



Clatsop County
Serving Northwest Oregon *Oregon*

Community Assessment:

A collaborative effort to create a foundation of shared knowledge about the community



July 2013

Community Assessment:

Clatsop County

Contributors

Steven Blakesley, Health Promotion Specialist, Clatsop County Public Health

Janet Evans, Director, Clatsop County Juvenile Department

Margo Lalich, Past Director, Clatsop County Public Health

Jill Quackenbush, Prevention Supervisor, Clatsop County Juvenile Department

Technical consultants

Viktor Bovbjerg, Oregon State University

Emily Masri, Oregon Health and Science University

Date

July 1, 2013

Table of contents

Executive Summary	3
Introduction	8
Clatsop County	10
Health and Well-being	14
People	14
Family	31
Environment	38
Individual and community well-being	49
Opportunities	51
Limitations	53
Next steps	54
References and resources	55

Executive summary

Purpose

This community assessment is a collaborative effort, with the goal of creating a foundation of shared knowledge about the community in Clatsop County. Its impetus stems from four major, and related, statewide efforts:

1. Increased emphasis on early childhood and early learning;
2. Health transformation in Oregon;
3. Accreditation of local health departments; and
4. Connecting The Dots; a local framework to guide social/human services.

In addition to providing general information to county officials, organizations, and citizens, this assessment will inform all four efforts, and enable them to coordinate their efforts to improve well-being for all Clatsop County residents.

Clatsop County

The place, people, economy, and government of Clatsop County are the context for individual and community health and well-being. While individual level health, healthcare, health behavior and social services make important contributions to the county's status, these contextual factors also contribute tremendously to the health and well-being of its residents. Many of the factors underlying well-being in Clatsop County, including the recent economic downturn, mirror trends in Oregon and the United States.

Three areas in particular are likely to have a profound effect on the health and well-being of the county and its residents. First, Clatsop County is aging: the county has lower birth rates compared to Oregon as a whole, and a greater portion of its population is over 65. This will drive demand for both healthcare and social services. Second, while high school diploma rates are slightly above that of Oregon as a whole, the proportion of citizens with bachelors' degrees is substantially lower. In an era of technologically oriented employment, this may limit the ability of residents to achieve career and financial goals, and for the county to attract businesses which rely on a more highly educated workforce. Current initiatives, such as the governor's emphasis on early learning, support goals leading to success in workforce development. Third, while wages and median household income are somewhat lower in Clatsop County compared to Oregon, unemployment and poverty rates in Clatsop County have been below that for the state, suggesting that the county is weathering the current economic downturn at least as well as others.

People

Many county residents almost never have unhealthy days, but a small number of residents spend most or all of their days with significant health challenges. Clatsop County, like the state and the nation, face an aging population with increased prevalence of chronic conditions, which in turn has substantial impact on quality of life, need for community support systems, and demand for healthcare. Not surprisingly, Clatsop County residents have higher rates of chronic disease—arthritis, cancer, high blood pressure—typically associated with age, individual and social behavior, and the built environment. For instance, diabetes rates in the county and state have roughly doubled since 1995, and represent a substantial current and future burden on

quality of life and healthcare utilization in Clatsop County, as diabetes contributes substantially to the onset and severity of other chronic conditions, particularly heart disease.

These larger trends are reflected in causes of death in Clatsop County, which are dominated by natural causes and unintentional injuries, and have remained stable in the recent past. Most deaths are associated with chronic disease, in common with the state and the nation. There are several areas of note, however:

1. Clatsop County appears not to have seen a substantial rise in suicide during the recent and ongoing economic down cycle, a phenomenon that has been speculated about during the current recession; deaths due to violence and injury are rare;
2. Clatsop County residents are more likely to die from drug-induced deaths compared to Oregon residents on the whole, and since these deaths generally occur at younger ages compared to other causes it represents an important cause of pre-mature death;
3. Though difficult to tease apart, tobacco related deaths in the county are important but roughly the same rate as the state;
4. Infant mortality, though always traumatic to individual families, is rare;
5. Unintentional injury deaths (i.e. accidents) are have become rare, likely reflecting changing patterns of employment and increased safety standards.

Rates of chronic disease, with few exceptions, are lower in children than in adults—most chronic diseases become common only in middle age and later. Chronic conditions in childhood, however, are a concern for two major reasons: first, if they cannot be cured, it commits both the individual and community to care for that person for a lifetime rather than one or two decades of later life; second, chronic disease in young residents may be a marker for larger behavioral, social, and environmental challenges. For instance, the national increase in body weight certainly contributes to much of the chronic disease in the county, particularly for diabetes, heart disease, and some cancers. Trends in both Oregon and the US over the past three decades show that childhood obesity has gone from a very rare condition to one that affects a large and growing proportion of school aged children in the county and the state. Childhood overweight and obesity, while associated with chronic conditions in childhood, is strongly associated with overweight and obesity in adulthood. As both conditions become more common at early ages, the chronic conditions associated with them also become more common at early ages, with substantial implications for decreased quality of life, increased disability, and increased use of healthcare resources and other support systems.

Rates of current and future chronic disease are tied closely to behavior and the environment. While dietary patterns in Clatsop County are not markedly better or worse than those of the state as a whole, changes in dietary patterns in the county could make a substantial long term contribution to well-being and health, primarily through reduction in rates and later onset of chronic disease. Physical activity levels among county adults mirror those of the state, with about half the population achieving recommended levels. Clatsop County youth, while having considerable room for improvement, report greater rates of physical activity than their Oregon peers. If these rates are improved upon, not only will individual health be enhanced, but community norms around increased activity will be enhanced. Tobacco use in Clatsop County is above that for Oregon as a whole among adults, children, and expectant mothers. Since smoking during teen years is associated with adult smoking, high rates of smoking uptake in high school will lead to high rates among adults, resulting either in continued high rates of smoking related illness, or substantial resource requirements for cessation programs. Tobacco use in the county represents a substantial challenge, but also an opportunity to make substantial improvements in health and well-being.

Among youth and young adults, poor mental health can be a substantial barrier to achieving academic and economic success. Clatsop County's rates of psychological distress and depression mirror those of the state, but at nearly 10% for both adults and children constitute an important burden both on individuals and the community. Though based on small numbers, self-harm and attempted self-harm has fluctuated over recent years, and trends in future years should be monitored closely.

Addictions are closely tied to mental health, crime, and family well-being, as well as to physical health. Tobacco use is greater in Clatsop County than in Oregon as a whole. Recent data suggest Clatsop County residents consume alcohol at rates close to those of Oregon as a whole, but that county men may be more likely to be binge or heavy drinkers. Alcohol is also the most commonly used substance among county youths, at rates somewhat above the Oregon average; because teenage drinkers are more likely to develop addiction than those who start later, this is a matter for concern. Youths in Clatsop County are more likely to abuse both marijuana and prescription drugs, compared to their Oregon counterparts (figure 10). This elevated rate in the county for 11th graders has been consistent since at least 2002. In Clatsop County, alcohol and drug use is higher among pregnant women receiving care through county agencies, and has risen somewhat recently, though trends are not yet clear. Gambling is no more common in the county than in the rest of Oregon; gambling is common among county youth, and for a minority gambling may already be a problem.

Crime is not often considered in "traditional" community assessments, but it has a substantial impact on both individual and collective quality of life, social and economic standing of individuals and communities, direct and indirect impact on health, and attractiveness to businesses and organizations seeking to relocate or start up. Crime rates overall have been dropping in the county, as they have across the state and nation.

Family

Families set the stage for growth and success in childhood and for economic and social well-being in adulthood. Negative influences, such as child abuse or hunger and food insecurity, may set children up for academic challenges, problematic social behavior, or criminal activity. Whether due to actual increases or reporting changes, Clatsop County has consistently reported substantially more domestic disturbances per person than the state as a whole, and rates of threatened child harm have generally been rising, though rates of child abuse and neglect have remained fairly stable. Family well-being is influenced by economic conditions. Poverty levels in Clatsop County have also risen during the current economic downturn, as they have across the state. For a small but important group of county residents, homelessness is a challenge, usually resulting from inability to afford housing; 35% of homeless were children.

Juvenile crime is not evenly distributed around the county, and is likely strongly tied to a number of risk factors, including substance use. Juvenile arrests in both Clatsop County and Oregon follow the overall crime rates, with general reduction in juvenile arrests over the past couple of decades. The drop in juvenile arrests may represent primary prevention of crime by juveniles, or success at preventing repeat crimes by first offenders; by diverting the vast majority of youthful offenders, the county realized substantial cost savings and provided offending youths the opportunity to remain in the community. The drop in crime and juvenile arrests, while paralleling larger trends, remains an opportunity for the county to consolidate gains and assure resources are in place to prevent an uptick.

Environment

Individual factors, including behavior, are strongly associated with health and well-being. These individual factors, however, are embedded in an environmental context. For Clatsop County, the environmental context includes institutions and social organizations, the built environment, and the natural environment. Environmental influences can both promote health and well-being, or discourage them.

Healthcare. Clatsop County has fewer physicians and mental health providers per person compared to Oregon as a whole, but are equivalent in dentists per person. Most healthcare providers are in major population centers on the coast; for rural residents, the location of services and low clinician numbers certainly translates into reduced access to care. There are many potential indicators of adult healthcare adequacy. Two commonly used metrics available at both the county and state level, which have implications for early disease detection and secondary prevention of downstream complications, are diabetes testing (fasting glucose tests) and mammography for women. Indicators of healthcare access for adults are similar to those for the state as a whole, though access to early prenatal care has dropped with the current economic downturn. Access to dental care is viewed as a challenge in Clatsop County, as it is in many areas of Oregon. Specific data on dental care access in children is sparse. Mental healthcare is fragmented and poorly documented in Clatsop County.

Education has a profound impact both on immediate health and well-being, and on long term life outcomes, including social, economic, and physical well-being. Early learning may play an important role in setting children up for later academic success. Falling dropout rates in Clatsop County schools mirror a state trend over the past two decades. Measures of academic proficiency, which indicate to some extent school climate, suggest that Clatsop County is consistent with state rates, both for 2011 and the most recent 5 years, but with considerable room for improvement. The relatively lower proportion of residents with four year college degrees may reflect lack of educational opportunities, or may be the result of residents either leaving to obtain degrees, or leaving after obtaining degrees for occupational opportunities.

In the most recent county health rankings, Clatsop County was ranked 12th in Oregon, compared to all other counties, in access to recreational facilities, suggesting that Clatsop County residents have greater than average access to recreational facilities. There are fewer fast food outlets in the county compared to Oregon as a whole, and only 2% of residents are classified as having limited access to healthy foods; there are more liquor outlets per person than the Oregon average, however. Oral health contributes to disability and chronic diseases in adults, and learning outcomes in children. Only 19% of residents were without fluoridated water, although those without tended also to be in areas with limited geographic access to dental care.

In general, Clatsop County's natural attributes—clean air, open spaces—promote activity and health, though precipitation and overcast may dampen activity to some extent. That same coastal environment also represents the greatest potential for sudden massive public health threats, due to earthquakes and associated tsunamis. Ongoing efforts to mitigate the effects from such events are warranted.

Opportunities and the road ahead

Health and well-being result from many different influences, often acting over the entire lifespan. In Clatsop County, the early indicators of future health status—children in poverty,

diet and activity in school-aged children, youth tobacco and substance use—may have immediate impact on health, early learning, and educational success, but will also influence the health status of the county and its residents for decades to come. Likewise, early educational successes may improve crime rates years later. This complicates identifying areas for action—it is a major limitation of the current data available for assessment that they are not linked across topics and over time. On the other hand, it also means there are also likely to be many points at which action can be effective: Early intervention can break the pattern of accumulating risk across the lifespan, and collective effort to change the environment can enable individuals to make choices which promote health, well-being, and success. The current emphasis on alignment of family and youth services, identification of high risk children, and using program impact measures to tailor early childhood programs, is a good example of environmental and policy change which will lead to improved outcomes over time.

This report has identified potential areas for increased focus in health and disability, chronic disease control, substance use, crime, education, income and housing, healthcare, and the environment. These findings will be helpful to the extent they inform ongoing county efforts to coordinate services, improve healthcare access, and monitor the health and well-being of Clatsop County.

Introduction: Why this report, why now?

The Clatsop Community Assessment is the collection and analysis of information on the characteristics, trends, and needs of children and families in the county. It also details the resources available within the community. Our community assessment is focused on identifying issues and trends having the greatest impact on children and families. The assessment sought information and details that cover the entire county area.

The purpose of conducting this community assessment is to create a foundation of shared knowledge about the community in Clatsop County. This shared knowledge will help to guide the decision making process around program design and service provision. The community assessment will be used to reveal trends from internal and external data, support advocacy efforts, identify current and potential community partners, and act as a big picture tool for monitoring and evaluation of current efforts to improve the well-being of children and families. This report builds upon, and complements, several previous assessments done in Clatsop County:

- 2008 Children’s Health Insurance Program
- 2009 Healthy Communities Assessment
- 2010-11 CHANGE Tool Assessment
- 2011 Community Health Assessments per Providence Seaside Hospital and Columbia Memorial Hospital

The intent of this report is to provide a broader overview of the county, and to integrate to the extent possible the major influences on county health, early education, and well-being. This report is intended primarily for Clatsop County citizens, planners, organizations, and leaders, and focuses on themes and topics important to the county. Whenever possible, the report has used metrics identical to those of the state, for comparison and for consistency with state assessment efforts.

Four major external efforts make this the right time for this assessment

5. Major statewide emphasis on early childhood: as part of the Governor’s emphasis on education and early childhood, substantial reorganization has taken place at the state level, with implications for local government organization and service delivery, particularly in education and juvenile crime; detailed community level data will help to assure that programs are correctly targeted.
6. Health transformation in Oregon: major changes in disease prevention and healthcare are underway at the state and local level; the demands to reduce cost, improve care, expand access, and enhance population health demand comprehensive knowledge not only of the health and well-being of county residents, but the behavioral, social, and environmental influences on health and well-being.
7. Accreditation of local health departments: counties are preparing to document that their local health departments implement best practices and improve community health, through accreditation of their local health departments; the first step in accreditation through the Public Health Accreditation Board is a comprehensive community assessment.
8. To inform Connecting The Dots; a local consortium of diverse community agencies and stakeholders who will provide a framework to guide and improve the current social

service delivery system through collaboration,, and assessment, resource development.

This assessment will inform all four efforts, and enable them to coordinate their efforts to improve well-being for all Clatsop County residents.

Clatsop County

The place

Clatsop County, in northwest Oregon, is bordered on the north by the Columbia River and on the west by the Pacific Ocean. To the east Clatsop County is bounded by Columbia County and to the south by Tillamook County. The county has a total area of 1,085 square miles, of which 827 (76.26%) is land and 258 (23.74%) is water.



The distinguishing features of the coastal terrain include a coastal plain of varying width, coastal valleys, and the Coast Range. The Clatsop County climate is characterized by wet winters, relatively dry summers, and mild temperatures throughout the year, with heavy precipitation and strong Pacific storms in the winter.

In Astoria the average winter cloud cover is over 80 percent. In the summer cloud cover only drops about 15 percent.

There are five incorporated cities within the county (Astoria, Cannon Beach, Gearhart, Seaside, and Warrenton), all of which are located along the coastal edge of the county. The county seat is Astoria and most of the county offices and services are located there as well. The county is served by three major surface transportation routes:

- US 26, connecting to Portland through the county interior
- US 30, connecting to Portland along the Columbia River
- US 101, running north-south along the coast

A single rail line connects Astoria with Portland, but is currently inactive.



The people

Clatsop County, created in 1844, was named for the Clatsop tribe, one of the many Chinook tribes which lived along the coast prior to the arrival of European settlers. Explorers Lewis and Clark ended their journey to the Pacific Ocean at the mouth of the Columbia River in 1805, building Fort Clatsop to protect them from the rough winter weather. Astoria, Oregon's oldest city was founded in 1811, and Seaside was founded in the early 1870s.

The population of Clatsop County differs in important ways from the state of Oregon. Oregon Vital Statistics data from 2009 show that the birth rate in Clatsop County (10.5 per 1000) is substantially lower than the rate for Oregon as a whole (12.3/1000), a finding that has held for the past decade. Partly as a result, Clatsop County has smaller proportions of its population under age 5 and under age 18, and a greater proportion over 65 years, compared to the state (see table below). In addition, the county has not grown in population at the same rate as the state over the past decade. The changing demography has important implications for services and county resources. As the population ages, demand for healthcare services and social services

related to aging will rise, along with chronic health conditions and the need to manage them. At the other end, historical per student funding for education will decrease, as school districts experience declining enrollments; other services which are similarly funded will experience shifting resources. Ultimately, fewer employed workers will be called upon to support an increasing group of older adults.

Table 1. Demographic characteristics, Clatsop County and Oregon

Demography	Clatsop	Oregon
Population, 2011	37,153	3,871,859
Population, % change, 2000-2010	+4.0	+12.0
Population by age, 2010, %		
Under 5	5.5	6.1
Under 18	20.2	22.3
65 and older	17.2	14.3
Female, percent, 2010	50.4	50.5
Population by race/ethnicity, %		
White	93.7	88.6
Black	0.7	2.0
American Indian/Alaska Native	1.3	1.8
Asian	1.4	3.9
Hawaiian/Pacific Islander	0.3	0.4
Multiple	2.7	3.4
Hispanic	7.8	12.0
Language other than English at home, %	7.8	14.3

Clatsop County is less racially and ethnically diverse than the state overall, and much less so than the nearby Portland metropolitan area (see table 1). In every category of race/ethnicity, Clatsop County is less diverse than Oregon. Clatsop County has a rapidly growing Hispanic population, however, and it is likely that the originally published figures for 2010 were an undercounting of the Hispanic popula-

tion, and that it has grown since 2010 at rates greater than for other race/ethnicity groups.

The majority of county residents live along the Pacific coast or Columbia River, in or near one of the five incorporated cities. Overall, household composition and living arrangements are similar to those of the state as a whole, with fairly stable homes for the majority of residents, and housing values near the state average.

Table 2. Household characteristics, Clatsop County and Oregon

Housing	Clatsop	Oregon
Living in same house >1 year 2006-2010	79.2%	81.5%
Homeownership rate, 2006-2010	62.0%	63.8%
Housing units in multi-unit structures, percent, 2006-2010	22.7%	23.3%
Median value of owner-occupied housing units, 2006-2010	\$253,100	\$252,600
Persons per household, 2006-2010	2.18	2.45

Clatsop County residents are only slightly more likely than all Oregon residents to have a high school diploma, but are less likely to have achieved a bachelor's degree or greater post-secondary education (see table 3).

Table 3. Educational attainment, Clatsop County and Oregon

Education	Clatsop	Oregon
% over age 25 with HS diploma	91.1%	88.6%
% over 25 with at least bachelor's degree	21.6%	28.6%

These figures may represent lower likelihood of Clatsop County's younger residents to go on to post-secondary education, or greater likelihood of residents with post-secondary education to migrate away from the county. Regardless, the disparity in post-secondary education has important implications for supporting the broadest range of economic opportunities for Clatsop County residents; the ability to attract and retain businesses and employees is tied to the education and educational opportunities of communities.

The 2011 Clatsop County Data Book reported a drop-out rate in Clatsop County secondary schools of 4.9 percent, compared to Oregon's statewide average of 3.4 percent. The highest dropout rates were in the three districts with the largest enrollments: Astoria, Seaside, and Warrenton-Hammond. This elevated dropout rate is cause for concern in its own right, but also because dropout is associated with poorer social, economic, and health outcomes.

The economy

The abundance of natural resources and prime position along the Columbia River allowed Clatsop County to develop as both a resource- and transport-intensive economy, with traditional industry focused on logging, agriculture, and fishing. While these industries remain, their relative importance has lessened, and substantial proportions of residents are engaged in tourism and service occupations. Like other northwest coastal resource-based communities, Clatsop County is working to diversify its economy to offset the loss of family-wage jobs in the timber and fishing industries. Today major employers include Georgia Pacific, Columbia Memorial Hospital, Providence Seaside Hospital, Management Training Corporation, State of Oregon, U.S. Coast Guard, Fred Meyer, Safeway, Steve Martin Management (visitor accommodations), Clatsop County government, and the Astoria School District.

Using 2010 data from the Oregon Employment Department, Clatsop County's civilian labor force was 21,127, at which time 19,141 persons were employed. Per capita income in the county was comparable to the state, though household income was somewhat lower in Clatsop County compared to the state as a whole (see table 4).

Table 4. Household characteristics, Clatsop County and Oregon

Income	Clatsop	Oregon
Per capita income, 2006-10	\$25,347	\$26,171
Median household income, 2006-2010	\$42,223	\$49,260
Proportion of residents below poverty, 2006-2010	12.8	14.0

The proportion of county residents living in poverty was slightly below that for the state. Clatsop County's unemployment rate is one of the lowest in the state. The 2010 annual average unemployment rate in Clatsop County was 9.4%, below Oregon's 10.8%. The current (February 2012) county unemployment rate is 7.5%, compared to the Portland metro area at 8.1% and the state 8.8%. Mean wages tend to be lower in Clatsop County than in the Portland metropolitan area, for similar work, though this disparity does not take into account differences in cost of living between the county and the metro area.

The government

Clatsop County is governed by a Board of Commissioners. County commissioners are elected by geographic districts to four-year terms. There are five commissioners representing the five districts in the county: District 1 includes western Astoria as well as Warrenton and Hammond; District 2 includes the south of Warrenton to the center of Seaside and the city of Gearhart; District 3 includes central Astoria as well as Miles Crossing, Jeffers Garden, Fort Clatsop, Lewis and Clark, Young's River, Olney, Green Mountain and part of Walluski; District 4 includes the eastern portion of Astoria to the eastern border of the county, including Svensen, Knappa and Westport; District 5 includes the southern portion of Clatsop County including Cannon Beach, Arch Cape, Elsie, Jewell and Hamlet and portions of Seaside.

The Board hires the County Manager to carry out its policies and oversee the day-to-day operations of the county government. Commissioners serve on county-related committees, and most relevant to this document, serve as the County Board of Health, and oversee the Commission on Children and Families. Clatsop County is one of nine home-rule charter counties in Oregon. Home rule charters are county rule books, much like constitutions, that allow local citizens to craft their own laws rather than relying on state statutes.

It is in this context of the place, people, economy, and government that the health and well-being of the county is set. While individual level health, healthcare, health behavior and social services make important contributions to the county's status, these contextual factors also contribute tremendously to the health and well-being of its residents. What follows is an accounting of the health and well-being of Clatsop County's residents, and the behavioral, social, and environmental factors which contribute to health and well-being in the county.

Health and well-being: People

Mortality—death—is only one measure of health, and probably not the best one in Clatsop county. Health and well-being go beyond living and length of life, and include both objective measures of health status, such as disease states or injuries, and subjective measures, such as perceived physical and mental health. Both are important and related, yet distinct. This section attempts to summarize health and well-being in the county, with a particular emphasis on health conditions that affect our youngest residents, children. The information presented here are *indicators* of health and well-being, measures that are viewed as important markers for the overall health and wellbeing of county residents, but don't by themselves constitute a comprehensive accounting of every aspect of health and well-being in the county.

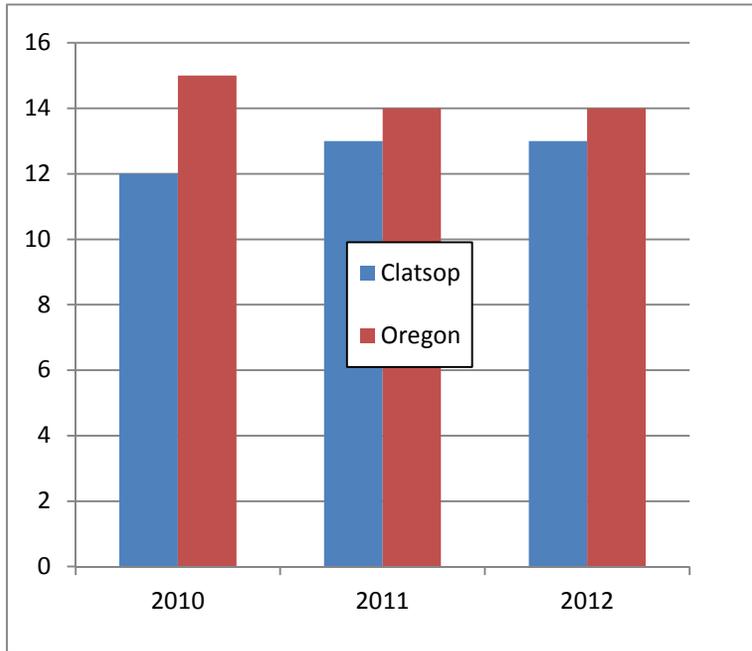
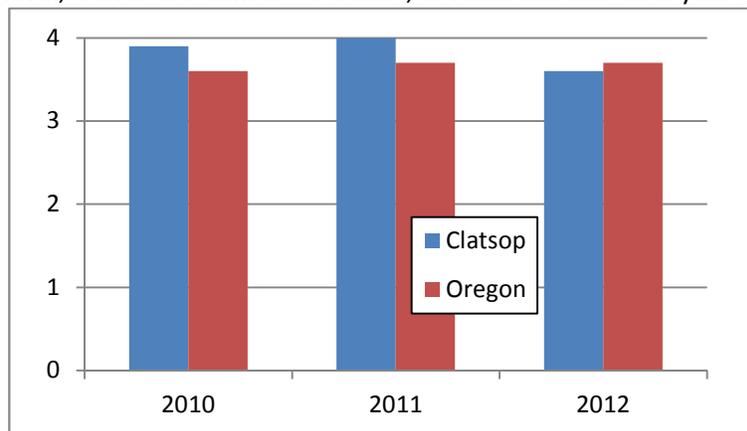


Figure 1. Percentage of adults reporting fair or poor health, 2010-2012, Clatsop County and Oregon

General health and disability

The proportion of adults reporting fair or poor health, a strong predictor of mortality and poor health status, has remained largely stable in recent years, and is comparable to the rates for Oregon as a whole. At the county level, trends are difficult to detect, as rates can fluctuate year to year based on statistical variation—for example, the estimate for 2010 is 12%, but statistical variation given the small sample size suggests ranges from 10-16%. Nevertheless, perceived health in Clatsop County is similar to that of the state as a whole, and has not fluctuated appreciably in recent years.



Broad measures of disability paint a similar picture. Clatsop County residents, on average, report approximately 4 days per month when they are physically unhealthy (figure 2). These rates are stable and consistent with Oregon rates in the recent past.

Figure 2. Self-reported physically unhealthy days in past month

The pattern is similar for mental health. Clatsop County residents, on average, report approximately 3 days per month when they are mentally unhealthy (figure 3). These rates have also been relatively stable and consistent with Oregon rates in the recent past. Together, these indicators suggest that while there are substantial physical and

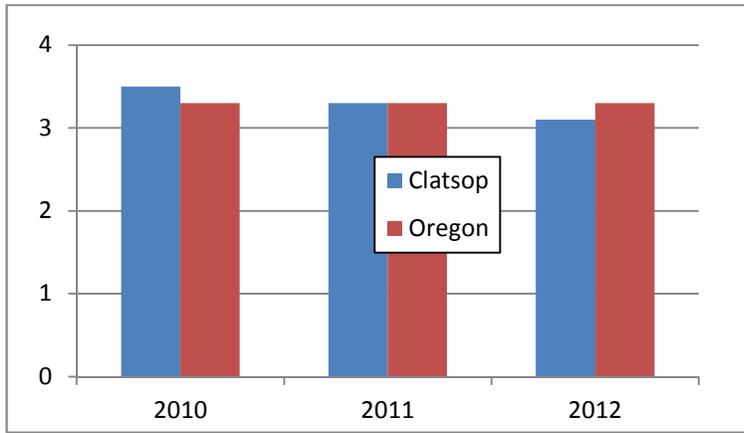


Figure 3. Self-reported mentally unhealthy days in past month

mental health challenges among Clatsop County residents, their rates have not changed in the recent past, and are similar to those for the state as a whole. It is important to remember, however, that mental and physical disability are not evenly spread in the population—the average unhealthy days reported here reflect the many county residents who almost never have unhealthy days, combined with the smaller number of residents for whom many or most days are unhealthy.

Many county residents almost never have unhealthy days, but a small number of residents spend most or all of their days with significant health challenges

Disability, defined as difficulty with self-care or independent living, has substantial impact across the entire community, from individual well-being to employability and income, to family caregiving and social services demand, to healthcare utilization. Disability is generally slightly more prevalent in Clatsop County than the state, both among adults under and over age 65. (Figure 4) In addition to the human and social cost of disability, higher levels of disability have county-wide productivity impacts.

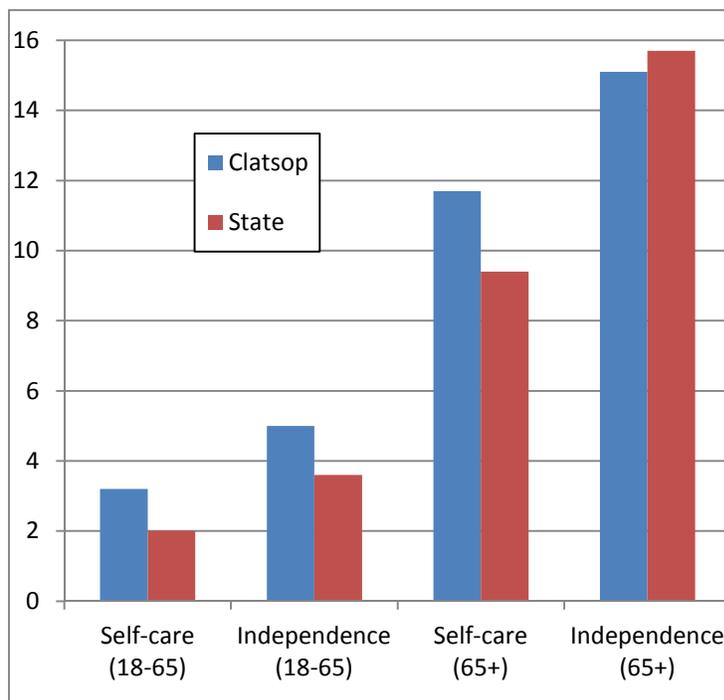


Figure 4. Percentage with difficulty in self-care and independent living, Clatsop County and Oregon, 2008-10, by age group.

Many citizens with developmental disabilities depend on family, private, and public resources to lead productive and meaningful lives. The number of people in Clatsop County with documented developmental disability has remained fairly constant over the past few years.

Adult chronic conditions

The vast majority of deaths in Clatsop County, as in Oregon and the US, stem from chronic noninfectious diseases such as heart disease, diabetes, and cancer. For the most part, these chronic conditions are strongly associated with increased age and with individual and social behavior, and with the built environment.

For instance, the various cardiovascular and metabolic conditions are strongly related to dietary patterns and physical activity, while cardiovascular diseases and many cancers are related to tobacco use. Clatsop County's chronic disease rates are similar to Oregon's for many conditions (table 1), and historical trends in chronic disease rates are likely similar as well.

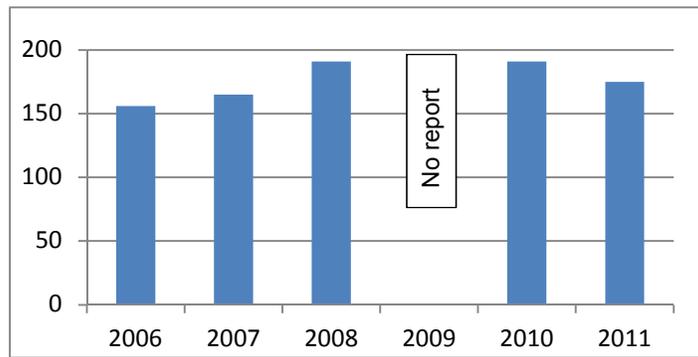


Figure 5. Number of people with developmental disabilities, 2006-11.

Table 2. Prevalence of adult chronic disease, Clatsop County and Oregon

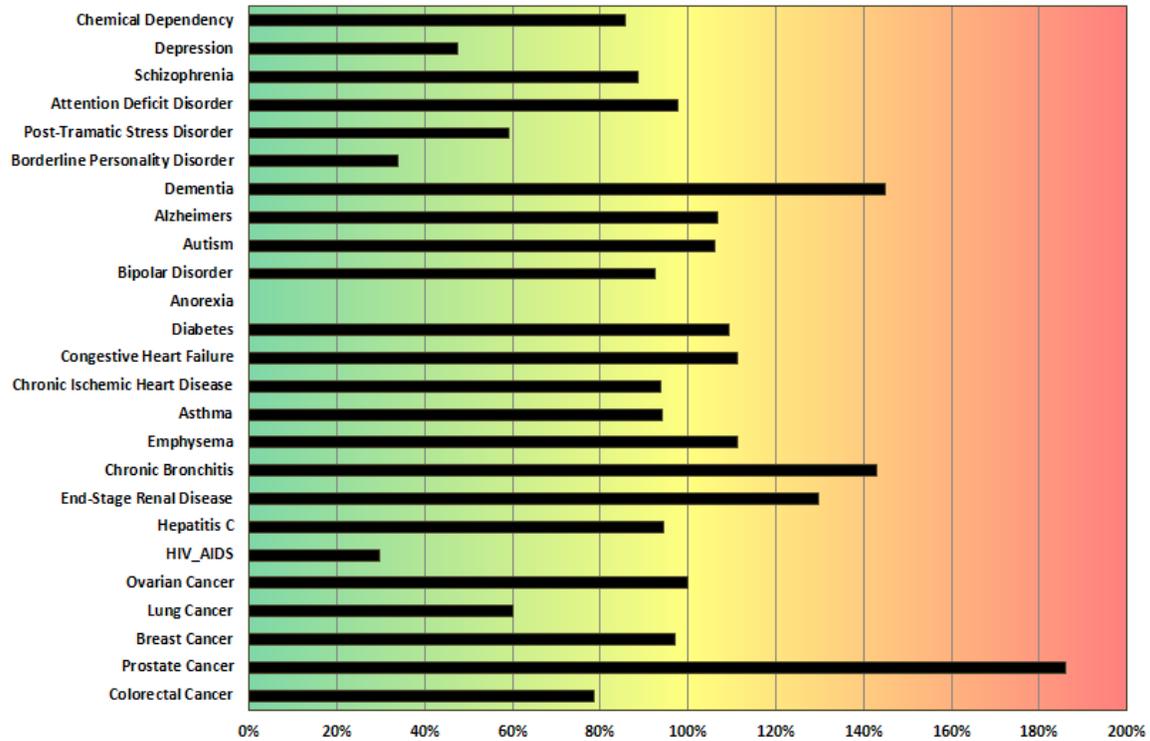
Condition	Clatsop County	Oregon	Period
Arthritis	39.1%	25.8%	2006-09
Asthma	10.0%	9.9%	2004-07
Cancer	480.2*	464.6*	2005-09
Diabetes	9%	8%	2012
	7.1%	6.8%	2006-09
Heart attack	3.9%	3.3%	2006-09
Stroke	2.8%	2.3%	2006-09
High blood pressure	33.9%	25.8%	2006-09
High cholesterol	28.3%	33.0%	2006-09
Obesity	24.8%	24.1%	2004-07

*Rate per 100,000

Diabetes is very likely to have risen substantially in Clatsop County over the past two decades. As recently as 1995, the Oregon rate was 4%, half of what it is today; risk factors for diabetes have changed across the entire US during that period, so it is reasonable to expect that diabetes has roughly doubled in Clatsop County during that period, as well. This increase represents a substantial current and future burden on quality of life and healthcare utilization in Clatsop County, as diabetes contributes substantially to the onset and severity of other chronic conditions, particularly heart disease.

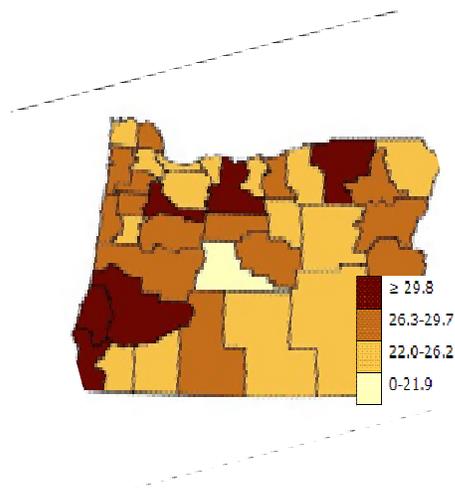
Clatsop County Chronic Conditions

County Prevalence Rate as Percent of Statewide Prevalence Rate



Among of the Oregon Health Plan members, Clatsop County OHP members seem more likely than their Oregon counterparts to be suffering from diseases common among older adults: prostate cancer, renal disease, heart failure, diabetes, and dementias (above). This may reflect the overall older age among Clatsop County residents.

Obesity is also roughly as prevalent in Clatsop County as in Oregon (see map below), but again these figures mask a state- and nation-wide upward trend in obesity over the past few decades. In 1990, approximately 11% of Oregonians were obese. In 2009, the figure was 26.6%, with little indication of slowing. Overall, approximately 60% of Oregonians were overweight or obese in 2009. The increase in body weight certainly contributes to much of the chronic disease in the county, particularly for diabetes, heart disease, and some cancers.



Clatsop County differs substantially from Oregon state rates for arthritis. Arthritis risk is increased by age, family history, sedentary lifestyle, overweight, joint injuries, infections, and trauma (occupational or recreational injuries), but there are no identifiable reasons for Clatsop County to be higher than the state average. The 2011 “Oregon Arthritis Report” speculated that higher rates in Clatsop and Douglas Counties might be due to greater prevalence of employment in forest products industry, and work- related trauma; while the highest rates in Oregon are focused on heavily rural counties, there is no strong evidence to support this claim.

Cancer rates are somewhat elevated in Clatsop County compared to Oregon as a whole, but the magnitude of the difference is not large and may not be consistent in the future. For instance, the most recent cancer surveillance rates identified Clatsop County as substantially higher than Oregon as a whole in cancers of the colon and rectum: 51.6/100,000 for the county vs. 42.7/100,000 for Oregon as a whole, during 2005-09. While this is cause for concern, the estimate for Clatsop County was based on 25 cases, and the margin of error was wide enough to make drawing firm conclusions impossible. Without robust cancer site-specific information at the county level, it is difficult to determine whether rates for specific types of cancer are higher in Clatsop County, or whether the apparent increased rates may be due to differences in detection or other factors not related to actual cancer development.

Overall, adult chronic disease rates in Clatsop County mirror those of the state, and are likely due to the same behavioral and environmental influences, listed later in this report. Clatsop County, like the state and the nation, face an ageing population with increased prevalence of chronic conditions, with substantial impact on quality of life, need for community support systems, and demand for healthcare.

Childhood chronic conditions

Rates of chronic disease, with few exceptions, are lower in children than in adults—most chronic diseases become common only in middle age and later. Chronic conditions in childhood, however, are a concern for two major reasons:

1. if they cannot be cured, it commits both the individual and community to care for that person for a lifetime rather than one or two decades of later life, and
2. chronic disease in young residents may be a marker for larger behavioral, social, and environmental challenges.

Childhood asthma is rarely fatal, but has substantial quality of life and healthcare resource implications. Asthma can be well controlled with appropriate primary care, and conversely can lead to repeated and expensive emergency department visits when poorly controlled. Triggers for asthma include both behavioral (e.g. activity) and environmental factors (poor housing, air pollution, including tobacco smoke) and other health conditions (e.g. colds, influenza). Rates of childhood asthma are similar in Clatsop County and Oregon; both rates represent a sizeable proportion of the population, considering the burden of asthma on children, their families, schools, healthcare resources, and the county.

Condition	Clatsop County	Oregon
Asthma		
8 th grade	12.3%	11.1%
11 th grade	9.5%	11.2%
Overweight		
8 th grade	14.4%	15.2%
11 th grade	14.5%	14.2%
Obesity		
8 th grade	10.1%	10.7%
11 th grade	15.4%	11.3%

Table 5. Chronic conditions in youth, Clatsop County and Oregon.

Overweight and obesity trends in children mirror those in adults, and are similar to those of Oregon as a whole (table 5). While long-term historical information at the county level is not available, trends in both Oregon and the US over the past three decades show that childhood obesity has gone from a very rare condition to one that affects a large and growing proportion of school aged children in the county and the state. Childhood overweight and obesity, while associated with chronic conditions in childhood, is strongly associated with overweight and obe-

sity in adulthood. As both conditions become more common at early ages, the chronic conditions associated with them also become more common at early ages, with substantial implications for decreased quality of life, increased disability, and increased use of healthcare resources and other support systems.

Perinatal conditions: Low birth weight

Low birth weight is a risk factor for future health and developmental challenges, and may be a marker for poor maternal health, health habits, or environment.

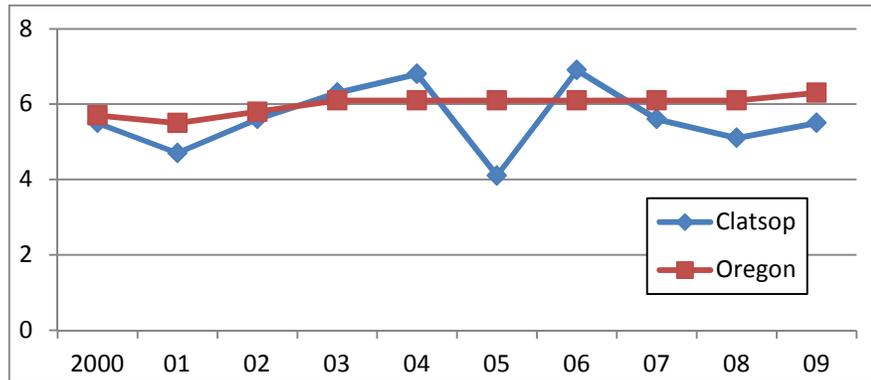


Figure 6. Percentage of low birth weight babies, Clatsop County and Oregon.

Rates of low birth weight have been stable at both the county and state level over the past decade (figure 6). As with infant mortality, year-on-year fluctuations at the county level are unlikely to reflect changes in the long term prevalence of low birth weight, or temporal changes in risk factors year to year. At no single year during the reported period were there more than 31 low birth weight babies in the county, so annual figures may be misleading due to small fluctuations—the long term rate is consistent with that of the state.

Mental health

Poor mental and behavioral health, while seldom immediate causes of mortality, often contribute to both injuries and chronic disease, and have disproportionate effects on quality of life, social and family function, employability and economic status, use of healthcare and social services, substance use, and crime. Among youth and young adults, poor mental health can be a substantial barrier to achieving academic success and attaining educational goals.

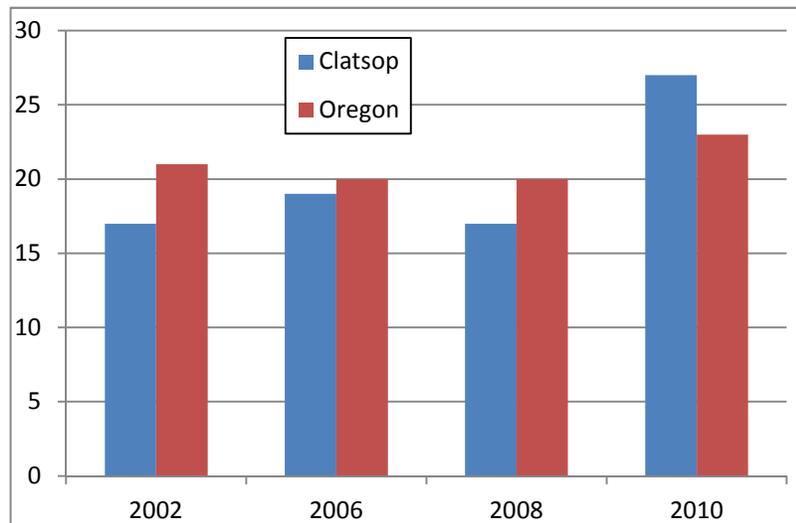


Figure 7. Percentage of 11th graders reporting depressive episode in past year, Clatsop County and Oregon

Among adults, rates for psychological distress in the past year were similar for Clatsop County and Oregon in 2002-04 (9% vs. 10%) and 2004-06 (11% vs. 12%). County and state rates are similar for major depressive episodes in the past year for 2004-06 (8% vs. 9%), reflecting the substantial contribution clinical depression makes to mental health status.

Mental health indicators are better documented for Clatsop County youth. In both Clatsop County and Oregon, rates of depressive episodes among 11th graders in the past year were higher in 2010 than in previous years, and for the first time the county rate exceeded that

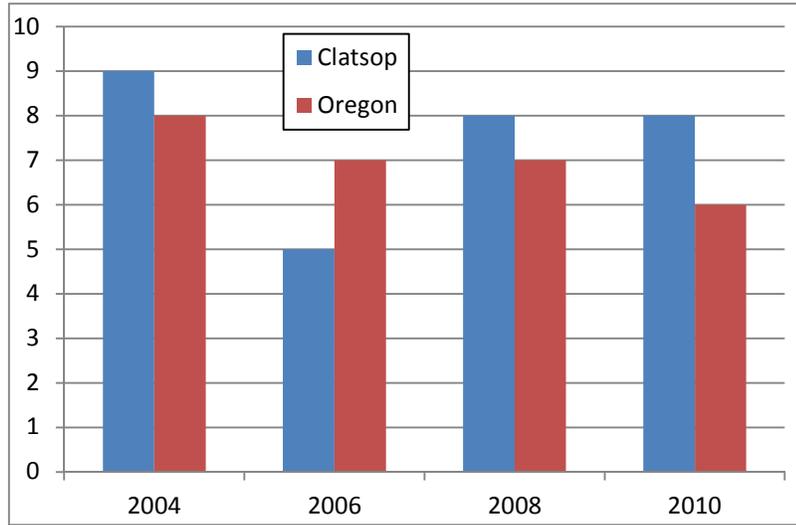


Figure 8. Percentage of 11th graders psychological distress in past year, Clatsop County and Oregon

of the state (figure 7). While the rates for 2010 are higher and substantially higher in the county, it is important to monitor this trend over time—if it returns to previous levels, the rise was likely either in response to a one-time influence, or the result of unpredictable variation. If the trend continues, however, this represents a major change in prevalence which will have profound implications if not addressed. The percentage of 11th graders with psychological distress, measured on a standard instrument, was much

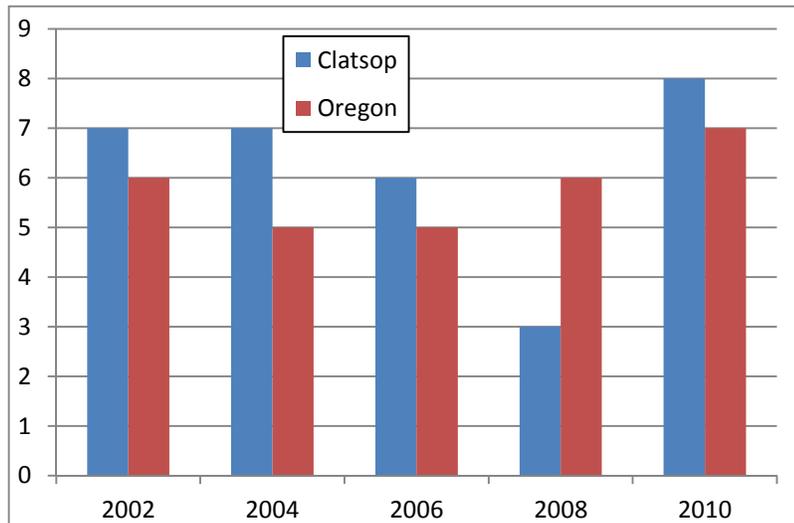


Figure 9. Percentage of 11th graders attempting suicide, Clatsop County and Oregon.

lower than for depressive episodes, but higher in Clatsop County than in the state in 2010—consistent with findings for depression (figure 8).

At the extreme, mental health challenges can lead to intentional injury and suicide attempts, completed or not. The proportion of youth attempting suicide has remained relatively stable over time, but again with a slight increase in the 2010 figures, mirroring the depressive symptom measure. Suicide attempt estimates, though, are based on far fewer absolute numbers, and it is therefore difficult to draw firm conclusions based on a single year. Because the data are consistent with the depression data, and because suicide attempts represent a strong marker for other physical and social problems, suicide attempts also bear close scrutiny in the coming years, to detect any upward trend and to take action to stem it.

In addition, some variation over time may result from differences in those responding to the surveys (e.g. not all schools participate every year), differences in the surveys themselves, and finally, variation coming from small numbers (e.g. suicide attempts per year).

Communicable disease

In 2010, Clatsop County had only 162 cases of reportable infectious disease, and 114 of those (70%) were cases of chlamydia. Of the remaining 48 cases, half were HIV—no other reportable disease made it to double digits.

In both Oregon and the US, there is substantial concern around resurgent childhood diseases, primarily due to declining rates of immunization. Clatsop County has not been an area of substantial “opting out” of immunization, and that is reflected in relatively modest rates of childhood infectious diseases, including pertussis (see map). There is considerable room for improvement in immunization rates, however, which will be detailed in the next section.



Individual activity, health, and well-being

Individual actions, both freely chosen and influenced socially or environmentally, are strongly associated with health and well-being. Important individual level *indicator* behaviors which have implications for health and well-being are summarized here, with the exception of healthcare services, which are characterized in the section on environmental influences on health and well-being.

Tobacco use

Tobacco use remains the top cause of preventable death in the US. Across the state, smoking is substantially less prevalent than at any time in the past several decades. Recently, however, improvement has been weaker, with an uptick among younger groups. In Clatsop County, smoking was more common in the recent past at all ages, compared to Oregon as a whole. A particular concern is smoking uptake during the teenage years; smoking rates are currently higher in 11th grade than in the general

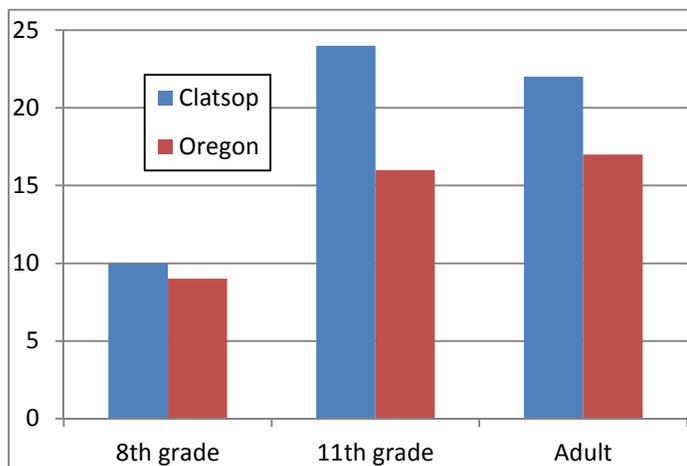


Figure 10. Smoking (%), Clatsop County and Oregon, 2006-09.

adult population. Since smoking during teen years is associated with adult smoking, high rates of smoking uptake in high school will lead to high rates among adults, resulting either in continued high rates of smoking related illness, or substantial resource requirements for cessation programs. There are parallel patterns, but lower rates, of smokeless tobacco use among men; male county residents were more likely to use smokeless tobacco in both 11th grade (18% vs. 14%) and as adults (13% vs. 6%).

Smoking among expectant mothers contributes to poorer neonatal health outcomes, and may influence early childhood health beyond birth. Smoking among pregnant women has remained stable at approximately 20% over the past decade. In 2009 the rate was 21.7%. While this is a substantial improvement over maternal smoking rates in the county in the early 1990s (26%), it is still well above the Oregon prevalence; tobacco use in 2004-07 was 20% for Clatsop County and 12% for Oregon. This represents a substantial challenge for the health status of mothers and children, but also an opportunity to make substantial improvements in health and well-being.

Addictions

Drug use, including excessive alcohol intake, is associated with poorer individual health, economic and social hardship within families, interpersonal violence, and crime. While substance abuse is not exclusive to any single age group, use among expectant mothers and children is concerning, both as threats to health and development among the most vulnerable county residents, and as indicators of potential larger social issues.

Alcohol use by adults largely parallels that for the state. Based on data from the mid-2000s, approximately half of Clatsop county residents (48% of women and 65% of men) had consumed any alcohol in the previous 30 days. More importantly for health and well-being, Clatsop County and Oregon had similar rates among women for binge drinking (9% vs. 8%) and heavy drinking (6% vs. 6%), while Clatsop County men were somewhat more likely to be binge (34% vs. 22%) or heavy (11% vs. 6%) drinkers.

Alcohol is the county's most widely used substance among youths, despite the fact that it is illegal to purchase and consume alcohol under 21 years of age. The brain goes through dynamic change during adolescence, and alcohol can seriously damage the growth processes. The American Medical Association warns that damage from early initiation of alcohol use may be irreversible. In addition, those that begin using substances before the age of 14 are five times more likely to develop addiction than those that began use after the age of 21. Data from the mid-2000s suggests that alcohol use and binge drinking were more prevalent in Clatsop County 8th and 11th graders than in Oregon as a whole. In 2010, Clatsop County children at all ages were more likely to have consumed alcohol in the past 30 days, compared to Oregon children (figure 11). By later high school ages, nearly half of Clatsop County children had consumed alcohol in the previous month.

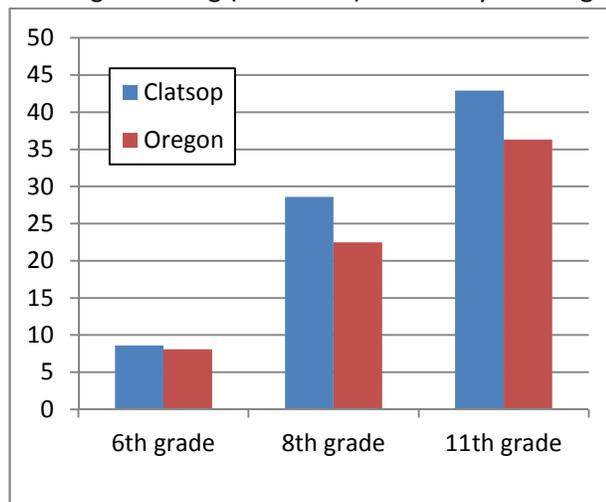
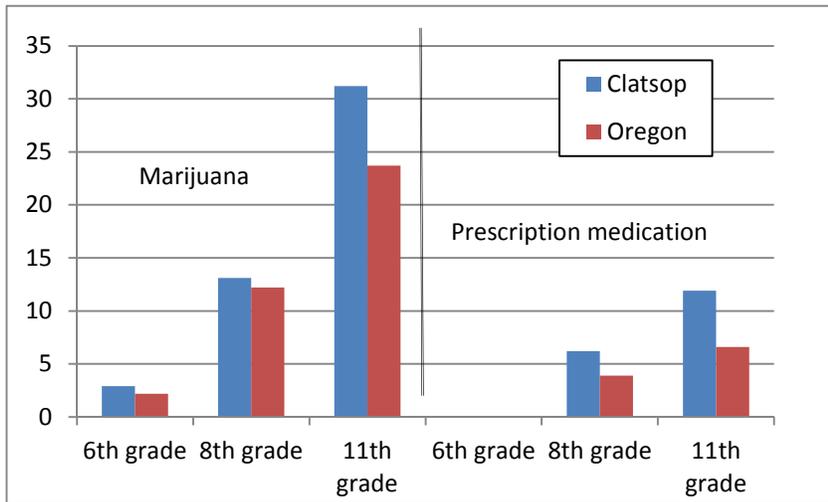


Figure 11. Alcohol use, last 30 days, by age, Clatsop County and Oregon, 2010

Data from the mid-2000s suggests that alcohol use and binge drinking were more prevalent in Clatsop County 8th and 11th graders than in Oregon as a whole. In 2010, Clatsop County children at all ages were more likely to have consumed alcohol in the past 30 days, compared to Oregon children (figure 11). By later high school ages, nearly half of Clatsop County children had consumed alcohol in the previous month.

The health risks associated with drug use are extensive and well documented. For instance, recent studies conducted by the Substance Abuse and Mental Health Services Administration show weekly or more frequent use of marijuana is associated with twice the risk of depression and anxiety in teens, and may cause other mental illness. Data



from 2006-08 estimated that 980 county residents over the age of 12 either abused

Figure 12. Marijuana and prescription drug abuse, percent, last 30 days, by grade, Clatsop County and Oregon, 2010

or were dependent on drugs during the previous year. This represents a substantial health risk for the individuals, and substantial social and economic disruption, as well as increased demand for healthcare and support services. Past 30 day use of marijuana or hashish among both adults and all residents 12 and over was similar for Clatsop County and Oregon (7% vs. 8%), but most common among those 18-25 years old (18% vs. 20%). Similarly, use of other illicit drugs was similar in both the county and state (5%), and higher among 18-25 year olds (10%). Data from 2010 suggests that youths in Clatsop County are more likely to abuse both marijuana and prescription drugs, compared to their Oregon counterparts (figure 12). This elevated rate in the county for 11th graders has been consistent since at least 2002.

Alcohol and drug use among expectant mothers is a substantial concern, as both are associated with poor maternal and infant health and developmental outcomes. While substance abuse is not common among pregnant women, even a small proportion can have a substantial impact on family social and economic well-being, poor birth outcomes, long-term disability, healthcare and support services demand, developmental delays, and academic

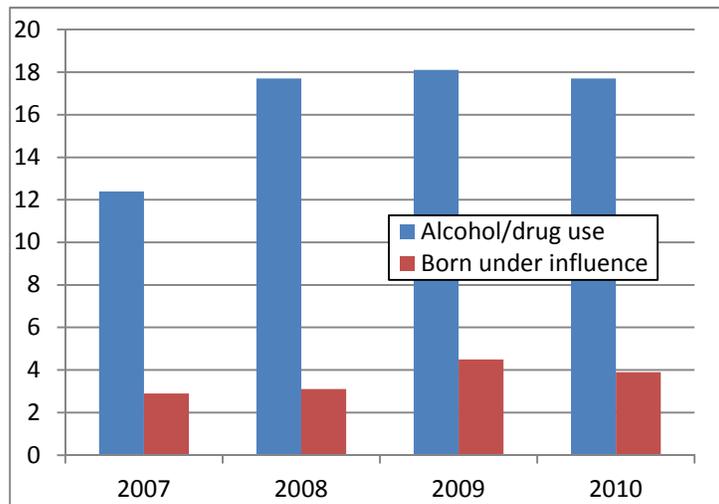


Figure 13. Proportion of women receiving county maternal services using drugs/alcohol, delivering under the influence.

challenges. In Clatsop County, alcohol and drug use is higher among pregnant women receiving

care through county agencies, and has risen somewhat recently (figure 13). Whether these figures represent an emerging trend, or are paralleled in the general population, is not yet clear.

Problem gambling (gambling that negatively influences personal or family relationships, educational or vocational activities) has influence far beyond the individual gambling. Problem gambling has profound impacts on family life, both social and economic: at the state level, the mean reported gambling debt among those in treatment for problem gambling was \$32,000, and 34% reported co-occurring alcohol problems. At the community level, problem gambling is associated with crime: at the state level, 38% of those in treatment report committing crimes to obtain gambling money. Among youth, gambling is associated with other risky behavior: alcohol use and binge drinking, tobacco and marijuana use, and skipping school.

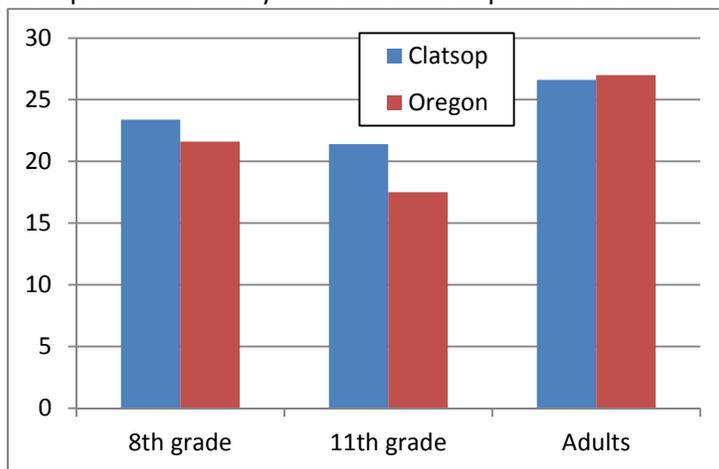


Figure 14. Gambling among 11th graders in Oregon, 2011 (Oregon Wellness Survey)

In 2008-09, the Addictions and Mental Health Division of the Oregon Health Authority estimated that there were 772 problem gamblers in Clatsop County. Of these, 7 (1%) were enrolled in treatment. Among children, approximately half reported gambling in the past month during 2010: rates were similar for 6th (46%), 8th (48%), and 11th (46%) graders. Prevalence of signs for problem gambling were less common: in 8th and 11th graders, none of the four measured signs of problem gambling exceeded 10%, and most were much lower. Figures for gambling overall and gambling by type (e.g. lottery tickets, cards) show no clear differences from state data; gambling overall may be somewhat more prevalent in Clatsop County compared to Oregon, but the difference is not substantial. Nonetheless, these figures suggest that gambling is relatively common in Clatsop County youth, and that for a minority gambling may already have become a problem.

Diet

What people eat can have both acute and long term effects on health and well-being. Some aspect of dietary patterns have been implicated in nearly all of the most important chronic diseases, with diet acting both directly to influence health and indirectly (e.g. through increased body weight). Eating habits have a profound effect on child development, from before birth to young adulthood. In addition to health effects, childhood diet influences physical development, ability to learn and educational outcomes, and family dynamics.



One indicator of dietary intake,

Figure 15. Percentage eating five or more fruit or vegetable servings per day, 2006-09, Clatsop County and Oregon.

servings of fruits and vegetables per day, has been shown to be associated with general dietary patterns as well as health conditions, and has been measured across the age spectrum in Oregon. By slim margins, Clatsop County youth are more likely to report having five or more servings per day, compared to their Oregon peers (figure 15). County and state adults are both more likely to achieve this standard, and at nearly equal rates. Overall, however, between one fifth and one fourth of residents achieve these recommended levels, suggesting that—as in the entire nation—substantial progress can be made.

Considerable attention has been paid recently to consumption of sweetened beverages, particularly in youth. While not the only source of sugar in children’s diets, sugar sweetened beverages are strongly associated with overweight and obesity in both children and adults. Soda consumption is associated with reduced bone density, while milk consumption (along with other sources of calcium) is associated with bone health. Bone

strength in adolescence is a strong predictor of bone health in later years. Milk remains a primary source of both protein and calcium, particularly for children whose bones are still developing through the teenage years. Clatsop County 8th and 11th graders have rates of milk and soda consumption that are comparable to those of the state as a whole.

Table 6. Milk and soda consumption, 8th and 11th graders, Clatsop County and Oregon, 2007-08.

Beverage	8 th grade		11 th grade	
	Clatsop County	Oregon	Clatsop County	Oregon
3+ glasses of milk per day	23.0%	21.5%	19.6%	15.6%
1 or more soda per day	22.8%	19.7%	17.2%	19.5%

While dietary patterns in Clatsop County are not markedly better or worse than those of the state as a whole, changes in dietary patterns in the county could make a substantial long term contribution to well-being and health, primarily through reduction in rates and later onset of chronic disease.

The diet of the youngest county residents, newborns, is particularly important. The health benefits of exclusive breastfeeding during a child’s first year are increasingly well documented, and include at least:

- generally improved immune function, conveying protection against a wide range of infections, including diarrheal illnesses, pneumonia, and meningitis
- reduced risk of childhood and adult overweight and obesity, and potentially other chronic diseases such as asthma and diabetes

Breastfeeding can also lead to money saved, due to avoiding the cost of formula, and perhaps healthcare costs.

Breastfeeding among county women enrolled in the

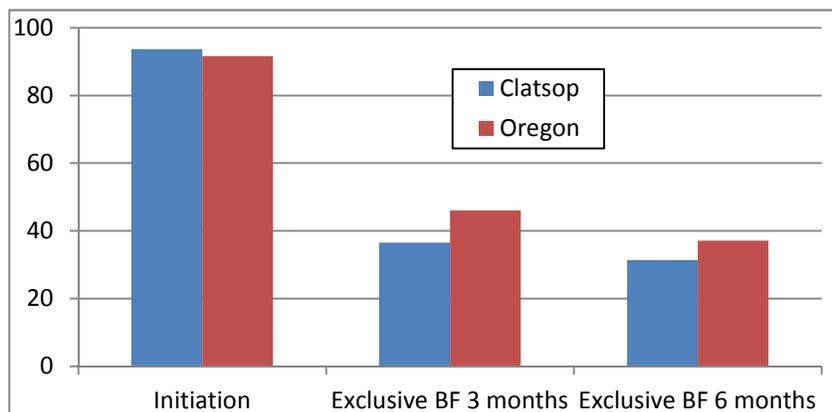


Figure 16. Breastfeeding initiation and maintenance, WIC members, Clatsop County and Oregon

Women, Infants, and Children (WIC) program has been assessed over time. Overall, breastfeeding initiation is high among WIC members in Clatsop County, consistent with Oregon as a whole (see figure 16). Exclusive breastfeeding at 3 and 6 months, however, drops substantially, and is lower than the rates for Oregon as a whole. These lower rates mean that many Clatsop County infants are not getting the early health benefits associated with breastfeeding, and that families are likely to be paying more for infant nutrition.

Breastfeeding in WIC members has fluctuated over time, with no clear emerging trends in either initiation or maintenance. (table 7) Relatively small sample sizes may account for the apparent fluctuation in rates over the past few years, and necessitate summarizing exclusive breastfeeding rates across years.

Table 7. Breastfeeding rates among WIC participants, 2006-11, Clatsop County.

	2006	2007	2009	2010	2011
Initiation	95.1%	94.9%	99.5%	91.5%	93.7%
Any BF 6 months	37.3%	35.6%	38.3%	43.6%	27.6%
Any BF 12 months	21.4%	15.3%	15.4%	32.4%	20.5%
Exclusive BF 3 months	34.7%		36.5%		
Exclusive BF 6 months	27.2%		31.4%		

For many families, there are likely substantial barriers to exclusive breastfeeding, including the need for mothers to return quickly to work, combined with work schedules which make breastfeeding difficult and lack of support for breastfeeding.

Physical activity

Physical activity, both occupational and leisure time have declined over the past few decades. Lack of activity is associated with a number of health conditions, ranging from cardiovascular disease to diabetes to some cancers to osteoporosis. The decline in physical activity has resulted from a number of population level trends, including shifts away from manual occupational labor, labor reduction in home keeping, shifts toward more sedentary forms of leisure time activity, and transportation modes which minimize physical activity. As a result, large proportions of the US population do not achieve recommended levels of daily physical activity.

In Clatsop County, as in Oregon, a substantial proportion of residents at all ages do not achieve current activity recommendations. Approximately half of county adults achieve recommendations for number of days with moderate or vigorous physical activity, roughly the same as Oregon as a whole. Clatsop County youth, while having considerable room for improvement, report greater rates of physical activity than their Oregon peers, particularly in 11th grade. If these rates are improved upon, not only with individual health be enhanced, but community norms around increased activity will be enhanced.

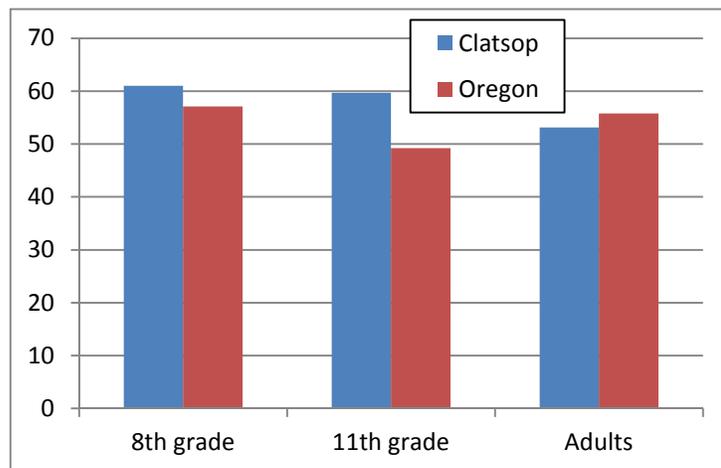


Figure 17. Percentage of adults and children achieving activity recommendations, 2007-08, Clatsop County and Oregon.

Crime

Crime is not often considered in “traditional” community assessments, but it has a substantial impact on both individual and collective quality of life, social and economic standing of individuals and communities, direct and indirect impact on health, and attractiveness to businesses and organizations seeking to relocate or start up. Overall crime rates are included here as they constitute a behavior related to health and well-being. Juvenile crime, because of its substantial impact on adult crime, families, and educational, economic, and social outcomes, is detailed in the section focusing on families.

Like Oregon and the US as a whole, crime rates in Clatsop County have been dropping over the past couple of decades, from recent highs in the mid-1990s (above 500/10,000 residents) to 2009 (418/10,000 residents). Clatsop County, until the latest year reported, was consistently below the state rate for crime. Whether the 2009 crossover is sustained should be monitored closely. If the trend is sustained, it represents a major departure from historical patterns, and a cause for concern and action.

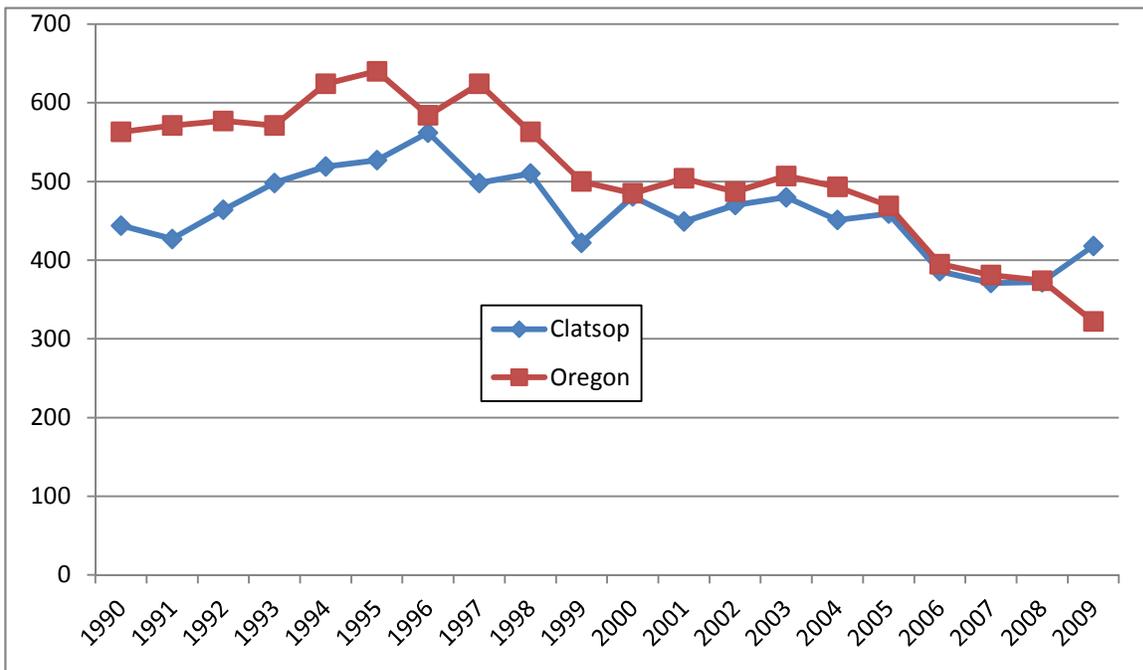


Figure 18. Adult crime rates per 10,000 residents, Clatsop County and Oregon

Mortality

In 2009 (the most recent available comparative data), Clatsop County had 399 births and 372 deaths. The county had lower birth rates (10.5/1000 vs. 12.3/1000) and higher mortality (death) rates (9.8/1000 vs. 8.3/1000) than Oregon as a whole, consistent with the relatively slower population growth in the county, and with the lower proportion of residents under age 18. (Figure 19)

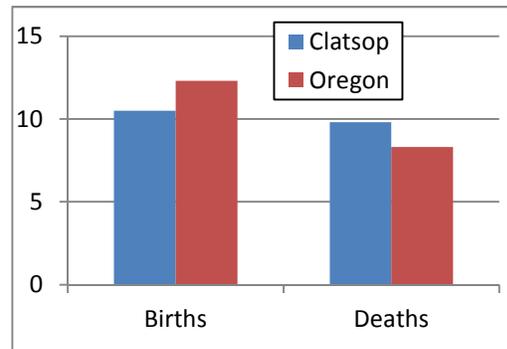


Figure 19. Birth and death rates (per 1000)

Deaths followed a typical distribution by age, with relatively few deaths in younger ages and increased mortality at older ages. (Figure 20) As is commonly seen in both Oregon and the US as a whole, excess male mortality occurred in the teenage and young adult years and extended through middle age—only in the 85+ group did women substantially outnumber men.

A major limitation of the mortality data—only from a statistical point of view—is that there are relatively few deaths in Clatsop County, and it is therefore difficult to identify trends, particularly in groups with relatively few members (e.g. ethnic minorities) or few deaths (e.g. infants). Some of the causes of death which are most important to a community—violent deaths, deaths in young residents—are sufficiently rare that even long term monitoring is not enough to detect trends.

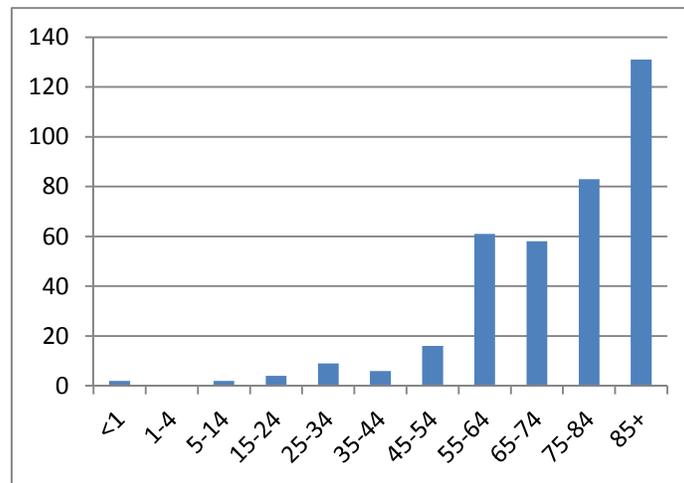


Figure 20. Deaths by age, 2009

Causes of death have remained stable in Clatsop County in the recent past, with natural causes and unintentional injuries constituting the vast majority of deaths. (See table 8) From the table, it is clear that over recent time there has been relatively little movement in the larger causes of death, and that causes of death other than natural fluctuate sufficiently that discerning trends

Table 8. Deaths by cause, Clatsop County, 2004-10

Cause	2004	2005	2006	2007	2008	2009	2010
All	359	360	392	360	388	372	372
Natural	331	317	354	330	361	340	345
Unintentional injury	22	29	27	21	19	19	18
Suicide	5	11	3	8	6	7	3
Homicide	1	0	2	0	0	1	1
Undetermined	0	2	4	1	1	5	5

even over long time periods is difficult. It is notable, however, that Clatsop County appears not to have seen a substantial rise in suicide during the recent and ongoing economic down cycle, a phenomenon that has been speculated about during the current recession.

In 2009, the top causes of death in Clatsop County largely mirrored those of Oregon as whole, and were concentrated in non-infectious chronic diseases. As has been the case in recent history, cancer and cardiovascular diseases were the most common causes, with the first non-chronic cause (injury) in 5th place.

Clatsop County has higher death rates and lower birth rates than the state, which will move the county toward an older age distribution with greater chronic disease burden

Consistent with overall greater mortality rates and an older population in Clatsop County, compared to the state, rates for major chronic disease-related deaths were also higher. To some extent, the higher rates may also reflect behavioral and environmental influences on health status underlying these causes of death. Rates of unintentional injury death may also reflect both environmental (e.g. employment patterns) and behavioral (e.g. seat belt use) factors.

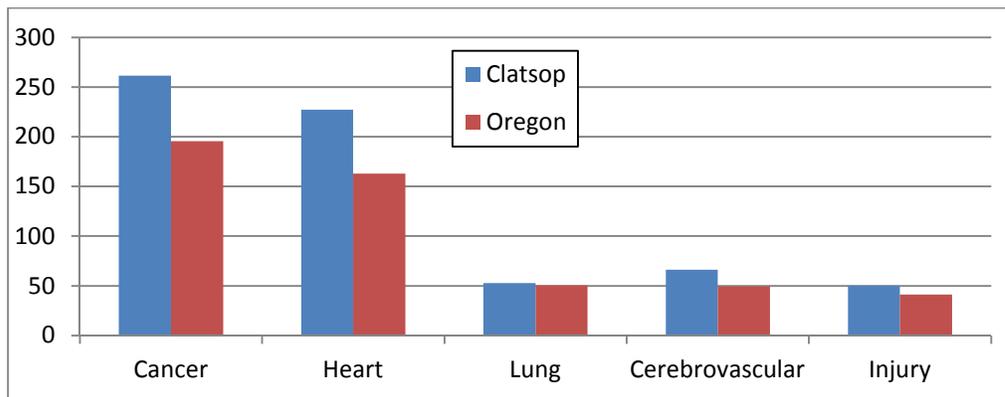


Figure 21. Top 5 causes of death (per 100,000), Clatsop vs. Oregon, 2009

It is important to note that some causes of death result in greater loss of potential life years than others—that is, they generally occur at younger ages. In Oregon, the median ages for deaths due to cancer (73), heart disease (83), and cerebrovascular disease (84) are well above those for unintentional injury (55), suicide (49), and homicide (40). Deaths due to these latter causes therefore take proportionally greater years of life from county residents.

Four specific causes of death deserve attention. First, recent county and state level data, using rolling totals from 2000 to 2007, suggest that Clatsop County residents are consistently more likely to die from drug-induced deaths compared to Oregon residents on the whole. (Figure 22)

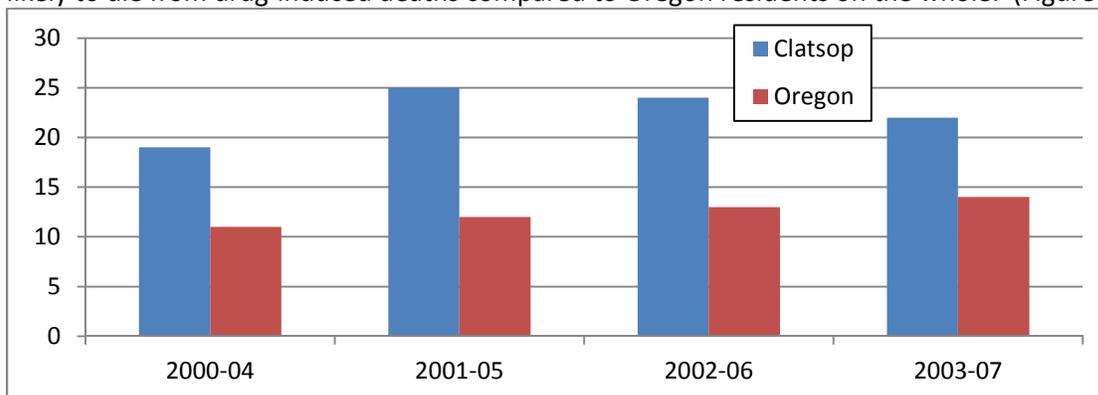


Figure 22. Rates of drug induced death (per 100,000) Clatsop vs. Oregon 2000-2007

Because drug induced deaths occur at younger ages, in general, compared to other common causes of death, the years of potential life lost (i.e. the difference between age at death and life expectancy) in these deaths is greater per life lost than for the most common causes of death above; in addition, these deaths often are accompanied by considerable resource use (e.g. social, emergency, healthcare services) and substantial social disruption (e.g. stress in families and friend groups).

Second, tobacco linked deaths in the county (20.4%) are not appreciably different from the state as a whole (22.3%), given the difficulty of ascertaining underlying causes of death; similarly tobacco related cancer rates are similar for the county (146.7/100,000) and state (146.8/100,000).

Third, infant mortality is, thankfully, so rare in Clatsop County that comparing rates, both over time and with the state, is not justified. In 2009, the infant death rate in the county was 5.0/100,000 compared with the state rate of 4.8/100,000, but the county rate was based on two infant deaths. Because absolute numbers of deaths are so small at the county level, apparently large year-on-year fluctuations should not be interpreted as reflecting important differences; state rates are more stable because of the larger numbers of births.

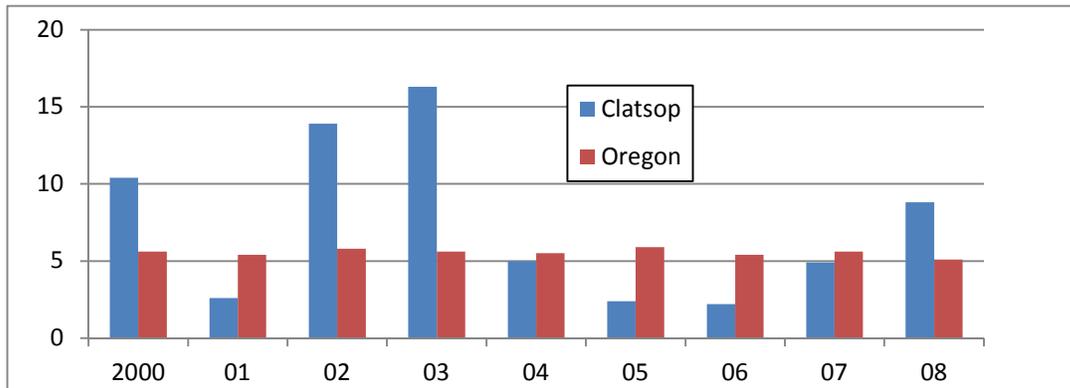


Figure 23. Infant mortality, deaths per 1000 live births, Clatsop County and Oregon

Fourth, unintentional injury deaths are rare, partly due to the changing nature of employment patterns and safety regulations. Of the 23 injury deaths in 2009, the classified causes were motor vehicles (6), falls (6), poisoning (6), drowning (1), and water transport (2).

Despite this, it is clear that Clatsop County has death rates greater than the state, which combined with lower birth rates, will move the county toward an older age distribution and therefore causes of death associated with older age—chronic diseases. This pattern is already clear in the leading causes of death in the county, compared to the state. Deaths due to violence and injury are rare, and not significantly different from the state average, although drug induced deaths are consistently greater in the county. In the sections examining well-being status, personal behavior, social influences, and environmental factors, the underpinnings of these causes of death will be detailed.

Health and Well-being: Family

Families, broadly defined, provide the immediate social context for most people’s entire lives, and are particularly crucial for the youngest and oldest residents, and those with substantial care needs. Families provide not just for material needs, but for emotional and social support, as well. For youth, families provide the safety and structure that allows development and growth, setting the stage for success in learning and adult lives. Families, in turn, are affected by their economic, physical, and social settings in ways that either promote or limit their ability to provide support.

Income and poverty

As previously noted, Clatsop County residents have lower personal incomes than residents of Oregon or the US. Median income for county residents has been consistently below that for all Oregonians in the recent past, and has either dropped or held steady during the recent economic downturn (figure 24). Free or reduced price lunch is

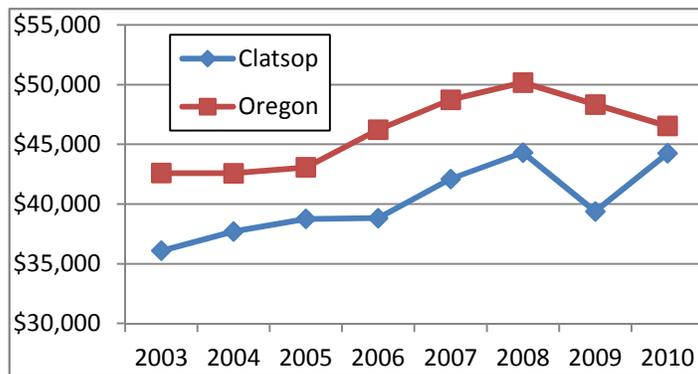


Figure 24. Median income, Clatsop County and Oregon.

a marker for family income. In 2011, 49% of public school children were eligible to receive free/reduced price lunches during the school year. On average, 1,634 children ate free/reduced price lunches on a given day, while 15,416 lunches were served to children during the summer.

Poverty levels in Clatsop County have also risen during the current economic downturn, as they have across the state. In both overall measures of poverty, and in measures of childhood poverty, the county has seen increases since 2003 (figure 25).

There has been a substantial rise in the proportion of county residents under age 18 living in poverty, rising from approximately 18% in 2003, to nearly one in four children in 2010. Given the well documented effects of poverty on health status, access to healthcare, school outcomes, economic and social well-being, and life course, this trend is an important concern, with implications for both for current county resource use and for long term community health, economic vitality, and social well-being.

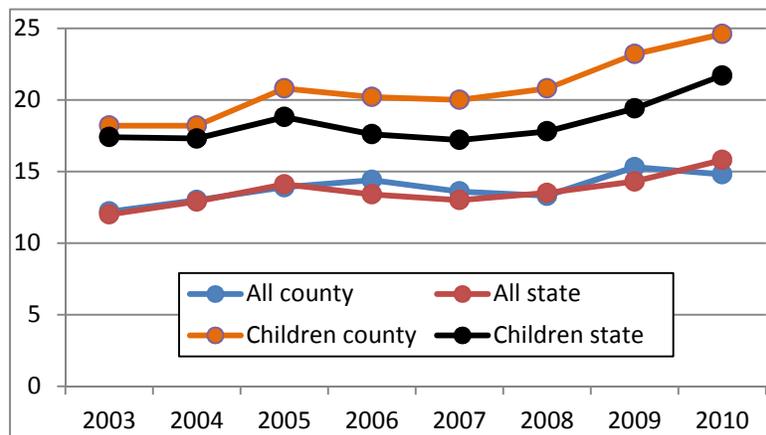


Figure 25. Percentage of all residents and children living in poverty, Clatsop County and Oregon.

Housing

While median values of owner occupied houses were similar in the county compared to the state, several indicators suggest that Clatsop County households are more mobile than those for the state as a whole. Compared to Oregon as a whole, Clatsop County residents were less likely to have lived in their current home for the past year, and were likely to have smaller households (suggesting greater percentage of single person households). Whether this mobility is voluntary (e.g. turnover in second or beach homes) or more directly economically driven (e.g. families and individuals relocated for work, or due to unemployment) can't be determined from the information available.

Home ownership rates, and proportion of housing in multiple units, were similar for the county and state. Multi-unit housing is concentrated but not exclusively in the county's relatively few population centers, and less likely to be owned by occupants than single family, stand-alone dwellings

Table 9. Housing status, Clatsop County

Housing	Clatsop	Oregon
Living in same house >1 year 2006-2010	79.2%	81.5%
Homeownership rate, 2006-2010	62.0%	63.8%
Housing units in multi-unit structures, percent, 2006-2010	22.7%	23.3%
Median value of owner-occupied housing units, 2006-2010	\$253,100	\$252,600
Persons per household, 2006-2010	2.18	2.45

Homelessness is the most extreme form of housing limitation, and brings unique social and economic challenges. In the most recent accounting, Clatsop County had 455 households, and 639 people, classified as homeless. Of these, 70 were households with at least one adult and one child, accounting for 221 (35%) of the 639 county homeless. An additional 125 (20%) were children under age 18. By far the most common reasons given for homelessness were inability to afford rent and job loss. Other common reasons for homelessness included eviction by landlords, relatives, or friends, and substance abuse or domestic violence.

Family environment

The home environment sets the stage for growth and success in childhood and for economic and social well-being in adulthood. Negative influences, such as child abuse or hunger and food insecurity, may set children up for academic challenges, problematic social behavior, or criminal activity.

One major function in most families is providing physical nourishment—food. In Clatsop County, approximately one fourth of residents qualify for emergency food aid; 40% of recipients are children and 20% are seniors. By all measures from the regional food bank, food aid has increased in the county during the recent economic downturn. (Table 10) While these measures suggest greater need during difficult times, it also reflects increased capacity of the county to address that need. Regardless, a substantial proportion of county residents are challenged to obtain the basic dietary necessities.

Fiscal Year	Pounds distributed	Food boxes distributed	Meals served at shelters
2011-12	1,228,190	20,254	216,700
2010-11	1,081,544	16,433	258,902
2009-10	1,036,587	14,191	254,291
2008-09	949,587	14,664	155,033
2007-08	803,693	12,180	94,836

Table 10. Distributions by Clatsop Community Action Regional Food Bank, 2007-12

Child abuse and neglect, or threat of harm to children, constitutes an environment which inhibits both physical and social growth and well-being in childhood. Rates of abuse and neglect have remained fairly stable in recent years, while rates of threatened harm have generally been rising in Clatsop

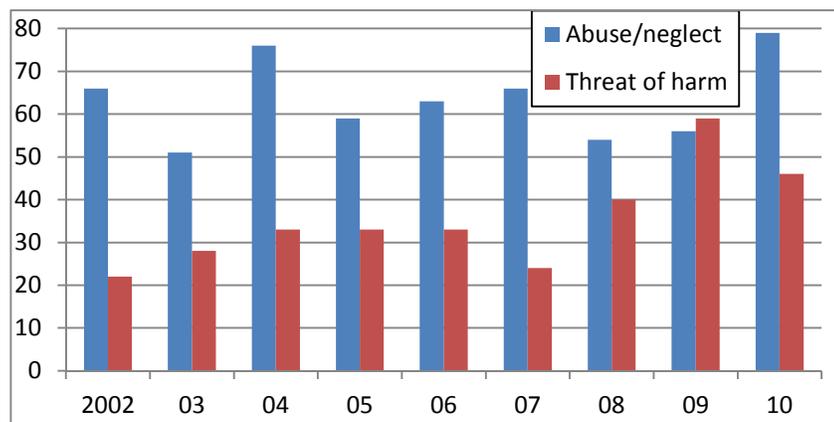


Figure 26. Rates of abuse/neglect and threat of harm, per 1000 children, Clatsop County, 2002-10

County during recent years. (Figure 26) Changes in rates, of course, can be due to commendable increases in awareness and reporting, but may also reflect a real trend in prevalence, perhaps coinciding with recent economic challenges.

Rates of domestic disturbance offenses are a direct indicator of disruption in the social fabric of the community, and are associated on one side with substance use and mental health conditions, and on the other with poorer family social and economic outcomes, acute health threats (e.g. intentional injury), and poor child development and school performance.

In the recent past Clatsop County has consistently reported substantially more domestic disturbances per person than the state as a whole (figure 27). Until more recent data are available, it is impossible to know whether this pattern has persisted. In addition, there may be differences between Clatsop County and the state if the county has historically been quicker to act on reports of domestic disturbance, and to make arrests at greater rates than other jurisdictions.

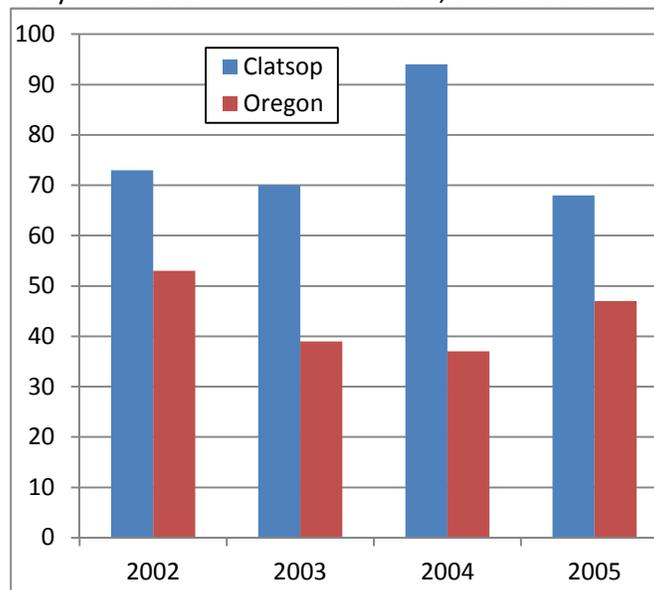


Figure 27. Domestic disturbance offenses per 10,000 population, Clatsop County and Oregon.

Juvenile arrests constitute an important indicator of both current and future crime, since young offenders are more likely to be repeat offenders as adults. There is considerable variation in

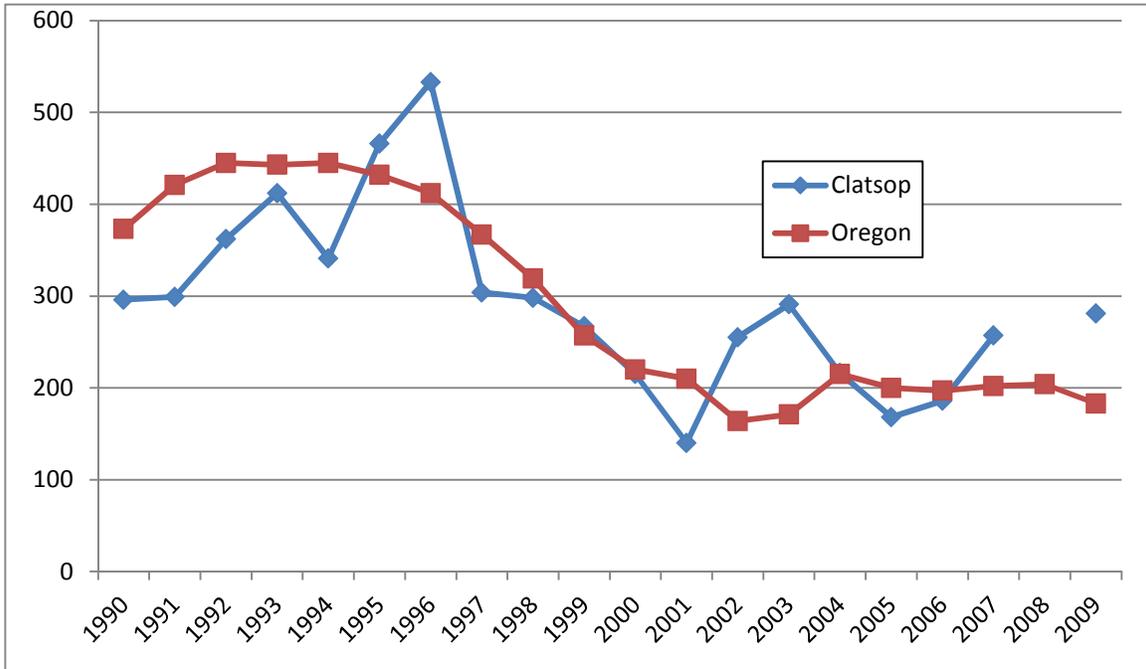


Figure 28. Juvenile arrests per 10,000 residents, Clatsop County and Oregon.

Clatsop County’s juvenile arrest rate, likely due to a combination of relatively small sample sizes (compared to the state sample, which shows much clearer trends), actual fluctuation in juvenile crime, and fluctuation in enforcement efforts. In general, juvenile arrests in both Clatsop County and Oregon follow the overall crime rates, with general reduction in juvenile arrests over the past couple of decades (figure 28). The drop in juvenile arrests may represent primary prevention of crime by juveniles, or relative success at preventing repeat crimes by first offenders (see next section). The drop in crime and juvenile arrests, while paralleling larger trends, is an opportunity for the county to consolidate gains and assure resources are in place to prevent an uptick.

Youth crime is both a result of poor physical and social environments, and a contributor to those poor environments. In 2011, 35 county youths committed crimes against persons, of which 31 (89%) were assaults; 72 youths committed property crimes, primarily thefts, criminal mischief, and criminal trespass. Sixty-eight were detained for holding or consuming illicit substances or

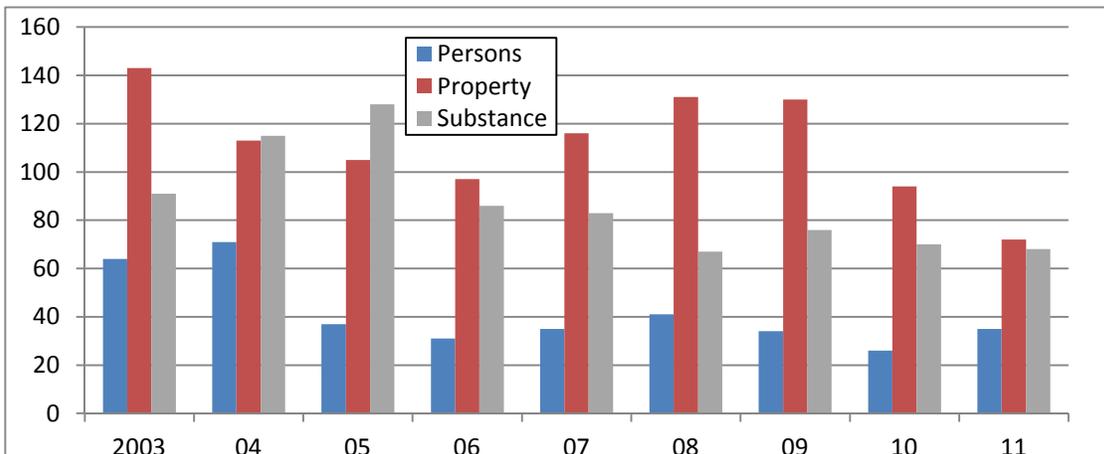


Figure 29. Number of youths referred for crimes against persons or property, or referred for substance use, alcohol use, or possession, Clatsop County, 2003-11

alcohol. Patterns suggest a general decline in referrals for substance use/possession and crimes against persons since the early 2000s, but the pattern for property crime referrals is not as clear.

Referrals for possession by minors are not distributed evenly across the county. Possession in Astoria is dominated by county youth, while possession in resort communities (e.g. Cannon Beach, Seaside) involve substantial numbers of non-county youth, suggesting that successful approaches to prevention and referral may take different forms in different jurisdictions throughout the county.

Table 11. Minor in possession by jurisdiction, all youths and Clatsop County youths, Clatsop County, 2009-11.

Department	2009		2010		2011	
	All	Clatsop	All	Clatsop	All	Clatsop
Astoria	13	11	28	24	22	22
Cannon Beach	13	1	10	7		
Gearhart					1	
Seaside	70	32	48	22	55	36
Warrenton	10	10	2	2	5	5
Co. Sheriff	8	5	6	5	4	4
State Police					2	

Of those youths detained, the vast majority are handled informally or dismissed. Of 277 youths committing crimes in 2011, 69% were “not petitioned,” that is, the case was closed, referred to another agency, or received authorized diversion or other informal disposition. Of those petitioned, 4.4% were either dismissed or plea bargained, and of the remaining 25% adjudicated delinquent, only one was referred to the Youth Correctional Facility. By diverting the vast majority of youthful offenders, the county realized substantial cost savings and provided offending youths the opportunity to remain in the community.

A measure of the effectiveness of the community, and the Juvenile Department, is prevention of future offenses among those who have already offended. The Clatsop County Juvenile Department philosophy is a continuum of prevention, through adulthood, with multiple areas for intervention, and balancing corrections and treatment. One measure of success is the degree to which youthful of-

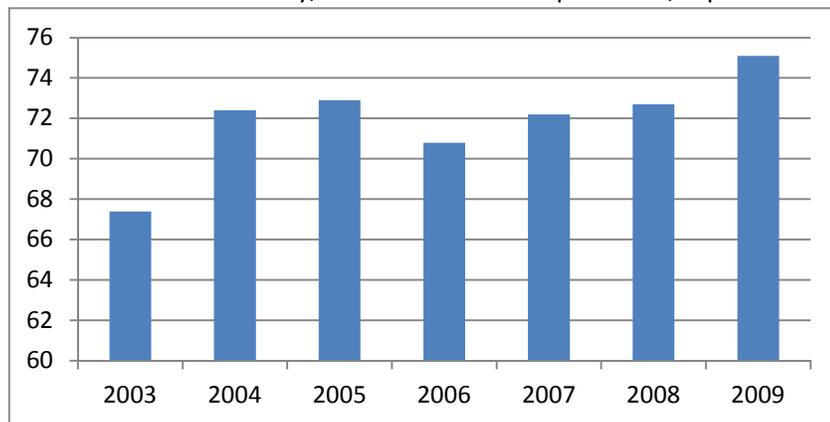


Figure 30. Percentage of juvenile offenders without repeat offense, Clatsop County

fenders go on to repeat crimes—recidivism. [Note: the measurement of recidivism for counties differs (measuring all subsequent offenses) from the adult system and OYA (which measure subsequent felonies only)] From 2003 to 2009, the proportion of juvenile offenders without repeat offenses has steadily grown, to the point that three-fourths of offenders do not record a second

offense. (Figure 30) Repeat offenders can be divided into those with multiple repeat offenses and those without. In 2010, there were 173 juvenile offenders in the county, with 129 (75%) receiving no subsequent referrals (similar to the state rate of 72%); 10 offenders (5.8%), however, received 3 or more subsequent referrals, and were classified as chronic offenders. Chronic offenders, while few in number, contribute disproportionately to crime, and are most costly monetarily and socially to the community.

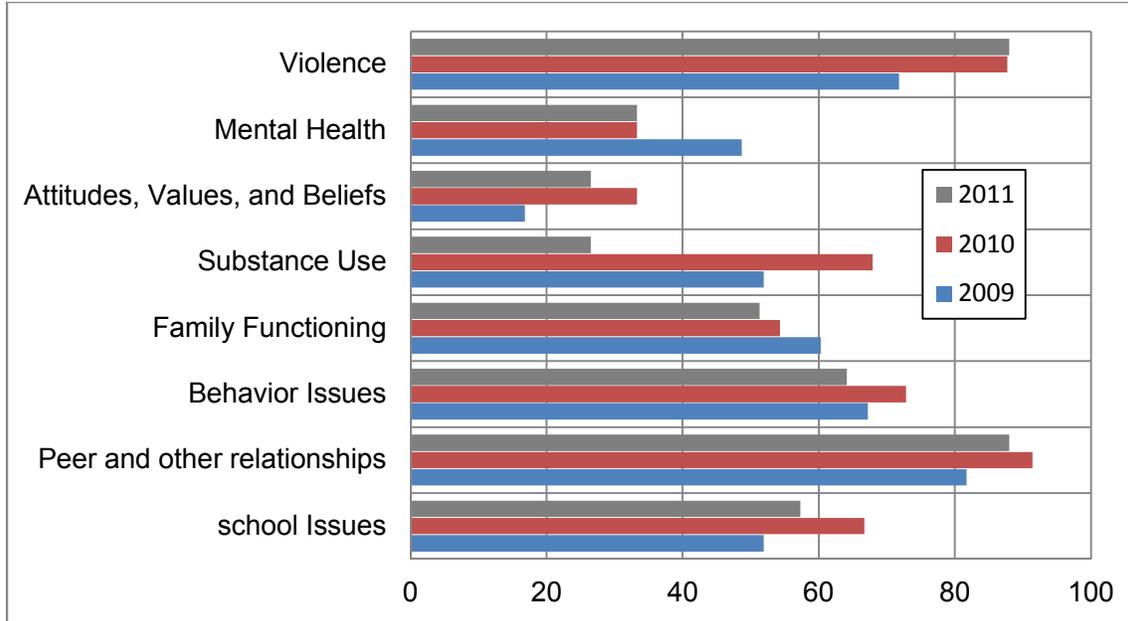


Figure 31. Percentage of referred youth with risk factors for re-offense, 2009-2011

Juveniles referred in Clatsop County are screened for risk of re-offense, and the results of those screens confirm that youthful offenders have multiple challenges socially and behaviorally.

Among those referred, challenges with violence, behavioral issues, and substance abuse are common. Family function and peer relationships are poor. Issues with school are common and high risk atti-

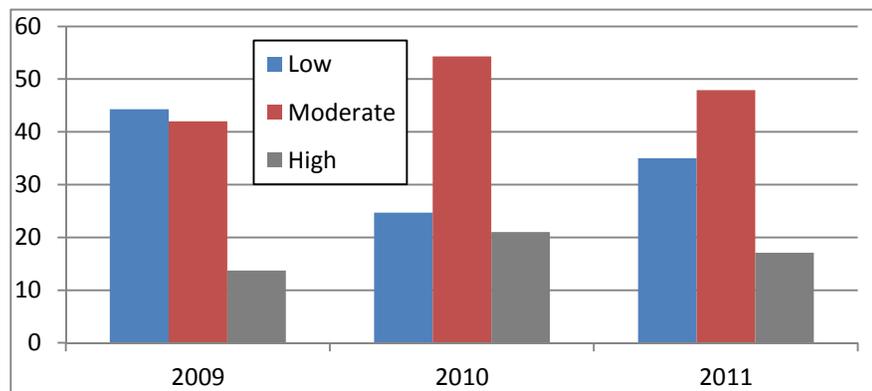


Figure 32. Percentage of referred county youth classified as at low, moderate, or high risk of re-offense

tudes, beliefs and values are not unusual. (See figure 31)

Of those juveniles referred, most are considered moderate or low risk to re-offend, but a substantial minority is considered high risk. (See figure 32)

Crime and substance abuse are strongly linked. A youth's perception of risk and favorable attitudes towards use, coupled with a parent's attitude toward substance use, influence young people's behaviors and substance use. In Clatsop County, youth perceive alcohol as being less risky than using tobacco or marijuana, though there is a shift in older ages toward lower per-

ceived risk with marijuana.

In addition, youth report that their parents disapprove of alcohol, tobacco, and marijuana use in general, but would be most likely to feel tobacco and marijuana use by their children is wrong, and would be less likely to feel alcohol use by their children is wrong. Students themselves also perceive alcohol, tobacco, and marijuana use to be generally “wrong” or “very wrong” but the proportions endorsing that statement drop with age across all three substances. In general, students’ report their own positions as more tolerant than their parents’ perceived positions.

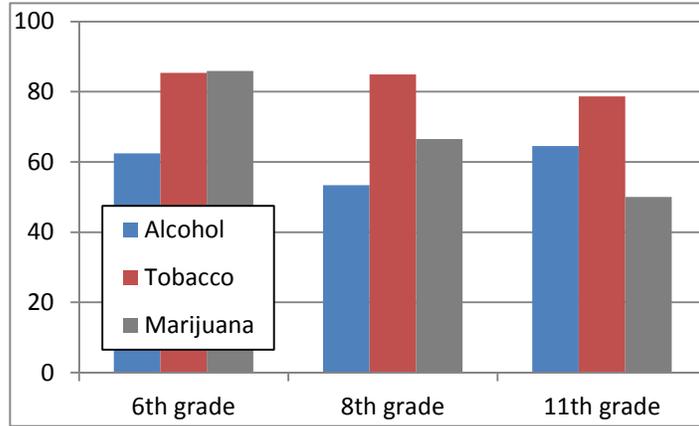


Figure 33. Percentage of Clatsop County youth perceiving risk due to use of alcohol, tobacco, and marijuana use, 2010

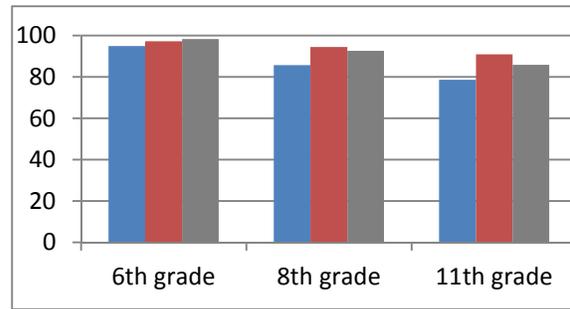
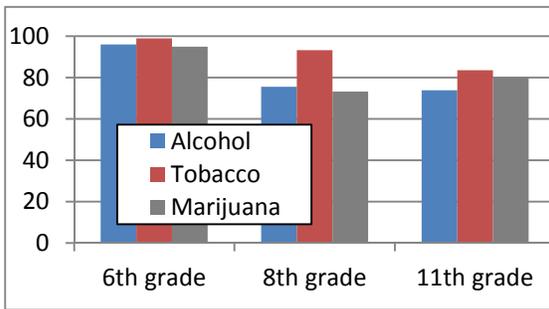


Figure 34. Proportions of students who say that it is "wrong" or "very wrong" to use substances (left), or report that their parents would think it was "wrong" or "very wrong" (right), Clatsop County, 2010

Environment

Individual factors, including behavior, are strongly associated with health and well-being. These individual factors, however, are embedded in an environmental context. For Clatsop County, the environmental context includes institutions and social organizations, the built environment, and the natural environment. Environmental influences can both promote health and well-being, or discourage them. This section summarizes Clatsop County's environment as it relates to health and well-being, with the up-front limitation that in many instances more is unknown about environmental influences than is known.

Institutions and social organizations

It is beyond the scope of this report to enumerate all of the organizations, institutions, and businesses which have some influence on the health and well-being of Clatsop County—a case can be made that nearly all do to some extent. In addition, the interconnected networks, formal and informal, though which organizations interact to promote health and well-being, are complex, and should be the subject of a separate assessment in conjunction with the county health improvement plan. An in-depth assessment of organizations, the factors that promote linkages (e.g. data sharing) or discourage cooperation (e.g. billing practices) should be part of that effort. The broad categories listed below capture a few indicators of the most direct health-related services in Clatsop County.

Healthcare access and services

Clatsop County has two hospitals, one in Astoria (Columbia Memorial) and one in Seaside (Providence Seaside). Columbia is a Level 4 trauma center with 25 beds, while Providence has 34 acute care beds. The vast majority of all clinical care facilities are located along the Pacific coast or the Columbia River, in the major population centers of the county. In 2009, Clatsop County residents had 1.5 physicians for every thousand population, compared to 2.5 per thousand for Oregon as a whole; this ratio has remained largely unchanged during the current century. In 2012, Clatsop County had 1.3 mental health providers for every ten thousand residents, compared to 4.5 per ten thousand for Oregon. Access to dental care, as measured by dentists per ten thousand residents, was approximately the same for Clatsop County (4.6) as for Oregon (4.2). These countywide estimates may be only approximate measures of access, however—access, in many instances, may depend on insurance status or other selection factors which prevent or discourage access. For rural residents, the location of services and low clinician numbers certainly translates into reduced access to care.

Health insurance, whether through private or public sources, is associated with increased access to both primary and specialty care. Clatsop County has had overall insurance rate (84.5%) only slightly above

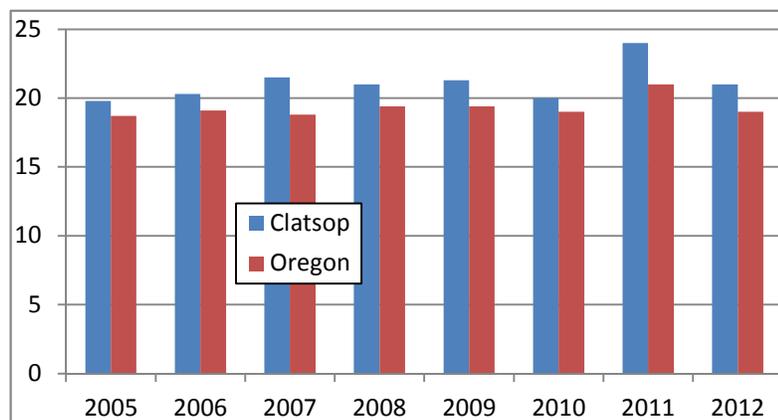


Figure 35. Percentage of residents under 65 without health insurance, Clatsop County and Oregon, 2005-12

the state rate (83.3%) [BRFSS]. The proportion of residents reporting that they could not see a physician due to cost was also similar for Clatsop County (13.6%) and the state (14.0%).

Two important indicators of community level healthcare status are provision of prenatal care and early childhood immunization rates. Both have been associated with improved birth outcomes and maternal and child well-being. Late prenatal care is associated with lack of insurance or underinsurance, so women with the fewer economic resources are also less likely to receive prenatal care. Historically, Clatsop County residents have been unlikely to either forego prenatal care or initiate prenatal care late in pregnancy (i.e. in the third trimester). The vast majority of those initiating care before the third trimester do so in the first three months of pregnancy: in 2009, 57.3% of Clatsop County residents initiated prenatal care in the first trimester, comparable to the 59.4% state rate. In 2009, 10.2% of Clatsop County residents were classified as receiving inadequate prenatal care, compared to 10.0% for all of Oregon.

Overall, figures for Clatsop County largely mirror those of the state, and suggest that the majority of Clatsop County residents receive timely prenatal care. While strong conclusions are not possible, the rise in late prenatal care since the mid-2000s may be the result of increasing economic pressure on households, and decreased access to care through health insurance.

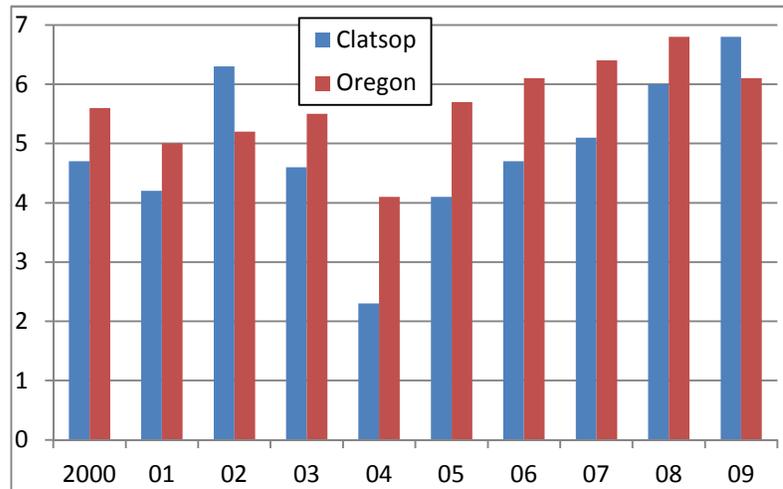


Figure 36. Percentage of pregnant women with no or late (3rd trimester) pre-natal care, Clatsop County and Oregon, 2000-2009.

Vaccination status has varied in the county during recent years. The proportion of two year olds with “up to date” vaccination status (based on 4 doses of DTaP, 3 doses of IPV, 1 dose of MMR vaccine, 3 doses of Hib, or 4:3:3:1:3) was somewhat greater in 2010 than in 2005 (figure 37). Vaccination rates for individual immunizations (e.g. MMR) are higher than for entire series. Because vaccinations are required for school entry, the rates for 2 year olds substantially underestimate rates for school aged children, as many families wait until school entry to “catch up” on immunizations. The most recent county level data suggest a drop-off in up to date status among 2 year olds. It is important to note, however, that some of the fluctuation in rates may be due to under-reporting: some children get initial vaccinations with one provider, and subsequent vaccinations in the

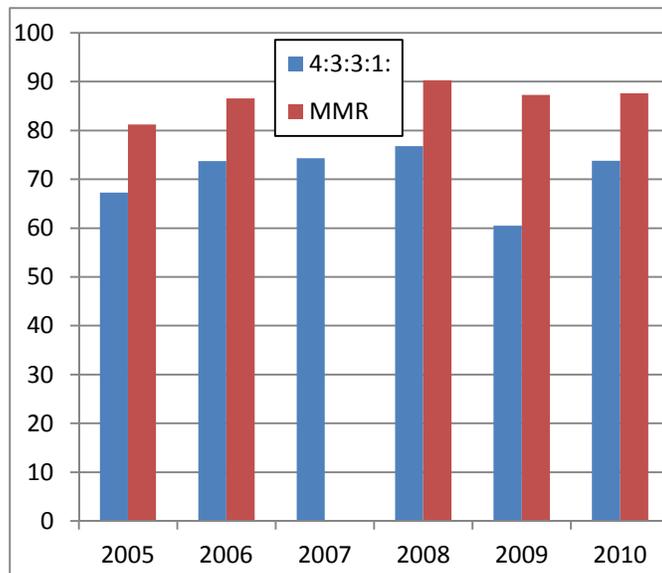


Figure 37. Vaccination status of two year-olds, Clatsop County, 2005-10.

same series from another provider—not all providers enter their vaccination data, so some children may appear to be under-vaccinated in records even though they are up to date.

There are many potential indicators of adult healthcare adequacy. Two commonly used metrics available at both the county and state level, which have implications for early disease detection and secondary prevention of downstream complications, are diabetes testing (fasting glucose tests) and mammography for women. Estimates for 2012 suggest that diabetes screening rates among Medicare recipients in the county (84%) are comparable to those for the state (89%), as are mammography rates in the county (64%) and state (68%). These rates, however, do not include residents under age 65, in whom both conditions are less prevalent but for whom the implications for long term survival and quality of life may be greater. Among older Clatsop County residents, influenza vaccination was 70.8% in the last documented period, 2007; since then, rates have likely gone up, as publicity around H1N1 increased awareness and concern.

Access to dental care is viewed as a challenge in Clatsop County, as it is in many areas of Oregon. Specific data on dental care access in children is sparse. In 2010-11, as part of the Oregon Health Authority School Dental Sealant Program, 87 children were screened for dental treatment need, with 22 children screened (25.3%) needing treatment beyond sealant. The 2010-2013 Comprehensive Local Public Health Authority Plan noted that dental care for the uninsured was substantially restricted due to a shortage of private dentists willing to see uninsured residents, coupled with the lack of a pediatric dentist in the county.

Mental healthcare is fragmented and poorly documented in Clatsop County. As with other healthcare, many county residents likely leave the county for mental healthcare, and some likely come from other counties to receive mental healthcare. There are many individual and small counseling and other mental healthcare practices, and no comprehensive method to collect information on their services. In addition, many individuals may be unable (e.g. financially) or unwilling (e.g. fearing stigma) to seek behavioral healthcare, and so go untreated.

Clatsop Behavioral Healthcare is located in Astoria but serves countywide. During 2011, Clatsop Behavioral Healthcare served 1680 unique people in 2037 visits (1502 adult and 535 youth visits). Of these, 463 were for addictions (239 for alcohol, 216 for other drugs, 8 for gambling), 1217 for mental health issues not specified, 756 for mood disorders, 186 for serious chronic mental illnesses, and 275 for other conditions. While this is a summary of only one agency, it does make clear that there is substantial mental healthcare demand, that there is mental healthcare demand across the lifespan, and spans the entire range of mental health conditions.

Table 12. Calls for assistance and shelter stays, Clatsop County, 2008-11

Services for domestic violence and sexual assault are provided by multiple providers in Clatsop County (e.g. Clatsop Women's Resource Center). In 2011, 3,591 calls for help were fielded for domestic violence, 485 for sexual assault, and 64 for stalking. Since 2008, calls for assistance have trended upward, while shelter stays for domestic violence have trended downward. Information prior to 2008 is

	2008	2009	2010	2011
Domestic violence	2460	3083	2951	3591
Sexual assault	282	334	315	485
Stalking	NA	37	13	64
Shelter stays for DV	144	143	136	133

not available at the county level, so it is difficult to determine whether this represents part of a longer term trend in utilization.

Senior services are crucial to enable older adults to remain active in the community and live outside of institutional settings for as long as they are able. According to Northwest Senior and Disability Services, the Area Agency on Aging for the region including Clatsop County, the Clatsop County 60+ population grew by 11.6% in 2006-10, and the 85+ population by 4.9%, compared to overall county population growth of only 0.3% during the same period. During the most recent needs assessment, the top assistance needs among seniors were cleaning/yard work and home repair, and the top service needs were linkages to services, medical alert services, and legal consultation. Clearly, the assistance needs among seniors go well beyond the “traditional” activities of assistance with food, transportation, and healthcare. A close accounting of services provided is not available, unfortunately.

Education

Education has a profound impact both on immediate well-being, and on long term life outcomes, including social, economic, and physical well-being. School failure is strongly associated with crime. Completion of both high school and college education is associated with substantial increases in lifetime income and other predictors of well-being.

For many children, successful pre-school development depends in part on access to early care and educations. In 2002, Clatsop County’s child care supply (slots per 100 children ages 0-13) was 7% higher than the state supply. Since then, however, the county supply has consistently been below that for the state as a whole. (Figure 38) If the constricted supply results either in higher costs for care, unavailability of slots, or both, this represents not only a threat to child development, but also potential economic hardship for families depending on child care to allow full employment. It is important to note that the availability of care is not sufficient to guarantee good outcomes—quality of care has been consistently demonstrated to be a crucial factor.

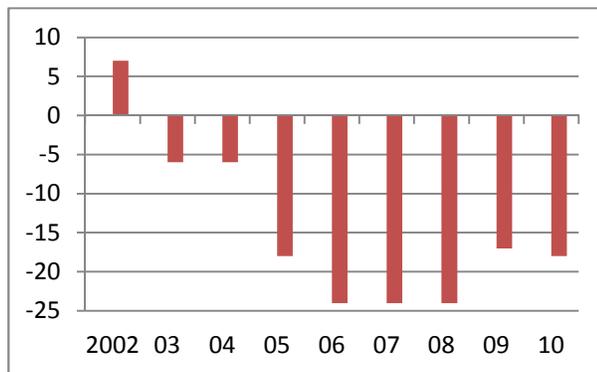


Figure 38. Child care supply, percentage above or below state rates, 2002-10

A Head Start program has been in Clatsop County since the mid-to-late 60’s. Head Start is a comprehensive pre-school program that addresses the health needs of the child as well as social service needs of families. Enrollment priority goes to children most in need and includes children with disabilities or serious health concerns and children

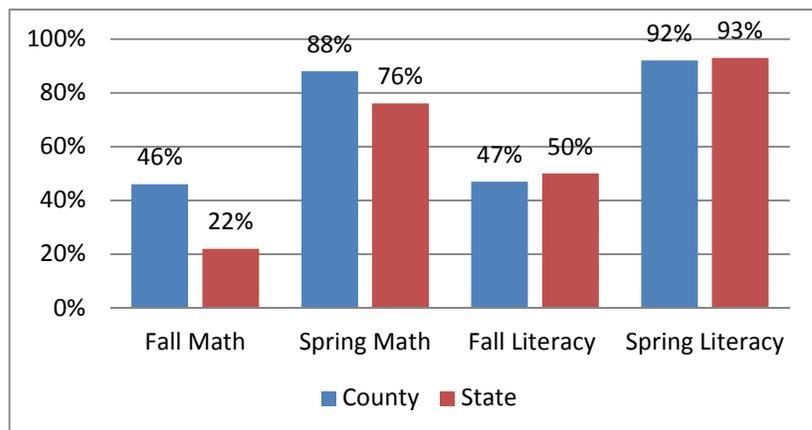


Figure 39. Percentage of Head Start children meeting or exceeding expectation in math and literacy, SY 2011-12

from families affected by serious health, social and economic concerns. At least 90% of the children enrolled must be from families below the federal poverty level. Head Start in Clatsop County is a Child and Family Development Program of Community Action Team, Inc. with a service area that includes Tillamook and Columbia Counties. Clatsop County is funded to enroll 162 children, in three sites, in nine classrooms in Seaside, Warrenton and Astoria. Fifty-two percent of the funding is provided by Oregon Head Start Prekindergarten and 48% of the funds are federal, provided by the Office of Head Start.

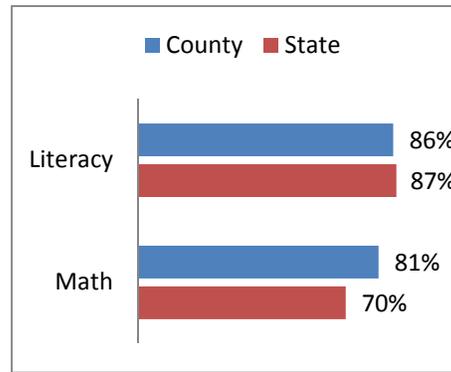


Figure 40. Percentage of Head Start children meeting or exceeding age-level expectations by spring, of those who were below age-level expectation in the fall

Head Start is dedicated to school readiness in the areas of health and education in an effort to close the achievement gap for those children most in need. Teaching Strategies Gold is the assessment tool used to measure and analyze child progress and outcomes. Oregon Head Start Prekindergarten reported child outcomes during the 2011-12 program years in two areas: math and literacy. The charts below show the state and county data in math and literacy for children that attended Head Start. The outcomes reflect that children in Head Start make progress in meeting age-level expectations. Head Start is a program that is able to help most children close the achievement gap at the prekindergarten age-level.

Early intervention and early childhood special education are highly focused educational and developmental programs for children with disabilities. Services are based on individual child needs. The Early Intervention (EI)/Early Childhood Special Education (ECSE) program offers special services and supports to families with children diagnosed with developmental disabilities or experiencing developmental delays. EI offers services and supports to eligible children birth to age 3 years and their families, and supports families in developing the skills to help their children learn and grow. Services are delivered through a parent coaching model in each family's home or other caregiving settings. ECSE offers special education services to eligible children starting at age 3 and continuing until they enter kindergarten. Services can include specially designed instruction and/or related

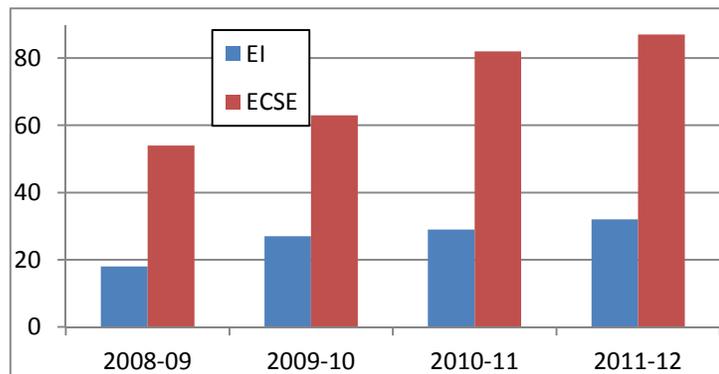


Figure 41. Growth in EI/ECSE population, Clatsop County, 2008-12

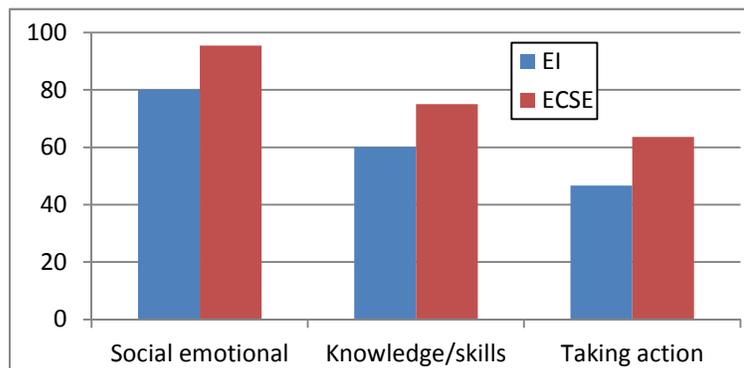
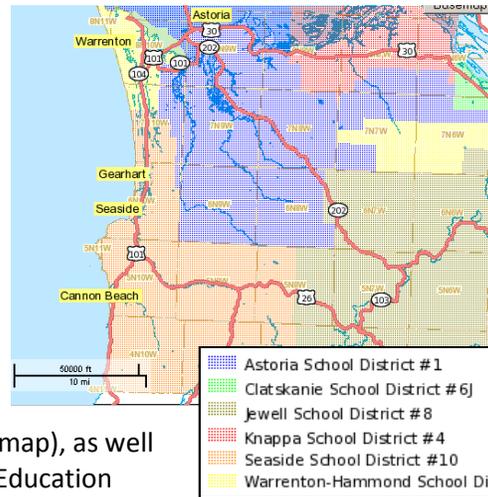


Figure 42. Percentage of EI/ECSE children achieving gains toward same age peers in social/emotional skills, acquiring and using knowledge and skills, and taking appropriate action to meet needs. Clatsop County, 2011

services such as physical, occupational, or speech and language therapy. Services may be provided at community preschools, childcare facilities or at ECSE center sites.

EI and ECSE populations have been growing in Clatsop County. In 2011, Clatsop County further classified 15 children within the EI programs (12 developmentally disabled, 2 with autism, and 1 visually impaired), and 44 in the ECSE programs (18 conduct disorder, 11 developmentally disabled, 9 with autism, 1 with emotional disturbance, and 4 with other impairments). The relatively small numbers make it impossible to draw strong conclusions regarding the effectiveness of EI/ECSE programs, but in general both groups showed improvements in functioning following engagement in programs (figure 42).



Clatsop County has five public school districts (Astoria, Jewell, Knappa, Seaside, Warrenton-Hammond) serving distinct areas of the county (see map), as well as South Jetty School (run by the Youth Corrections Education Program).

One objective and important indicator of the success of school systems is dropout rate—the proportion of students enrolled who do not complete their high school education and receive a high school diploma. Over the past two decades, dropout rates in Oregon have been falling, from highs over 7% in the mid-1990s to 3.3% in the 2010-11 school years. Dropout rates in Clatsop County schools mirror this trend. Dropout rates are comparable to those of Oregon as a whole, and rates among the various school districts are not appreciably different; small student populations for some districts make annual comparisons of dropout rates difficult.

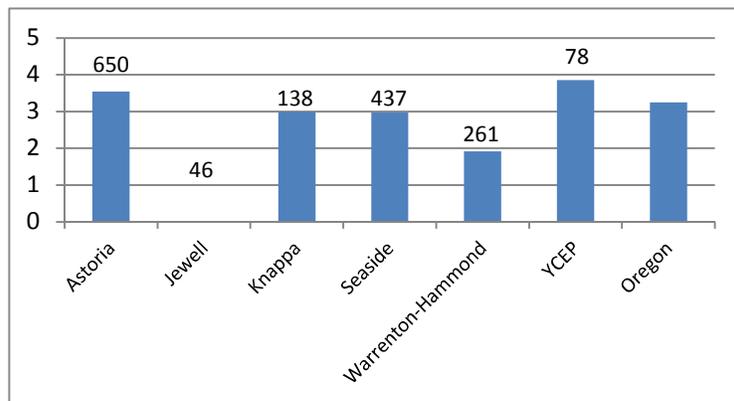


Figure 43. Dropout rates (percent), Clatsop County schools and Oregon, 2010-11 (with total student enrollment above bars).

Across Oregon, children from minority race/ethnicity households have had poorer graduation rates than those of other Oregonians. While non-white races are not well enough represented in Clatsop County to provide strong conclusions about graduation rates, 2010-11 data suggest that students of Hispanic origin are no more likely to drop out, once enrolled, than other Clatsop County students—dropout rates for Hispanic students ranged from 0 to 4%, closely approximat-

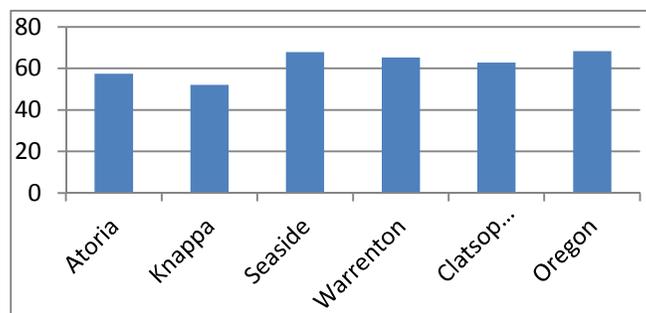


Figure 44. Academic proficiency, by school district, Clatsop County overall, and Oregon, 2010-11

ing the dropout rate overall.

Measures of academic proficiency suggest that Clatsop County is consistent with state rates, both for 2011 and the most recent 5 years, but with considerable room for improvement (figure 44). In general, reading proficiency has been higher in the recent past, compared to math proficiency (figure 45). These figures are very close to those for Oregon as a whole. Among 11th graders, academic proficiency was somewhat below the state average, and there was considerable variation among county high schools (figure 44).

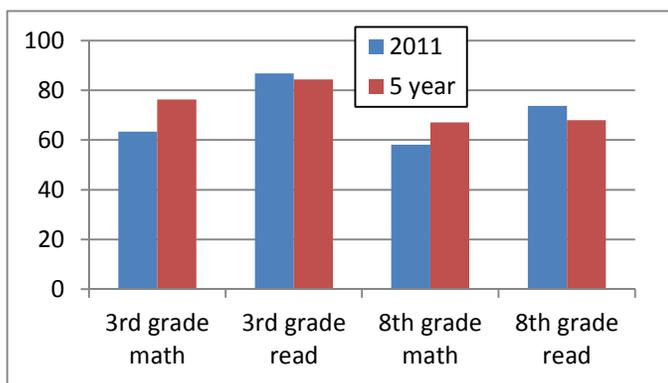


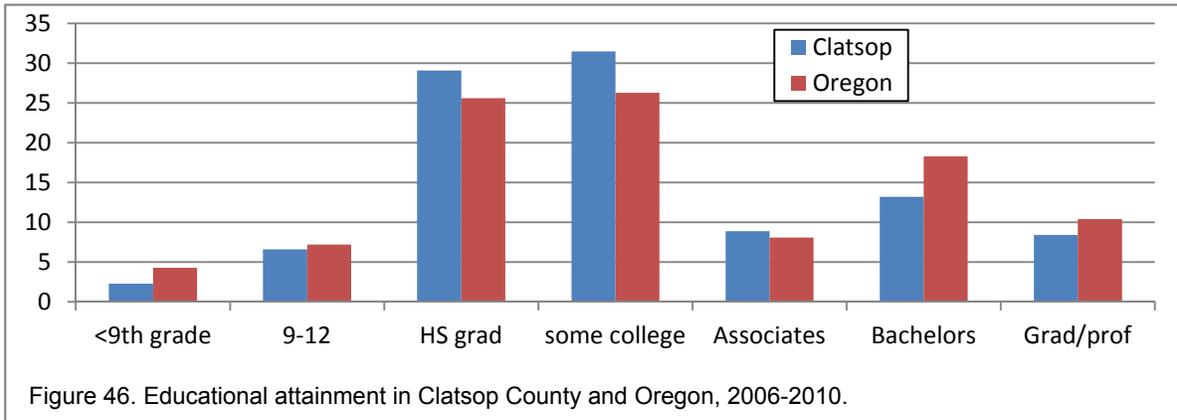
Figure 45. Academic proficiency, 3rd and 8th grade, Clatsop County.

School climate refers to the social and organizational aspects of schools which support or hinder learning and growth. School climate may be an important determinant of academic achievement and graduation. Clatsop County schools have been assessed on a number of climate

Climate variable	Grade		
	6 th	8 th	11 th
<i>Support</i>			
Caring teachers		60.9	71.2
Available teachers	56.7	36.7	57.5
Helpful peers		53.2	70.5
<i>Attachment</i>			
Meaningful/important schoolwork	55.3	35.0	24.4
Relevant schoolwork	77.8	64.0	50.0
Overall enjoyment of school	47.6	37.5	36.9
<i>Participation</i>			
Opportunities for class participation	79.8	83.6	87.6
Extracurricular opportunities	86.1	86.9	89.2
<i>Safety</i>			
Missed school due to safety concerns	13.7	7.5	5.8
Harassed in past 30 days	56.9	45.4	45.1
<i>Problem behavior</i>			
Drunk at school		15.1	26.8
Fight at school	28.2	29.6	19.5

measures (table 13). Students commonly report that their schools have supportive teachers and peers, and provide opportunities for participation both in and out of the classroom. At the same time, a minority reported enjoying school, and the proportion of students reporting safety concerns and problem behaviors is cause for concern.

As noted in the introduction to this report, Clatsop County residents are somewhat less likely than Oregonians to receive degrees beyond high school (figure 46). Census estimates from 2006-10 show that a substantial number of Clatsop County residents had some college education, but had not completed a formal course of study. To some extent, this reflects students



over 25 currently enrolled in degree programs, often part time. In many instances, however, this represents a lost opportunity both for individuals and the county, as people withdraw from educational programs for social and economic reasons.

Clatsop Community College, in Astoria, offers four associates degrees, and has cooperative enrollment agreements with Portland State University and Oregon State University, but the county has no four year colleges. The relatively lower proportion of residents with post-high school degrees may reflect lack of educational opportunities in Clatsop County, or may be the result of Clatsop County residents either leaving to obtain degrees, or leaving after obtaining degrees for occupational opportunities.

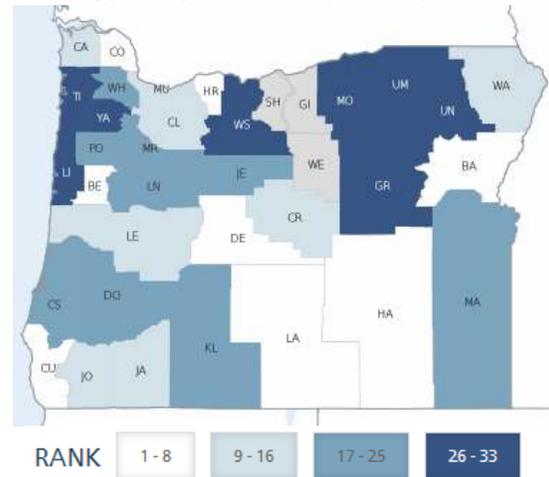
In addition to the community college, the Tongue Point Job Corps Center is a no-cost education and career technical training program administered by the U.S. Department of Labor that helps young people ages 16 through 24 improve the quality of their lives through career technical and academic training. The Center is located on a retired naval base east of Astoria, and offers both vocational training (e.g. “traditional” trades, health and healthcare, service) and academic programs (e.g. GED, English Language Learning, driver education).

Human environment

The human environment relates to both the physical and social environment which people shape. The environment provides much of the context in which individual behavior occurs, and is at the bottom of a large proportion of both individual and community well-being and health.

Healthy communities

In the most recent county health rankings, Clatsop County was ranked 12th in Oregon, compared to all other counties, in access to recreational facilities, suggesting that Clatsop County residents have greater than average access to recreational facilities. The definition of a recreational facility used in the rankings—“establishments primarily engaged in operating fitness and recreational sports facilities, featuring exercise and other active physical fitness conditioning or recreational sports activities—favors urban centers, since it rates based on facilities, rather than on a metric that accounts for access or capacity (e.g. land area devoted to parks/recreation. If parks, Oceanside, public forests, and other public lands



were included in the calculations, Clatsop County’s access to recreation would appear greater than reported.

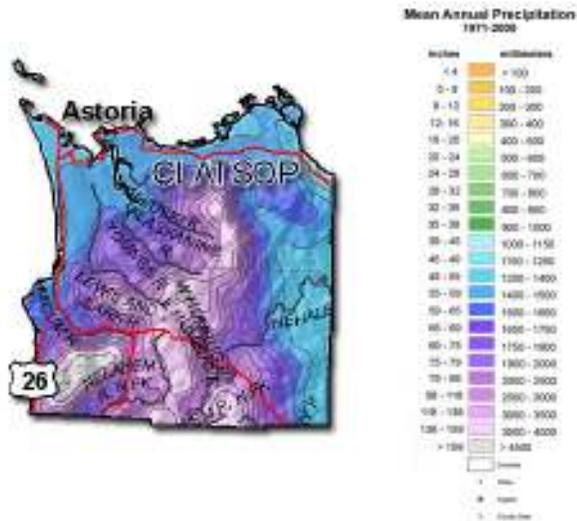
Compared to Oregon as a whole, Clatsop County residents have a lower proportion of fast-food restaurants. In Oregon, 43% of restaurants are classified by the North American Industry Classification System as fast food (i.e. “limited service”) outlets, while only 26% of Clatsop County restaurants are classified as fast food. Only 2% of Clatsop County’s residents were classified as having limited access to healthful foods (i.e. less than 10 miles in non-metro counties), versus 6% for Oregon as a whole. In Clatsop County, there were 3.0 liquor stores per 10,000 populations, compared to 0.5 per 10,000 for Oregon as a whole. These indicators, by themselves, do not imply that Clatsop County residents eat fewer fries but drink more alcohol; in addition to residents making individual choices regarding diet, the population density and distribution of Clatsop County may be important determinants of business locations.

Oral health, while rarely a matter of life and death, is vital to health and well-being generally, and contributes to a wide range of other conditions, including disability and chronic diseases in adults, and learning outcomes in children. Fluoridation of drinking water has been well documented as a highly effective preventive against dental carries. In Clatsop County, 11 of 21 water systems are fluoridated, covering 81% of county residents. These systems are primarily located in the county’s major population centers, however; the 19% of residents without fluoridation are more likely to be located in areas with poorer access to regular dental screening and care.

Natural environment

In the past year, Clatsop County had only 9 days in which airborne particulate matter was sufficiently elevated to be potentially harmful, compared to an average of 12 days for other areas of the state combined. The county had no days with excessive ozone levels.

Clatsop County generally, and particularly the Pacific coastal area, is susceptible to damaging Pacific storms, primarily in the winter months. These cause local challenges related to flooding, power loss, transportation and communication interruption, and property damage. For most county residents, these are nuisances, but for individuals relying on this infrastructure for moment to moment survival (e.g. on home oxygen), the interruption can potentially be life threatening. Weather is likely to influence well-being in less dramatic ways. For instance, from 1971



to 2000, Astoria averaged 189.7 days per year with measurable precipitation. During that period, Astoria averaged 67 inches of rain per year, and Seaside 76 inches; many areas of the interior of the county received more. (Figure) This, in turn, may influence citizens' ability or willingness to engage in outdoor physical activity generally (e.g. by reducing use of open space and parks), but particularly among children (e.g. whose schools may restrict activity in the rain) or the elderly (e.g. who may perceive safety concerns on wet surfaces). While frank mental health diagnoses of seasonal affective disorder (not a separate condition but a modifier for depression or bipolar disorders) may be greater at higher latitudes in and areas with substantial overcast, there are no data which address this specifically for Clatsop County. A broader effect of weather on activity is likely. There is reasonable evidence that physical activity is seasonal, with lower levels of activity in months with less light and less favorable weather, and that inclement weather (e.g. rain) discourages physical activity.

Two rare but related events could be devastating to the county's health and well-being. The Cascadia Subduction Zone, a fault running along the west coast of North America, is very close to the coast along Clatsop County. With an interval as short as 210 years, but averaging somewhat longer, the Cascadia fault is capable of producing magnitude 9 earthquakes, with devastating effect. Most of the highest hazard areas for earthquake damage are, not surprisingly, in the built up areas of the county (see map). A magnitude 9 earthquake would quickly overwhelm the ability of county resources to respond, and in such a situation it is unlikely that assistance from nearby jurisdictions or from the state would be available or able to get to the county.



A tsunami, whether the result of a local earthquake or not, is also a potentially major threat to the county, particularly in the low lying coastal and riverfront areas (see green shaded areas on map). A tsunami without a local earthquake could lead to substantial local damage, but would likely have substantial warning, and disaster response teams from other jurisdictions and the state would be available to assist. A tsunami from a local major earthquake, on the other hand, would provide residents with only a few minutes warning, could produce a tsunami wave of up to 100 feet, and would be coupled with sufficient damage to local infrastructure and statewide response resources that outside aid would be substantially delayed.

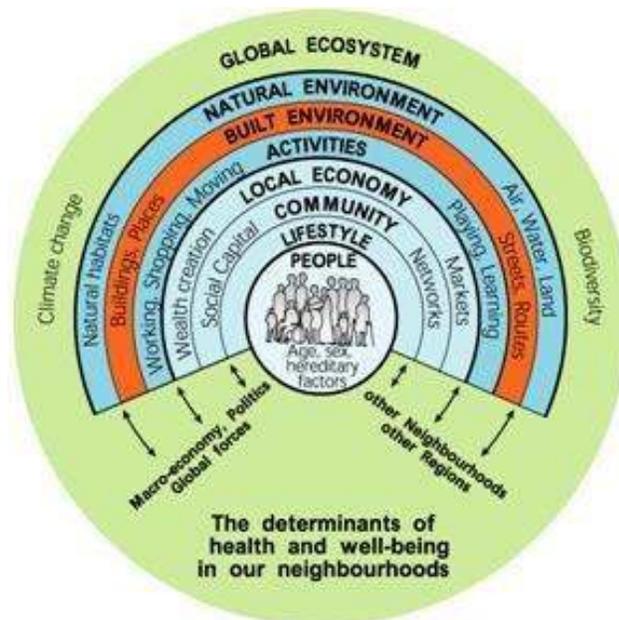


Determinants of individual and community well-being

The findings of this report are consistent with two approaches to assessing and improving health and well-being of both individuals and communities: first, that individual health is embedded in and influenced by the social and physical environment, and second, that environmental, social, and biological factors early in life can have profound influences on health and well-being throughout the lifespan.

Environmental and social determinants of health

It is clear that individual well-being and behavior can be powerfully shaped by the social and physical environment. A sixth grader's decision to try a cigarette is not a random behavior, nor is it a behavior decided upon based on a dispassionate weighing of the individual risks and benefits of smoking. It is more likely to result from a peer environment in which smoking is either promoted or at least not unusual, a built environment where cigarettes are available and promoted, a family or school environment that is not explicitly anti-youth smoking, and a policy environment that does not actively discourage public smoking.

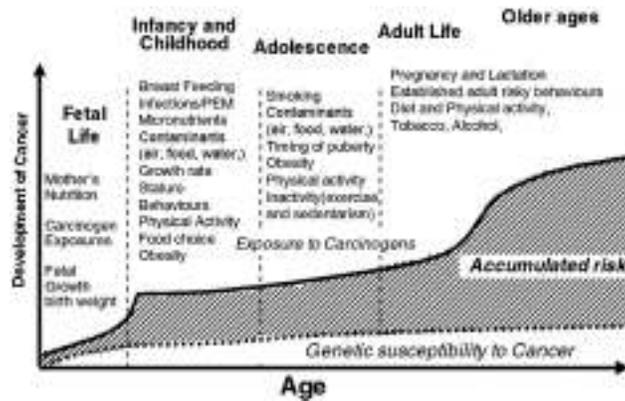


It is not surprising, therefore, that youth referred to the juvenile system commonly have multiple behavioral, social, and environmental risk factors for re-offense; re-offense is more likely in a poorly functioning family, in the face of substance use and mental health challenges, and problems in the school environment. Similarly, given the ongoing (and historical) prevalence of tobacco use, inactivity, and unhealthful eating, and the environmental conditions which promote them, it is not surprising that circulatory diseases and cancers dominate the causes of death.

Life course influences on well-being

Many diseases and conditions, even those appearing late in life, may have their origins much earlier. Biological, psychological, social, and environmental factors early in life—even before birth—can influence health status at later ages. A 60 year-old with newly discovered type 2 diabetes may have arrived at that diagnosis through some combination of intrauterine environment and maternal gestational diabetes, a pre-school home environment promoting excessive eating, a school environment de-emphasizing recess and activity, young adulthood in a setting promoting fast food consumption, and middle age in a sedentary profession. No one factor determined the diagnosis, but cumulatively and over time, they led to metabolic problems and diabetes. An example of potential lifespan influences on breast cancer is illustrated below, suggesting that risks start to rise early in life, and are cumulative over the life span.

In Clatsop County, the early indicators of future health status—children in poverty, diet and activity in school-aged children, youth tobacco and substance use—may not have immediate health impact, but will influence the health status of the county and its residents for decades to come. It is a major limitation of the current data available for assessment that they are not linked across topics and over time. Currently, we know that early childhood poverty in Clatsop County will set some children up for school failure, for instance, but the data linking specific children to developmental milestones to school performance to graduation rates over time are simply not there.



Both of these approaches to health and well-being can be discouraging: if ill health starts so early in life, and is influenced by social and environmental factors that are difficult to change, how can disease prevention and well-being promotion succeed? Fortunately, both of the above approaches can be turned on their heads. Early intervention at the individual level can break the pattern of accumulating risk across the lifespan, and collective effort to change the environment can enable individuals to make health-promoting choices.

Both of these approaches to health and well-being can be discouraging: if ill health starts so early in life, and is influenced by social and environmental factors that are difficult to change, how can disease prevention and well-being promotion succeed? Fortunately, both of the above approaches can be turned on their heads. Early intervention at the individual level can break the pattern of accumulating risk across the lifespan, and collective effort to change the environment can enable individuals to make health-promoting choices.

Policy, health, and well-being

Most often, when we consider the health of the population, we tend to think about how we can better care for the individual. However, much of health and well-being involves multiple causes common to many citizens, behaviors embedded in the environment, and effects over the life course. Community-wide policies—regardless of whether the “community” is a school, a high risk group, or the entire county—have enormous potential for improving well-being and health. The greatest impact on the overall health of a community is often reflected in the policies that have been adopted, implemented, and enforced. Public policy is a decision, plan, and action that is undertaken to achieve specific health related goal within a community or society. Explicit policies can achieve several things:

- a vision for the future;
- outlining priorities and the expected roles of different groups;
- building consensus and informing citizens.

Whether in public health, early childhood, juvenile justice, or any other area influencing the well-being of the county and its residents, policies are important tools for shaping the environment in which health and well-being can be improved.

Opportunities

In many respects, Clatsop County is similar to the state of Oregon in its challenges and opportunities. Its population is highly concentrated, with areas of relatively dense population spread among large areas of sparse population.

General health and disability. General health in the county mirrors that of Oregon. Disability, while not appreciably higher in the county than elsewhere, is substantial and is associated with both decreased quality of life and with considerable resource use. Preventing disability, particularly among seniors, and providing services for disabled citizens, is an opportunity for the county. To the extent preventive and adaptive services are made available; it is plausible to expect downstream resource savings.

Chronic disease. In general, Clatsop County has higher rates of chronic disease, particularly those associated with aging, than Oregon: arthritis, cancer, diabetes, heart attack, stroke, and hypertension. Some of this may be due to the somewhat older county population. Like the state as a whole, many Clatsop County residents, both adults and children, are insufficiently physically active and eat poorly. Tobacco use, an important cause of cancer, heart disease, and other conditions, is higher in Clatsop County than in the state, beginning in high school and including pregnant women. Tobacco control represents an important area for county health improvement. Chronic mental health issues, while not differing substantially from state rates, are nevertheless substantial, and an area for action both in adults and children. Breastfeeding has been convincingly demonstrated to be both health promoting and economical; while many Clatsop County mothers initiate breastfeeding, rates diminish substantially over time, representing a lost opportunity to confer long-term health benefits to the county's youngest citizens.

Substance use. Substance use is closely tied to crime, educational failure, and domestic problems. While adult alcohol use in the county mirrors that for the state in some respects, binge and heavy drinking among men was considerably above the state average. Alcohol use is also more prevalent among county high schoolers, compared to their Oregon peers. Similarly, county high schoolers are more likely to abuse marijuana and prescription medications than their state peers. County residents are more likely to die of drug related causes than other Oregonians. Drug and alcohol use appears to be a promising area for action.

Crime. Overall, crime rates have been dropping both in Clatsop County and in Oregon, both for adults and juveniles. This, combined with the ability of the juvenile department to divert the vast majority of cases and to improve recidivism in recent years, is a major achievement for the county and improves the quality of life for everyone in the County. Domestic violence, closely tied to substance use, is more commonly reported in the county than in the state. While the county has had success, public safety is an important area for further consideration. Crime prevention, chronic offenders, domestic and sexual violence, and juvenile crime are areas in which enhancement would have substantial impact.

Education. Clatsop County residents are less likely to have post-high school education than other Oregon residents, which in turn may limit the economic prospects both for individuals and the county. Whether the educational status of the county is the result of out-migration, fewer opportunities for higher education, or the somewhat lower achievement among high schoolers compared to the Oregon average is unclear. The well documented influence of education on well-being suggests that improved educational opportunities for county residents be a priority. Both the county and state are addressing these issues. Key elements of ongoing efforts include

alignment and integration of services to ensure children are ready for kindergarten, focus on high risk children, and tracking outcomes with a willingness to change approaches that do not deliver results. Achieving these goals requires communities to align services and agencies toward a common goal of school readiness and best practice interventions.

Income and housing. The recent economic downturn has had a predictable effect on the county: income is flat, more adults and children are living in poverty, and emergency food aid distributed has risen. The ability of the county to improve incomes and housing is of course limited, but would probably be the largest single way to contribute to the well-being of the county and its citizens. County policies that enable those who wish to work to find meaningful employment (e.g. services, education) may be the most important long term actions to be taken.

Healthcare. There are a number of healthcare institutions in the county, though physical access is limited by distance for many residents. A greater access issue is lack of insurance, which has remained high into the current economic downturn, and which may be responsible for a spike in late pre-natal care. Non-medical care—dental care, behavioral health—is viewed as limited in the county, and represents an area for improvement.

Environment. In general, Clatsop County residents enjoy a healthy environment, both natural and human. Because of the county's location, it is highly vulnerable to the unpredictable but eventually certain major earthquake and related tsunami. Such an event may be days or centuries away, but when it occurs there is no time for reaction—the only solution is prior planning. Planning for such an event, while it can't overshadow other immediate needs, is vital to assuring county well-being.

Limitations of this report

There are a number of limitations to this report, most of which stem from the nature of the data available to document the county's well-being. Three major limitations are obvious:

1. Lack of longitudinal data. In some instances, there is ample historical record of important health indicators over time. For well-established demographic, clinical, and service indicators (e.g. population by gender, income) standard definitions have been in common use and are consistent across time and jurisdictions. For many elements, including some key indicators, data have either not been kept over the years, or have been defined in various ways over the years. In either event, this makes it impossible to determine whether there are trends in the county, or whether data from Clatsop County is comparable to other locations.
2. Inability to link data from multiple sources. While it is reasonable to expect associations among the indicators discussed in this report (e.g. parallel changes in eating, overweight, and diabetes), it is not possible to make strong claims about those associations, simply because it is not possible to link individual level information on the relevant indicators. First, most indicator data are simply not available at the individual level. Second, there is no common linking mechanism (e.g. name, address, SSN) consistently available to link data. Third, there are appropriately strong privacy regulations that preclude or at least make difficult combining data at the individual level (e.g. domestic violence data with demographic data).
3. Small numbers. For many important indicators, there are ample numbers from which to draw fairly tight estimates of population rates. For some indicators (e.g. suicides) however, the numbers are—sometimes thankfully—too low to see all but the biggest trends over time. This is a challenge inherent in examining county level data, and can only be overcome through longer term longitudinal tracking, if then.

The reasons for these limitations are clear and understandable. Agencies may have resource and logistical challenges finding and reporting data. Collecting data over time, in a consistent manner, using a system which allows linkages but protects privacy, is a major undertaking. There simply are not resources at either the county or state level to make this happen.

The larger implication of these limitations is clear. While this report has identified a number of areas which seem ripe for action, confidence in recommending action is reduced in some cases because it is not possible to identify, with certainty, the causes of some important indicators. On the other hand, enough is known in many instances (e.g. that tobacco use and cancer are related) to recommend taking action.

Next steps

First, this assessment should inform two emerging processes. The next phase of this assessment effort will be to conduct an integrated community health assessment in partnership with Columbia Pacific Coordinated Care Organization (CCO). This will inform both the health improvement plan and the strategic plan, which are in turn requirements for county public health accreditation and a mandate for the CCOs. At the same time, results from this assessment should assist the transition for the Early Learning Council, as it seeks greater integration and synergy among programs. The data collected here can be used to inform the community to make policy and programmatic decisions that benefit the community.

Second, use these findings to better coordinate among county agencies. The inroads against underage crime made by the juvenile department are impressive, for instance. By combining information across sectors it may be possible to make more effectively targeted interventions to improve the lives of young residents. Coordinating services through shared data can improve efficiencies, identify gaps in services, and serve to develop common outcomes.

Third, put in place infrastructure to assure ongoing collection and dissemination of the indicators in this report (or those agreed to in a revision in collaboration with the CCO). Providers of services in Clatsop County do not always have access to their data or the resources needed to analyze it. Many meetings take place where there is the discussion about the problem and the people, but there is no data to reference. A central mechanism for collecting important indicators would help all agencies inform their actions.

References and Resources

Clatsop County. About Clatsop County. <http://co.clatsop.or.us>

Taylor, George. Climate of Clatsop County.
http://www.ocs.orst.edu/county_climate/Clatsop_files/Clatsop.html

Oregon Public Health Division. Oregon Vital Statistics.
<http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/Pages/index.aspx>

United States Census Bureau. State and County Quick Facts.
<http://quickfacts.census.gov/qfd/states/41/41007.html>

Oregon Department of Education. Cohort Graduation Rate. <http://www.ode.state.or.us/>

Oregon Employment Department. <http://www.oregon.gov/EMPLOY/pages/index.aspx>

Secretary of State Audit Report. Oregon's Counties: 2012 Financial Condition Review.
http://www.sos.state.or.us/audits/pages/state_audits/full/2012/2012-17.pdf

Health and Well-being: People

Children First for Oregon. Status of Oregon's Children.
http://www.cffo.org/images/pdf_downloads/county_data_books/Clatsop%20County.pdf

Oregon Head Start Prekindergarten. Students reaching academic goals using Teaching Strategies Gold assessment with CFDP and OHS data.

Oregon Health Authority, Public Health Division. Vital Statistics Annual Reports.
<http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/annualreports/Pages/index.aspx>

Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. <http://www.cdc.gov/brfss/>

Oregon Student Wellness Survey, 2010. <http://www.oregon.gov/oha/amh/pages/student-wellness/index.aspx>

Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 2011. *MMWR Surveillance Summaries*. June 8, 2012, 61; 4:

Bureau of Justice Statistics. Arrest in the United States, 1980-2009.
<http://www.bjs.gov/content/pub/pdf/aus8009.pdf>

Clatsop County Public Health Department. The Health of Clatsop County—2009 Report.

Oregon Health Authority (Oregon Department of Human Services). Vital statistics.
<http://oregon.gov//DHS/ph/chs/data/vol1.shtml>

National Center for Health Statistics, Birth Data (<http://www.cdc.gov/nchs/births.htm>)

National Center for Health Statistics Death Data (<http://www.cdc.gov/nchs/deaths.htm>)

Oregon health Authority (Department of Human Services), Public Health Division. Oregon Smile Survey.
http://public.health.oregon.gov/PreventionWellness/oralhealth/Documents/smile_2007.pdf

Clatsop Community Action. Regional food bank statistics. <http://ccaservices.org/>

Centers for Disease Control and Prevention, Pediatric Nutrition Surveillance System.
<http://www.cdc.gov/pednss/>

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

Garland, R. Oregon Health Authority, Public Health Division. The burden of asthma in Oregon.
http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Asthma/Documents/burden/or_asthma2010.pdf

Nurit Fischler N, Kasehagen L, Rosenberg K, Wiens HN, Yusem S. Oregon Health Authority, Public Health Division. Oregon Perinatal Data Book.
<http://public.health.oregon.gov/HealthyPeopleFamilies/DataReports/PerinatalDataBook/Pages/index.aspx>

Oregon Health Authority, Public Health Division. Selected Reportable Communicable Disease Summary: Oregon 2010.
http://public.health.oregon.gov/diseasesconditions/communicabledisease/diseasesurveillancedata/annualreports/arpt2010/documents/acd_report2010.pdf

State Epidemiological Outcomes Workgroup, Oregon Health Authority, Addictions and Mental Health Division. Clatsop County's Epidemiological Data on Alcohol, Drugs and Mental Health, 2000 to 2010. <http://www.oregon.gov/oha/amh/ad/data/clatsop.pdf>

Buelow V, Ngo D. Oregon Health Authority, Public Health Division, Health Promotion and Chronic Disease Prevention Program. Oregon Overweight, Obesity, Physical Activity and Nutrition Facts.
http://public.health.oregon.gov/preventionwellness/physicalactivity/documents/oregon_panfactst_2012.pdf

Oregon Health Authority, Public Health Division. Oregon Behavioral Risk Factor Surveillance System, Center for Health Statistics.

<https://public.health.oregon.gov/BirthDeathCertificates/Surveys/AdultBehaviorRisk/Pages/index.aspx>

Oregon Health Authority, Public Health Division, Tobacco Prevention and Education Program. Clatsop County Tobacco Fact Sheet 2011.

<http://public.health.oregon.gov/PreventionWellness/TobaccoPrevention/Documents/countyfacts/clatfac.pdf>

County Health Rankings & Roadmap: Clatsop County.

<http://www.countyhealthrankings.org/app/oregon/2012/clatsop/county/outcomes/overall/snashot/by-rank>

National Cancer Institute. State Cancer Profiles.

<http://statecancerprofiles.cancer.gov/incidencerates/index.php?stateFIPS=41&cancer=020&race=00&sex=0&age=001&type=incd&sortVariableName=rate&sortOrder=default>

Center for Personal Assistance Services. Disability prevalence data for Clatsop County, Oregon.

http://www.pascenter.org/state_based_stats/disability_stats/acs_counties.php?state=oregon&county=Clatsop+County

Oregon Health Authority, Public Health Division. Heart Disease and Stroke Prevention.

http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/HeartDiseaseStroke/Pages/pubs.aspx#heart_disease_stroke_data

Oregon Health Authority, Public Health Division. Healthy Aging in Oregon Counties.

<http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Pages/healthyaginginoregoncounties.aspx>

Health and Well-being: Family

Commission on Children and Families Comprehensive Plan Survey, 2010.

Federal Bureau of Investigation, Uniform Crime Reports, <http://www.fbi.gov/ucr/ucr.htm>

University of Virginia Library, Geostats Center, Uniform Crime Reports County Data, <http://fisher.lib.virginia.edu/collections/stats/crime/>

National Archive of Criminal Justice Data, Uniform Crime Reporting Program Data, <http://www.icpsr.umich.edu/NACJD>

Oregon Health Authority, Public Health Division. Oregon Healthy Teens Survey.

<http://public.health.oregon.gov/BIRTHDEATHCERTIFICATES/SURVEYS/OREGONHEALTHYTEENS/Pages/index.aspx>

Women's Resource Center. <http://www.cwrc.net/>

Oregon Explorer. Percentage of Births to unwed mothers.
<http://oe.oregonexplorer.info/rural/CommunitiesReporter/>

Oregon Office of Rural Health. <http://www.ohsu.edu/xd/outreach/oregon-rural-health/index.cfm>

Oregon Health Authority, Addictions and Mental Health Division. Gambling by 11th graders in Oregon, 2011. From *Oregon Student Wellness Survey, 2010*.
<http://www.oregon.gov/oha/amh/pages/student-wellness/index.aspx>

Oregon Health Authority, Addictions and Mental Health Division. Gambling by 8th graders in Oregon, 2011. From *Oregon Student Wellness Survey, 2010*.
<http://www.oregon.gov/oha/amh/pages/student-wellness/index.aspx>

Oregon Housing and Community Services. One night homeless count, January 2009.
<http://library.state.or.us/repository/2010/201008240914142/2009.pdf>

Oregon Health Authority, Addictions and Mental Health Division. Clatsop County Problem Gambling Treatment 08-09 <http://www.oregon.gov/oha/amh/pgcountydata/clatsop.pdf>

Oregon Health Authority, Addictions and Mental Health Division. *Oregon Student Wellness Survey, 2010, Clatsop County*. <http://library.state.or.us/repository/2010/201012141305412/>

JJIS Steering Committee, Juvenile Justice Information System, Oregon Youth Authority. Data and evaluation reports: Youth and referrals, 2003-11.
http://www.oregon.gov/oia/Pages/jjis_data_eval_rpts.aspx

Oregon Health Authority, Public Health Division, Maternal and Child Health Section. Oregon Child Health 2010 Data and Resource Guide.
<http://public.health.oregon.gov/healthypeoplefamilies/babies/documents/oregon-child-health-2010-data-and-resource-guide.pdf>

Oregon Department of Education. , *2010-11 Statewide Report Card*.
<http://www.ode.state.or.us/data/annreportcard/rptcard2011.pdf>

U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. *Child delinquency bulletin series, April 2003*.
<https://www.ncjrs.gov/pdffiles1/ojjdp/193409.pdf>

Health and Well-being: Environment

Northwest Oregon Parenting Education and Support Hub Parent Survey, August 2011.

Early Intervention & Early Childhood Special Education program report from the Northwest Regional ESD, Clatsop County.

Lewis P. Providence Health & Services - Oregon Community Health Needs Assessment 2011–2013.

Department of Human Services, Drinking Water Program. (2010, August 19). Community water systems adjusting fluoride. Retrieved from <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Documents/fluoride.pdf>

Centers for Disease Control & Prevention, National Center for Chronic Disease Prevention & Health Promotion, Oral Health Resources. (2008). My water's fluoride: Oregon. Retrieved from <http://apps.nccd.cdc.gov/MWF/CountydataV.asp?State=OR>

Oregon Food Bank. Annual statistics, 2010-2011. <http://www.oregonfoodbank.org/>

NorthWest Senior & Disability Services. Older Americans Act Area Plan, 2008-2012: District #1 – Clatsop, Marion, Polk, Tillamook, and Yamhill Counties. <http://www.nwsds.org/>

Clatsop EI/ECSE Program. 2009-2010 Special Education Report.

Oregon Health Authority, Public Health Division. Vital Statistics Annual Reports. <http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/annualreports/Pages/index.aspx>

Oregon Department of Education. Cohort Graduation Rates. <http://www.ode.state.or.us/search/page/?id=2644>

Oregon Health Authority (Department of Human Services), Public Health Division. Oregon Environmental Public Health Tracking (EPHT), Air Quality (1999-2007) Nationally Consistent Data and Measures. <https://public.health.oregon.gov/HealthyEnvironments/TrackingAssessment/EnvironmentalPublicHealthTracking/Pages/index.aspx>

Oregon Health Authority, Public Health Division. ALERT Immunization Information System, Oregon Immunization Program. <http://public.health.oregon.gov/preventionwellness/vaccinesimmunization/Pages/index.aspx>

Oregon Health Authority, Public Health Division. Oregon Immunization Surveillance and Evaluation. <http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/Pages/research.aspx#county>

Tucker P, Gilliland J. The effect of season and weather on physical activity: A systematic review. *Public Health* 2007; 121(12): 909-922.

Taylor G, Hale C, Joos S. Climate of Clatsop County. http://www.ocs.oregonstate.edu/county_climate/Clatsop_files/Clatsop.html

Clatsop Community Action Regional Food Bank. *Clatsop County Food Talk: A Report on the Food System of Clatsop County*. <http://www.oregonfoodbank.org/Our-Work/Building-Food-Security/Community-Programs/~media/Files/ClatsopCFA%20%20Final%20Versionpdf.pdf>

Clatsop County. Maps-Geographic Information Systems.
<http://www.co.clatsop.or.us/default.asp?deptid=3&pageid=540>

Oregon Health Authority, Public Health Division. Drinking Water.
<http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Pages/index.aspx>

Oregon Health Authority, Public Health Division. Environmental Health Information.
<http://public.health.oregon.gov/HealthyEnvironments/TrackingAssessment/EnvironmentalPublicHealthTracking/Pages/envhealthinfo.aspx>

Clatsop County. Clatsop County Webmaps. <http://maps.co.clatsop.or.us/applications/index.html>

Determinants

Uauy R, Solomons N. Journal of Nutrition. December 1, 2005 vol. 135 no. 12 2934S-2945S.

Seymour M. Understanding and tackling the wider social determinants of health.
http://www.local.gov.uk/web/guest/health/-/journal_content/56/10171/3511260/ARTICLE-TEMPLATE#sthash.HgptlxIW.dpuf