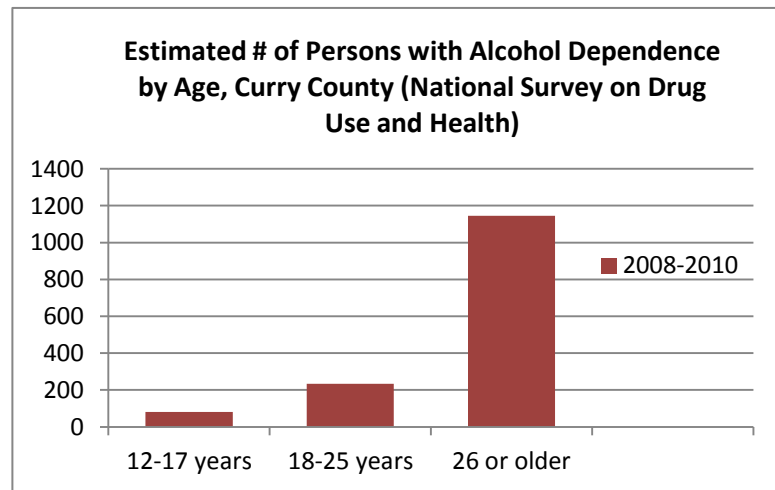
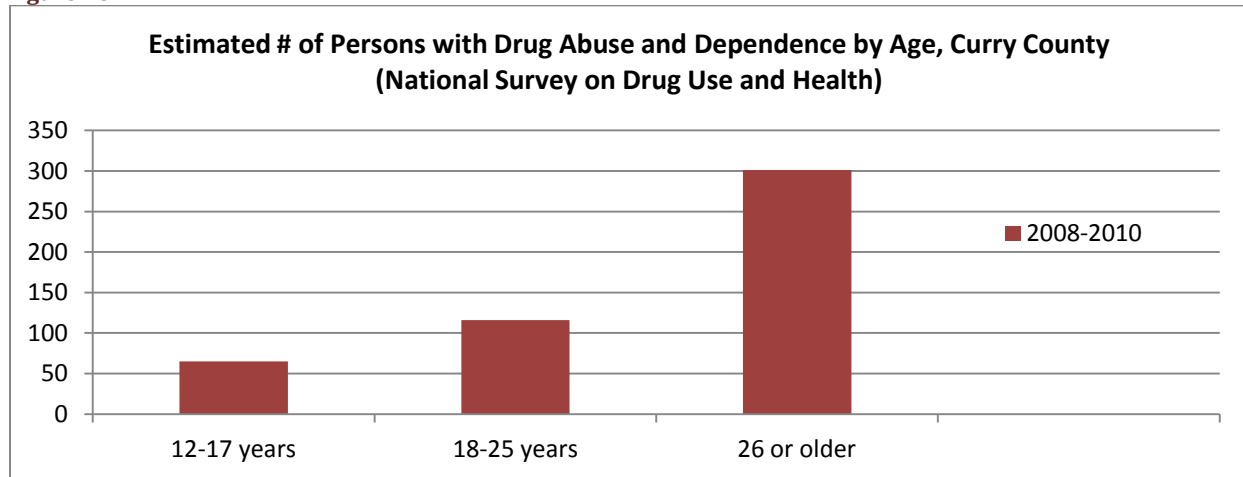


Figure 18



Motor Vehicle Injuries From 2000-2005, 53% of automobile accidents were alcohol related; 70% higher than the state average. Since 2005, the number of fatalities has declined significantly to 25%, 65% lower than OR average. This dramatic drop could be a present reflection of fewer individuals driving under the influence. Decreases might also be attributed to increased numbers of DUI arrestees who’ve successfully completed treatment.

Other variables might include harsher penalties for DUI’s, more awareness about the impact of drinking and driving, and an increase in law enforcement in the Brookings-Harbor area. Since 2005, the availability of taxi-services has also increased exponentially in Brookings-Harbor, providing a much needed alternative to driving or riding with friends under the influence.

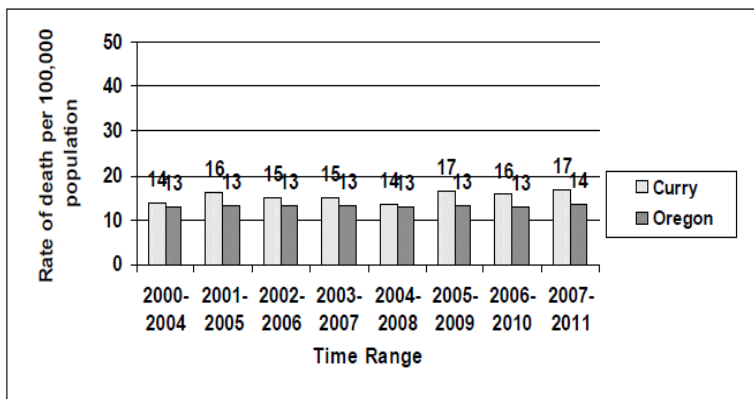
Based on data from July 2011-January 2013 from CCH, 640 Curry residents received alcohol and drug treatment services over nineteen months. Data appears to represent roughly 47% of the 1350 individuals estimated to be abusing or dependent on alcohol and/ or other drugs. This might suggest a bright spot- Curry residents seek and receive treatment at a higher rate than the state or national average. Of these, 482 are male and 212 female. Data on specific age groups for individuals in treatment are not presently available. This data collection is a critical aspect of refining the community needs assessment to reflect as many subgroups as possible.

Drug and Alcohol-induced Death Death related data based on rates of alcohol-induced deaths per 100,000 population also includes alcohol induced disorders such as degeneration of the nervous system and Cardiomyopathy. Drug related death data is based on the rate of death from drug-induced causes per 100,000 population, age-adjusted. Examples include drug psychosis, drug dependence, suicide, and intentional and accidental poisoning that result from drug use.

Figure 19

Rate of Death From Alcohol-Induced Disease per 100,000 Population, Age-Adjusted

All Ages



Data Source: Death Certificate Data

Curry's rates of death from alcohol are higher than the state average, but not unusual given Curry's rural nature, poverty rates, and alcohol acceptance as a social norm. It is important to note that alcohol-induced death reflects multiple causes of mortality including cancer, liver failure, and other alcohol related causes.

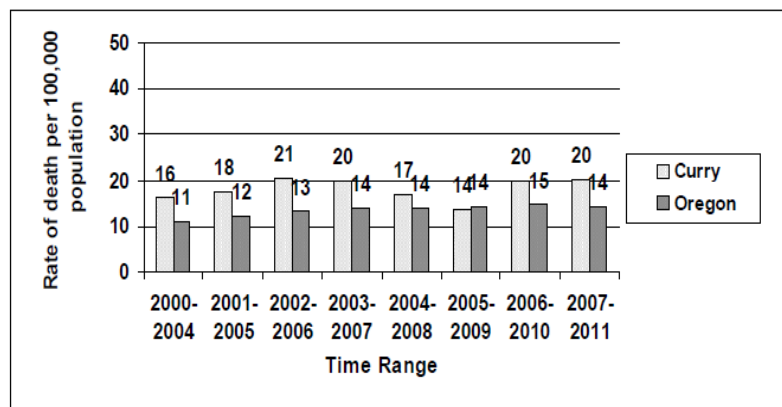
Curry's rates of drug-induced death are higher than the state average and appear to be increasing. As indicated in many previous sections of this

Alcohol is a known carcinogen. A causal link has been established between drinking alcohol and cancers of the mouth, pharynx, esophagus, colon, rectum, liver, larynx and breast. Alcohol consumption is a leading cause of chronic liver disease. Drug-induced deaths may be the direct result of any of a number of prescriptions, over-the-counter or illicit drugs such as opioids, sedatives, cocaine, stimulants, hallucinogens and solvents.

Figure 20

Rate of Death from Drug-Induced Causes, Age-Adjusted

All Ages



Data Source: Death Certificate Data

report, rates in small population sizes can see significant increases with one additional death in a 4 year period. Raw numbers are unavailable and should be given confidentiality associated with small sample sizes.

Psychological Stress, Youth From 2004-2010, approximately 7.5% of Curry 8th grade girls and 4.3% reported psychological stress, these percentages have a 0.025% deviation for 11th graders by age group. Given there is neither a sharp increase nor decline between 8th and 11th graders over a six year period, one might assume the numbers are relatively appropriate targets for early intervention.

It should be noted that the psychological stress for youth percentages are slightly lower than the self-reported data on suicide attempts: 10% of 8th graders attempted suicide from 2004-2010 in comparison to the statewide average of 7.5%. In the same period, there seems to be a relative decline in suicide attempts among 11th graders at 5.5%. Unfortunately, CCH data for individuals under age 18 only reflect individuals in crisis, not the total enrolled in services. In total, 75 youth under age 18 have received crisis services since July 2011.

Mental Health Service Data From July 2011 to present, 929 individuals have been served by Curry's Community Mental Health Program. Of these, 513 are female and 416 are male. 391 clients over 19 were seen for crisis services. Unfortunately, CCH data for individuals under the age 18 only reflects individuals in crisis, not the total number enrolled in services. This makes it difficult to determine the most likely diagnoses by age groups or sub populations, including gender and race.

Of the 929 individuals seen by CCH's mental health program, the most common diagnosis is major depressive disorders (22%). Other common disorders noted are anxiety disorder (17%), adjustment disorder (20%), post-traumatic stress disorder (6.3%), and bi-polar disorder (6%). Other diagnoses, attributed primarily to children are: ADHD (4%), impulse or oppositional defiance disorders (2.4%), and physical or sexual abuse of a child (.004%). The remaining 13% represent small percentages of less common conditions including kleptomania, obsessive compulsive disorders, and eating disorders. Roughly 2% of individuals seen report alcohol and/or drug dependence. 7% have been seen but not yet given a diagnosis.

As the Community Health Needs Assessment continues to refine its final products, more attention will be paid to obtaining specific diagnosis data for sub-groups in preparation for meeting the needs of special populations in future planning.

CONCLUSIONS

Health outcomes (morbidity and mortality) are a reflection of the current health of the county. Interventions are targeted at improving health outcomes by changing individual, group, or population health status. Effective interventions work up-stream, preventing conditions from starting or worsening. Socioeconomics and health behaviors are undividable from health outcomes as numerous research studies have demonstrated and as viewed within this community health assessment. Several areas of this report demonstrated how mental health and physical health are also inextricably connected. During our focus groups and community surveys, core themes of social connections, economic opportunity, reduced substance abuse, and physical activity in our natural landscape reverberated consistently, an acknowledgement that our citizens understand the social determinants of health in our communities. As community health improvement planning efforts

unfold, it is important to continue to incorporate the voice and perspective of our citizens. An effective community health improvement plan will require the concerted efforts of the entire local public health system in Curry County. Curry Community Health will not be the sole driver of improved health outcomes, but the convener of innovative thinking and action across the spectrum of Curry's public health system.

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