Marion County Health Equity Report:
Making the Difference

Marion County
OREGON
Health Department

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1. INTRODUCTION

Key Definitions

- **Social determinants of health/ Health inequities:** Are avoidable and include personal, social, economic. and environmental factors that influence health, such as age, race, ethnicity, language spoken, income, education level, and living in neighborhoods without a grocery store, local park. or with crime or air pollution.

- **Health equity:** When everyone has equal opportunity to achieve health, regardless of income or where they live.

- **Health disparity:** Health disparities are population-specific differences in health outcomes and are closely linked to social, economic, and/or environmental disadvantages.

Home to nearly 320,000 people, Marion County is the second most populous of Oregon's counties outside the Portland-metropolitan area. Marion County's population has continued to grow throughout the past years, including increases in its ethnic and racial diversity.[1] Marion County spans over 1,200 square miles and includes rural, suburban, and urban communities. Marion County may be broken down into regional groups based on the nearest Census-tracked city to better understand the differences between the cities of Salem, Keizer, Woodburn, Silverton, and Stayton.

Compared to Oregon, Marion County has a high number of persons that fall into certain social determinant groups that may lead to poorer or disparate health.[2] This report will focus on the changeable social, economic, and environmental factors that contribute to certain groups of people having poorer health.

Nationally, social determinants of health have been shown to closely correlate with mortality (death rates) and morbidity (disease rates). These cannot currently be correlated at the county level due to lack of data. Social determinants may affect access to health insurance and health care, as well as to healthy foods and physical activity that support good health. According to the World Health Organization (WHO), inequities in social determinants are an issue of social justice because they create health inequities.[3]

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[1] U.S. Census Bureau – Quickfacts Data. 2010. http://quickfacts.census.gov/qfd/states/41/41047.html.

[2] Social Determinants of Health: The complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities. These social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world – Center for Disease Control and Prevention. "Definitions." January 5, 2011. http://www.cdc.gov/socialdeterminants/Definitions.html.

[3] Health Equity: When all people have "the opportunity to 'attain their full health potential' and no one is 'disadvantaged from achieving this potential because of their social position or other socially determined

The Centers for Disease Control and prevention report "the research, policy, and public health practice literature is reporting substantial disparities in life expectancy, morbidity, risk factors, and quality of life, as well as a persistence of these disparities among segments of the population." [4] In addition, the same CDC report notes that the U.S. population is increasingly becoming older and more ethnically diverse, meaning health disparities may have an influence on greater proportions of our populations in the future.

Research has proven that individuals have a greater likelihood of high rates of disease, disability, and death from health issues if they lack health insurance or live in areas where the built environment does not support healthy lifestyles. Using data from the Oregon Health Authority Vital Statistics and the U.S. Census Bureau, this report represents a snapshot of the five different cities in Marion County to demonstrate the way in which Marion County is stratified by socioeconomic status, ethnic and racial diversity, and other low-health predictors such as age and gender.

The purpose of this report is to describe and draw attention to Marion County's distribution of health-predicting social determinants as they influence health insurance and healthy lifestyle opportunities.

2. METHODOLOGY OF RESEARCH

Three sources were used for this report: the U.S. Bureau Census, the Oregon Health Authority, and Marion County Health Department's 2011 Survey of county residents. Data provided are from the years 2010-2011. U.S. Census data (including the 2010 census and 2011 American Community Survey data where noted) is used to establish data at a city level (Salem, Keizer, Woodburn, Silverton, and Stayton) through comparison. The Oregon Health Authority data is used when census data was not available to demonstrate an Oregon trend. The Marion County Health Department 2011 survey data is used to supplement the information by helping to describe how health is perceived by county residents.

A limitation of this report is that it is based on the data that is available, which may influence the conclusions made.[5] A data limitation is the ability to compare the social determinants for Marion County directly to health outcomes; therefore a key assumption of this report is that lack of health insurance and presence of poverty

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circumstance'" - Center for Disease Control and Prevention. "Definitions." January 5, 2011. http://www.cdc.gov/socialdeterminants/Definitions.html.

[4] CDC. "CDC Health Disparities and Inequalities Report." 2011: P. 3. http://www.cdc.gov/minorityhealth/CHDIReport.html.

[5] O'Donnell, Owen, Eddy van Doorslaer, Adam Wagstaff, and Magnus Lindelow. "Analyzing Health Equity Using Household Survey Data: A guide to Techniques and Their Implementation." World Bank Institute (2008): 16-27. http://siteresources.worldbank.org/INTPAH/Resources/Publications/459843-1195594469249/HealthEquityFINAL.pdf

negatively affect health outcomes and health care utilization. In addition, this report is focused on identifying regional differences based on the latest available data, and does not discuss programs or other efforts that are currently happening in these cities to address these differences.

3. Social Determinants of Health

MEDIAN HOUSEHOLD INCOME

Woodburn has the lowest household income in Marion County and Salem has the second lowest.

Three of Marion County's five cities have lower median household incomes than both Oregon's ($49,260) and the U.S. in general ($50,056).[6] Low-income Americans are three times less likely to have a usual source of care than those with higher incomes.[7] Median household income is directly correlated with the likelihood of having health insurance and, therefore, health care. Forty-six percent of persons earning under $49,999 are uninsured in Marion County and 30% of those who earn $50,000 - $99,999 are uninsured. In contrast, only 8% of people who earn over $100,000 are uninsured.[8]
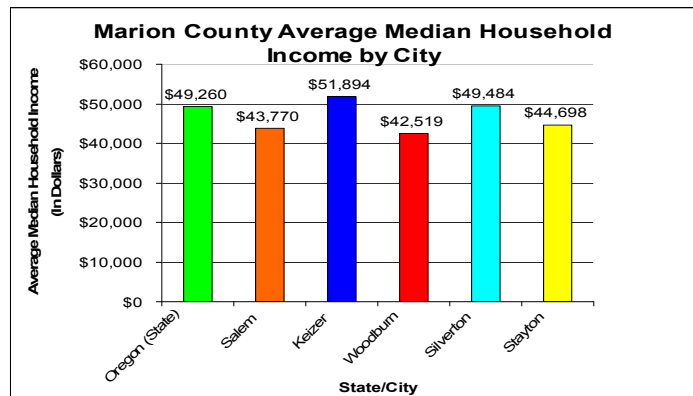
Figure 1: U.S. Census Quick Facts, 2010
The Median Household Income is raw data, directly input from the Median Household Income from U.S. Census Quick Fact data in 2010 for each of the five cities, as well as Oregon in general. No calculations were made.

Nationally, people of color are more likely to have lower incomes and lower overall wealth than whites. This likelihood has been increasing, rather than decreasing, in the past few years. Pew Research Center notes that the wealth gap has risen to record highs between whites, when compared with blacks, and Hispanics. As of 2011, the median wealth of white households was 20 times that of black households and 18 times that of Hispanic households.[9]

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[6] Small Area Health Insurance Estimates 2010 Highlights. 2010.
http://www.census.gov/did/www/saipe/data/statecounty/maps/iy2010/med_hh_inc2010.pdf
[7] HealthCare.gov. 2011. "Health Disparities: Improving Health Equity." U.S. Department of Health and Human Services. http://www.healthcare.gov/news/factsheets/2011/06/disparities06092011a.html.
[8] Health Insurance Status, 2011 American Community Survey.
[9] Kochhar, Rakesh and Richard Fry and Paul Taylor. "Wealth Gaps Rise to Records Highs between Whites, Blacks, Hispanics." Pew Research Center. July 26, 2011. http://pewresearch.org/pubs/2124/age-gap-silent-generation-millennials-wealth-gap

Associated with wealth/income disparity, Pew Research Center has noted that there has been an increase in residential segregation based on income.[10] This is significant, because neighborhoods that are mainly inhabited by lower income families may be less likely to have environmental improvements such as parks and well-repaired sidewalks with good lighting to support healthy active living by residents.
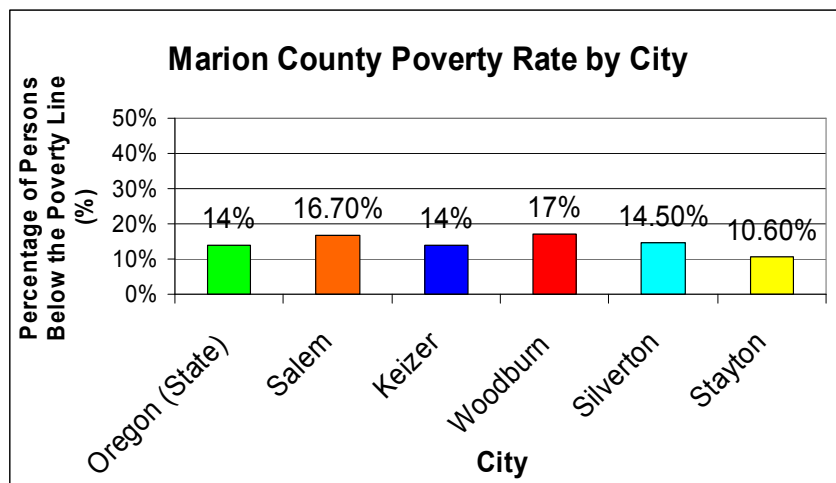
On average, white persons in Marion County earn almost double what Asian persons do and over $12,000 more than American Indian/Alaska Natives and persons of Hispanic/Latino origin.[11] Therefore, it not surprising that the largest rates of poor and low income households are found in Salem and Woodburn, the areas where there is also the greatest percentage of ethnicities.

POVERTY

Salem and Woodburn have the highest percentage of persons living below the federal poverty guideline when compared with the rest of Marion County.

Numerous Marion County families are experiencing poverty. More than 17% of the population is living below the federal poverty guideline and nearly one in five persons in Marion County does not have health insurance.[12] Living in poverty is a significant determinant of access to health insurance. Roughly twice the percentage of persons earning less than 200% of the poverty threshold are uninsured when compared with persons who are earning more than 200%. [13]

Marion County Poverty Rate by City

(Bar chart: Percentage of Persons Below the Poverty Line (%) vs City)
- Oregon (State): 14%
- Salem: 16.70%
- Keizer: 14%
- Woodburn: 17%
- Silverton: 14.50%
- Stayton: 10.60%

Figure 2: U.S. Census Quick Facts Data, 2010
The Poverty Rate is raw data, directly input from the Median Household Income for U.S. Census Quick Fact data in 2010 for each of the five cities, as well as Oregon in general. No calculations were made.

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[10] Pew Research Center. "Growing Share of Americans Live in Income-Segregated Neighborhoods." August 1, 2012. http://pewresearch.org/pubs/2316/census-segregation-lower-income-middle-upper-neighborhood-rise-major-metropolitan-tract-household-data-analysis-1980-majority-inequality-class-mixed

[11] American Community Survey. Median Income in the Past 12 Months (in 2011-Adjusted Dollars). http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1903&prodType=table.

[12] For poverty level: US Census Bureau Quick Facts. http://quickfacts.census.gov/qfd/states/41/41047.html viewed 4/10/2012. For Health Insurance, see Number 16.

[13] Health Insurance Coverage Status, 2011 American Community Survey. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S2701&prodType=table

An additional measurement of poverty is the percentage of youth who receive free or reduced lunch. Despite Salem having a median income and poverty rate than Woodburn, the percentage of students receiving free or reduced lunch is much higher in northern Marion County: 69% in Aurora/Donald/Hubbard, 87% in Gervais, and 78% in Woodburn as opposed to 60.2% in Salem-Keizer.[14] The high level of need may be related to a higher percentage of ethnic persons living in these northern Marion County communities. As will be discussed, ethnic groups in Marion County are experiencing numerous social determinants that negatively influence health, such as higher levels of poverty, younger age levels, and greater linguistic and citizenship barriers.

RACE/ETHNICITY

Ethnic diversity is growing in Marion County. Woodburn and Salem have the highest level of ethnic diversity.
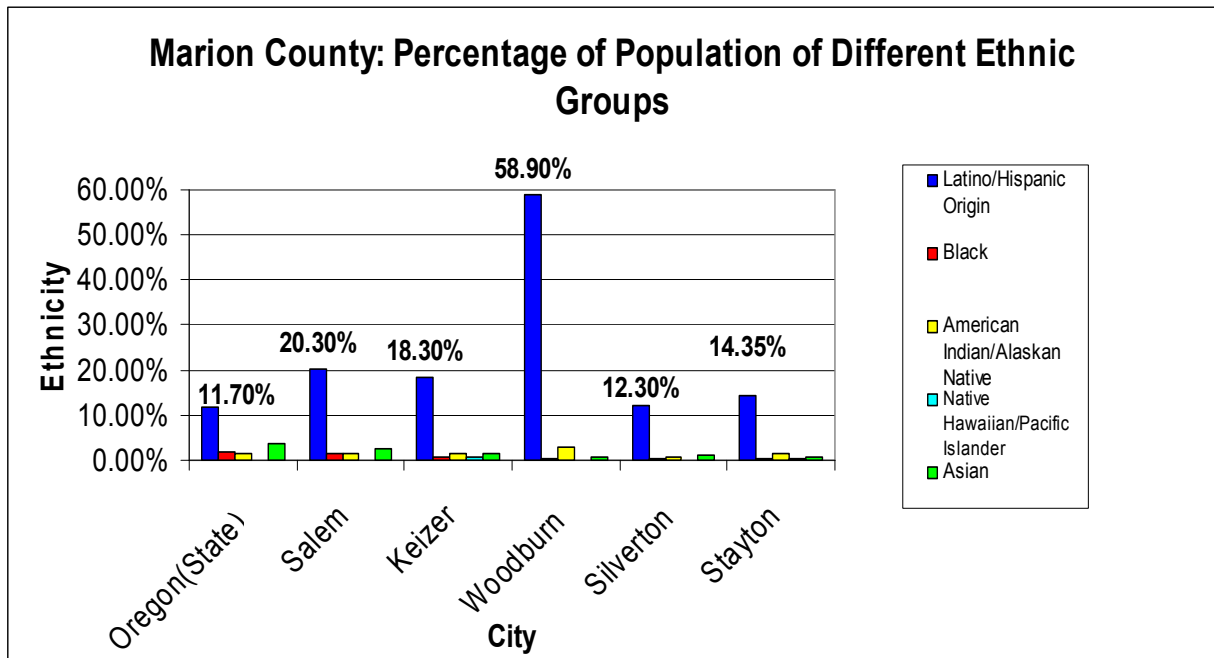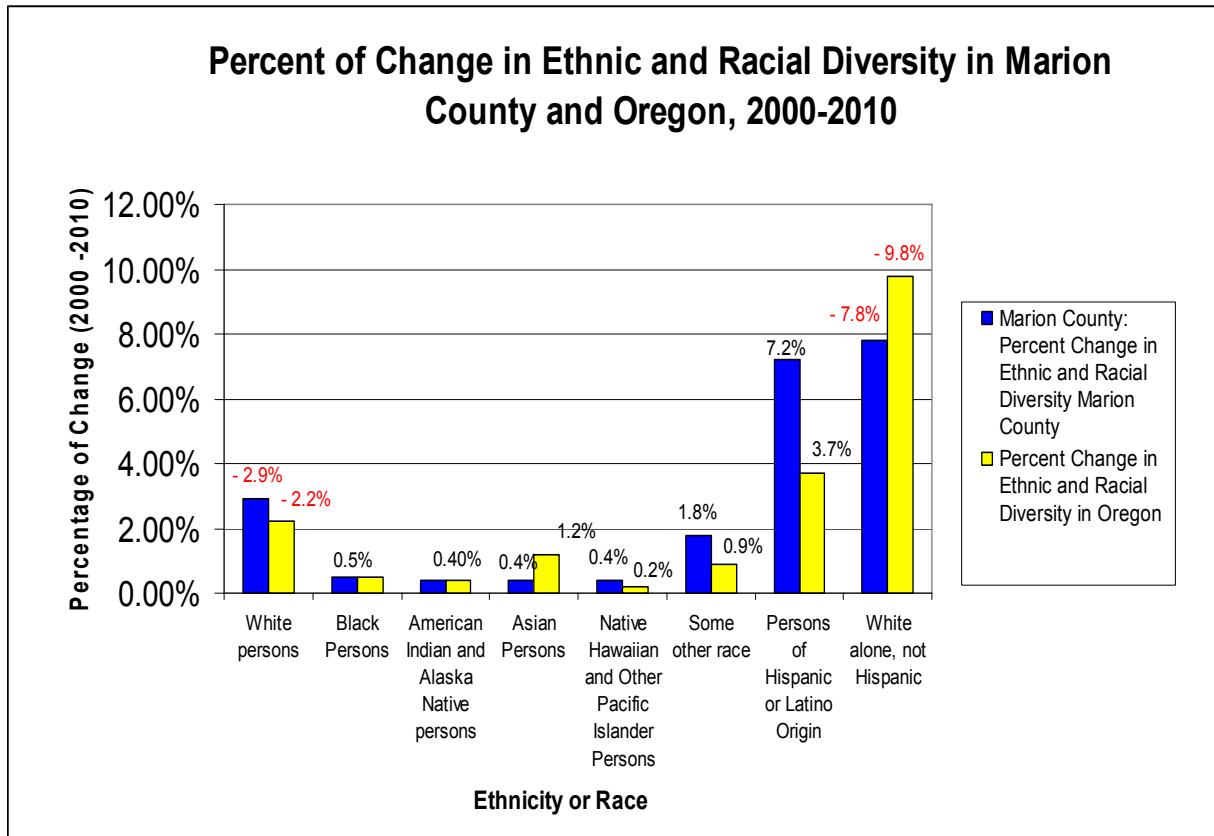

Figure 3: U.S. Census Quick Facts Data, 2010
The Percentage of Population of Different Ethnic Groups is raw data, directly input from the Median Household Income from U.S. Census Quick Fact data in 2010 for each of the five cities, as well as Oregon in general. No calculations were made.

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[14] Oregon Department of Education. Students Eligible for Free/Reduced Lunch 2011-2012. http://www.ode.state.or.us/sfda/reports/r0061Select2.asp. Viewed 4/10/2012.

Percent of Change in Ethnic and Racial Diversity in Marion County and Oregon, 2000-2010

Figure 4: Demographic Characteristics, Oregon and Marion County, U.S. Census, 2000-2010
The Change in Ethnic and Racial Diversity in Marion County was calculated by subtracting Ethnic/Racial group percentages in the 2010 the Demographic Characteristics for Oregon and Marion County from the same 2000 data sets.

A comparison of 2000 and 2010 U.S. Census data shows that ethnic and racial diversity has grown in Marion County (See Figure 4). When compared with Oregon, Marion County has experienced twice the rate of growth in percentage of persons of Hispanic or Latino origin, Native Hawaiian or Other Pacific Islander, and Some other Race. Marion County has had a greater increase in white persons than Oregon, however not in people who are white alone (with no other race and not of Hispanic descent). In contrast, Oregon has had triple the growth in its Asian population than Marion County. Marion County's largest ethnic minority continues to be persons of Hispanic or Latino origin.

U.S. Census data from 2010 reveals that Marion County's ethnic and racial communities experience significantly greater rates of poverty. Persons of Hispanic or Latino origin are more than twice as likely to be below the poverty level as non-Hispanic White persons, and 32.8% of persons of Hispanic or Latino origin of any race are living in poverty level compared to 15.2% of white persons. In Marion County, the three ethnic groups with the highest percentage of persons below the poverty level are (1) Asian other than Pacific Islanders (41.5%) (2) those of a race not captured, and (3) 38.5% of

those not listing a race. Information on American Indian, Alaska Native, Black of African American, and Native Hawaiian and Other Pacific Islander were not able to be reported due to too small a sample size.
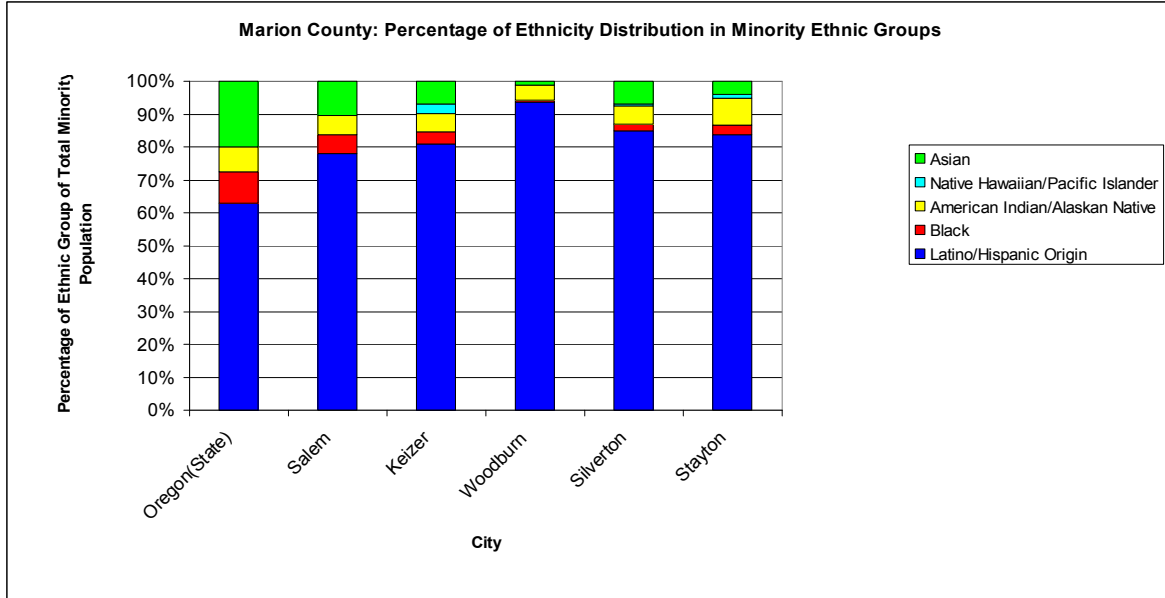
Figure 5: U.S. Census Quickfacts Data, 2010.
The Percentage of Ethnicity Distribution was derived by inputting the 2010 Quickfact Data on ethnic groups for each City and Oregon into Microsoft Excel as a Stacked Column.

FOREIGN-BORN/ LANGUAGE OTHER THAN ENGLISH SPOKEN AT HOME

Foreign-Born persons living in Marion County are less likely to have health insurance than domestically-born persons. Those speaking a language other than English at home, especially if it is Spanish in Marion County, are less likely to achieve a high school degree or Bachelor's degree. Woodburn has a significantly higher percentage of population who are foreign-born persons (35%) and those who speak a language other than English at home (58.5%) than the rest of Marion County. Salem, the second highest in both categories, has 12.7% of persons who are Foreign-Born and 21.3% who speak a Language Other than English at Home.

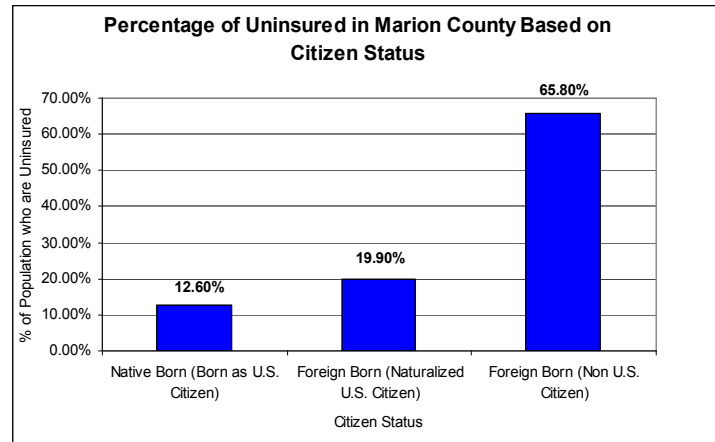| Percentage of Population who are Foreign-Born and Percentage of Population who Speak a Language Other than English at Home		
Region	% of Population who are Foreign-Born	% of Population who Speak Language other than English at Home
Oregon	9.70%	14.30%
Salem	12.70%	21.30%
Keizer	9.20%	16.50%
Woodburn	35.00%	58.50%
Silverton	6.10%	13.10%
Stayton	8.20%	14.80%

Figure 6: Characteristics of People by Language Spoken at Home. 2011 American Community Survey. No calculations were made.

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Of the persons who speak a language other than English at home in Marion County, 32.3% are living below the poverty level as opposed to 15.6% of English speakers. Language also appears to be associated with educational attainment. In Marion County, 52.8% of persons who speak Spanish or Spanish Creole at home have less than a high school graduate degree, compared to the persons who speak English at home. Only 8% of Spanish or Spanish

Creole speakers achieve a Bachelor's degree or higher, compared to 23.8% of people who speak English at home. [15]

Citizenship also has a significant impact on likelihood of having health insurance. There

Percentage of Uninsured in Marion County Based on Citizen Status

Figure 7: Health Insurance Coverage Status. 2011 American Community Survey
This information is raw data, directly input from the Marion County 2011 American Community Survey Characteristics of People by Language Spoken at Home. No calculations were made.

exists a large gap between persons in this category regarding health insurance (See Figure 7 above). 55.7% of foreign born persons do not have health insurance in Marion County, compared to 12.6% who are Native born. This percentage becomes even greater when comparing foreign born persons who are naturalized or non-citizens. About 19.9% of naturalized foreign-born persons are uninsured. However, 65.8% of persons who are not citizens are uninsured. [16] Therefore, citizenship is a highly significant determinant of access to health care.

EDUCATION LEVEL

In Marion County, persons with low educational levels are more likely to also live in poverty. Persons in Woodburn are significantly less likely to have a Bachelors degree or high school degree.

Marion County residents have lower educational achievement than Oregon in general. All cities in Marion County have a lower percentage of adults (ages 25 and older) with a university education than in Oregon and all but one city have a lower percentage of high school graduates. The only exception is Silverton, which has a higher percentage of high school graduates than Oregon. [17] The lowest percentage of persons with high school or university degrees is in Woodburn. In Woodburn, only 60.6% of adults have a high school degree. That is almost a quarter less than Salem, which has

[15] Characteristics of People by Language Spoken at Home. 2011 American Community Survey. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1603&prodType=table
[16] Health Insurance Status. 2011.
[17] U.S. Census Bureau – Quickfacts Data 2010.

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the second lowest percentage high school graduates. Woodburn has the lowest rate of adults who have a bachelor's degree (13.5%). This rate is less than half of Oregon's average rate (28.5). A look back to the 2000 Census reveals that Marion trailed Oregon by about 6% for adults ages 25 and older who had some college.[18] That a disparity in attending higher education continues is reflected in the 2010 data displayed in Figure 8.
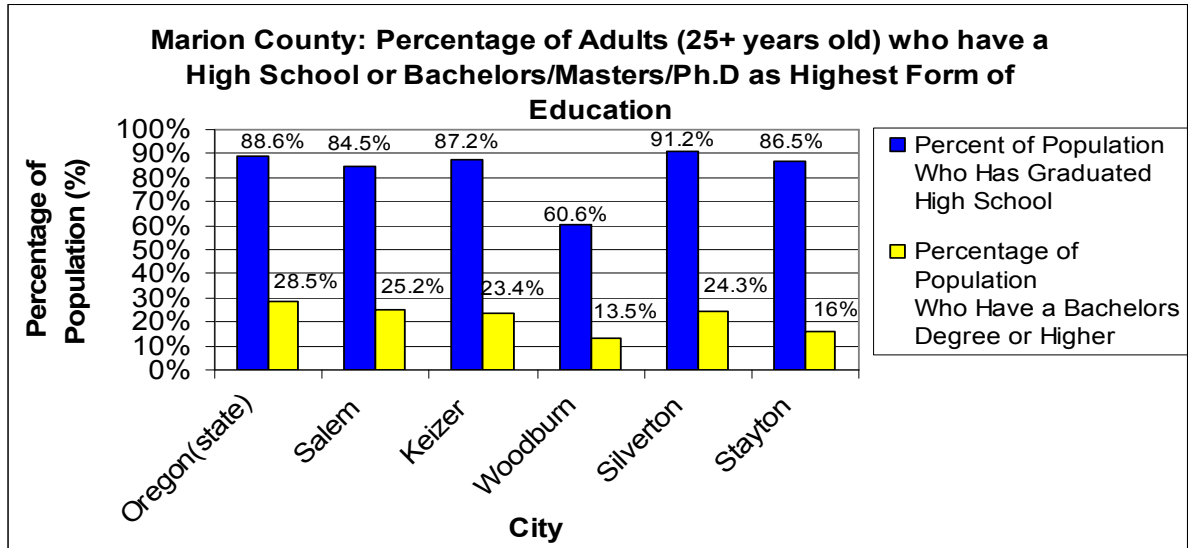
Figure 8: U.S. Census Quick Facts Data, 2010
The Percentage of Adults with a High School or Bachelors/Masters/Ph.D as Highest Form of Education is raw data, directly input from the percentages from U.S. Census Quick Fact data in 2010 for each of the five cities, as well as Oregon in general. No calculations were made.

In Marion County, education impacts a person's level of income, access to health insurance, and quality of life. Education is frequently a predictor of living in poverty. 32.6% of Marion County persons (25+ years old) who did not graduate high school are below the poverty level. 17% who graduated high school degree are below the poverty level. This number drops to 4% of those who have a bachelors degree or higher. [19] Persons who do not graduate from high school are 8 times as likely as university graduates to be in poverty.

Marion County: Average Percentage of Population in Age

[18] Marion County Community Health Assessment, 2008. page 11.
http://www.co.marion.or.us/HLT/communityassessments/
[19] 2011 American Community Survey. Poverty Status in 12 Months.
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1701&prodType=table.

AGE

The highest ratio of youth to adults is in Woodburn. In Marion County, persons under age 18 are far more likely to be in poverty than any other age group, but persons 18-64 are most likely to be uninsured.

Groups by City			
Region	Persons Under 18	Adults (Ages 18-64)	Persons 65 and Older
Oregon	22.60%	63.50%	13.90%
Salem	25.20%	62.80%	12%
Keizer	27.30%	59.40%	13.30%
Woodburn	30.90%	53.70%	15.40%
Silverton	28.40%	58.10%	13.50%
Stayton	27.80%	59.30%	12.90%

In the past 10 years, the median age in Marion County has risen 1.5 years, but Marion County still has a younger population than Oregon on a whole.[20] As of 2009, Pew Research Center studied the differences in median net worth of different age groups over the past twenty five years. For those 65 and older, median net worth grew 42%. In contrast, adults under 35 experienced a median net worth decrease of

**Figure 9: U.S. Quick Facts Data, 2010.**
The average percentage of population in age groups was calculated by inputting the percentages from U.S. Census Quick Fact data in 2010 for each of the five cities, as well as Oregon in general. Adults (Ages 18-64) were calculated by subtracting the Persons 65 and Older and Persons under 18 from 100% for each City.

68%. [21] Therefore, adults 65 and older are more likely to have wealth that may be able to support them.

While persons 65 and over are more likely to have wealth, they also have the second lowest income by age group in Marion County ($33,946). In Marion County, median household income for persons 45-64 is $57,117. This is almost double what persons ages 18-24 earn ($24,649). Persons ages 25-44 have a median income of $42,445. [22] The median income only begins to demonstrate access to health insurance and likelihood of poverty.

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[20] U.S. Census Bureau – Quickfacts Data. 2010. http://quickfacts.census.gov/qfd/states/41/41047.html
[21] Pew Research Center. "The Rising Age Gap in Economic Well-Being." November 7, 2011.
http://pewresearch.org/pubs/2124/age-gap-silent-generation-millennials-wealth-gap
[22] American Community Survey. 2011. "Median Income in the past 12 Months."
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1903&prodType=table
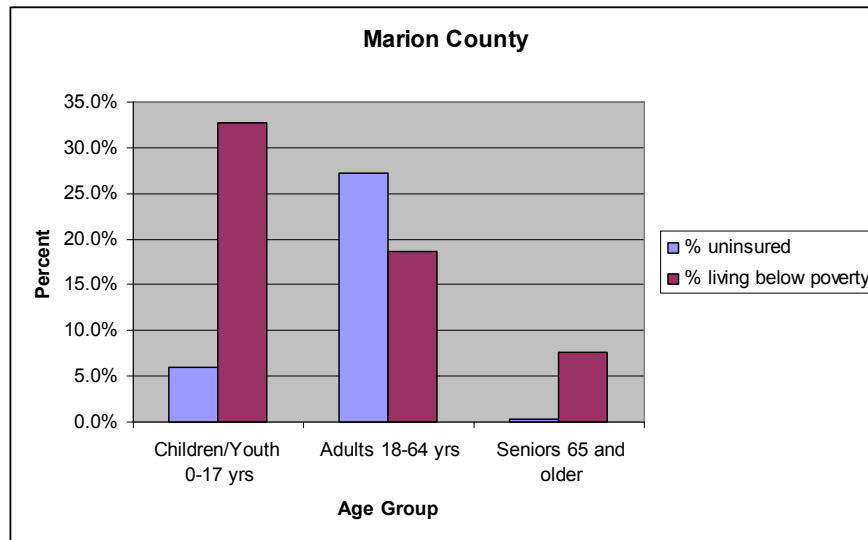
Figure 10: Age is associated with likelihood a person lives in poverty and/or has heath insurance. [22]

In Marion County, elderly persons are more likely to have health insurance than other adults. Young adults may be more likely to be uninsured due to having less of a median net worth and income, as well as the fact that there are fewer government programs that provide health insurance for those between the ages of 18 and 64.[23] Youth are almost five times more likely to have insurance than adults. However, youth have the highest probability of living below poverty level.[24]   Therefore, age strongly affects both likelihood of having insurance and living in poverty.

The Marion County region with the most extreme age ratio is Woodburn, which has both more young persons and persons 65 and older. Therefore, Woodburn has highest likelihood of persons experiencing poverty due to age in comparison with the rest of Marion County.

GENDER

 The number of single mothers is growing in Marion County. Unemployed women are disproportionately more likely to be living in poverty than unemployed men. However, women are more likely to have health insurance than men.

Marion County has a woman to man ratio similar to Oregon's. However, there are differences between the two genders. Employed men and women have approximately the same rate of living below the poverty line in Marion County, however

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[23] Poverty Status in the Past 12 Months. 2011 American Community Survey. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1701&prodType=table
[24] 2011 American Community Survey. "Poverty Characteristics in the Past 12 Months."

unemployment creates inequities. In Marion County, 46.9% of unemployed women are living below the poverty line as opposed to 29.5% of men. While being more likely to live in poverty when unemployed, Marion County women (16.5%) are less likely to be uninsured than men (19.6%).[25] This slight advantage may due to pregnancy coverage through Oregon Health Plan.

Women head 12.4% of the total households in Marion County. This percentage has grown by 1.4% in ten years. There has also been 0.9% increase in the percentage of single mothers. Contributing factors include a high number of divorces and a high teen pregnancy rate. Although no rate is available, Marion County had the third highest number of divorces among Oregon counties in 2011. This is perhaps not surprising, as it is a large county. However, Marion County has gained in the ranks each year compared to other Oregon counties. Marion County was 5th in 2010 and 4th in 2009. On average, 1,000 women in Marion County will become divorced each year.[26]

Additionally, Marion County generally has over 2,000 teenage pregnancies each year.[27] In general, women, especially single mothers, are more likely to be experiencing poverty, and over 3,000 Marion County women become single mothers each year, and the percentage of women who are the head of the households is increasing.

PERSONS WITH DISABILITIES[28]

American Indian and Alaska Native persons are more likely to have a disability than other ethnic groups. Woodburn has the highest percentage of American Indian and Alaska Native persons and Salem has the second highest percentage.

According to the American Community Survey, 13.7% of persons in Marion County are living with a disability. When broken out by racial/ethnic group, the percentage of persons living with a disability is the highest amongst American Indian and Alaska Native persons at 21.2%. In comparison, 15% of white persons are living with a disability. The limitation of this comparison is that American Indian and Alaska Native persons are only a small portion (1-3%) of Marion County city populations. Numerically,

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[25] Health Insurance Cover Status. 2011 American Community Survey.
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S2701&prodType=table.
[26] Oregon Health Authority. "Month and County of Oregon Divorces." 2000-2012.
http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/divorce/Documents/divmon12.pdf
[27] Teen Pregnancy Count by County and Zip Code. Oregon Health Authority.
http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/TeenPregnancy/Pages/tpzip.aspx

[28] The definition of persons with disabilities differs by each U.S. Bureau Census survey. The American Community Survey defines disability as "The Census Bureau defines disability as a long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home alone or to work at a job or business." U.S. Census Bureau. "Definition of Disability Differs by Survey." http://www.census.gov/hhes/www/disability/disab_defn.html.

only 655 American Indian and Alaska Natives have disabilities, compared with 36,037 of white persons.[29]

Therefore, a greater percentage of the American Indian and Alaska Native populations have a disability, but many fewer persons are affected. An additional limitation is that this information is self-reported. Finally, there is no information available about persons with disabilities' access to health insurance or their likelihood to experience other social determinants in Marion County.

LESBIAN, GAY, BISEXUAL ADULTS (LGB)

Marion County data on LGB adults is extremely limited. However, statewide data has shown that LGB are significantly more likely to have low household incomes, live below the poverty line, and experience household food insecurity despite being more likely to be college graduates.

Data on same-sex couples is currently limited, but will start being included in surveys in the next several years. Almost 1% of all households in Oregon that report being same-sex couples.[30] Marion County was found to have 1% of unmarried partner households that were same-sex.[31] Oregon Health Authority analyzed this data on a state-wide scale and found that LGB adults are more likely to be college graduates than heterosexual adults, but also more likely to have a low household income, live below the poverty line, and experience household food insecurity.

Nearly twice as many LGB individuals report frequent mental distress or feelings of sadness or hopelessness for two or more weeks. Oregon Health Authority also found that LGB adults are 5% less likely to have medical insurance and 7% less likely to have a usual health provider. In addition, they are 8% more likely to report barriers to accessing health care due to cost. [32] No information is available on transgender, as current Census tools require participants to self-report as either male or female only.

BUILT ENVIRONMENT

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[29] 2011 American Community Survey. "Disability Characteristics."
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1810&prodType=table
[30] U.S. Census Bureau. 2011 American Community Survey. Data on Same-Sex Couples.http://www.census.gov/hhes/samesex/files/ss-report-tables.xls
[31] Households and Families. 2011 American Community Survey.
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S1101&prodType=table
[32] Oregon Health Authority. "Lesbian, Gay, Bisexual, and Transgender Health." *CD Summary* 61:24 (2012).
http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/CDSummaryNewsletter/Documents/2012/ohd6124.pdf

Marion County has three areas where a significant number of low income persons have limited access to supermarkets or large grocery stores. These areas are in Woodburn, Gervais/Mt. Angel, and Salem.

The way in which environments are constructed may have a significant impact on how likely a person can access healthy food. Full service grocery stores are only available in seven of twenty Marion County communities, and there are fewer grocery stores in relation to the population than in previous years. Therefore, many families most likely shop at convenience stores as their main way to get groceries. This especially affects certain areas that the USDA has labeled a food desert.

> **What is a food desert?** *The USDA defines a food desert as a low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store.*

The USDA Food Desert Locator has identified three food deserts in Marion County. Two of these deserts are located in the Woodburn area and its smaller nearby cities of Gervais and Mount Angel. The third is located in the Salem Four-Corners area. Fifteen per cent of the over 10,000 people living in the Woodburn area food deserts are low-income with low access to a supermarket or large grocery store. Including Salem's food desert, approximately 15,000 people live in low-access areas. Census data reveal that many of the affected households report that they do not have a vehicle in areas where they are more than one mile from a supermarket or grocery store in urban areas, or more than 10 miles away in rural areas. [33] Additionally, public transport is limited. Bus services are available in Salem, but do not operate on the weekends or holidays. While bicycling may be a feasible option, the USDA does not account for bike paths when identifying food deserts.

AREAS FOR PHYSICAL ACTIVITY

Only half of Marion County's adults meet physical activity recommendations. Marion County has a limited number of parks, bike/walking paths, and is seeing a reduction in recreation and exercise facilities in relation to its rising population. This can make safe physical activity difficult.

There are 100 parks in Marion County; however, less than 10% are located in low-income neighborhoods outside the City of Salem. In Salem, undeveloped parks may be included in this number, so there may be fewer parks that are developed. Many of these parks are not within walking distance of neighborhoods, making it difficult for

children and adults to access them for physical activity and active play. Many areas do not include sidewalks and/or bike paths, potentially making it difficult and/or unsafe to walk or play. In addition, the density of recreation and fitness facilities has been decreasing (0.11 to 0.09 facilities / 1,000 population).[34] The combination of these factors may make exercise difficult, especially for certain communities living in areas without access to facilities or parks.

Researchers at St. Michael's Hospital and the Institute for Clinical Evaluative Sciences examined data from one million residents in Toronto and concluded that persons living in less walkable neighborhoods were significantly more likely to develop diabetes over time, finding these effects to be particularly strong for immigrants.[35] Due to the high level of migrant workers in Marion County, this research may be especially applicable. As only 53% of Marion County adults were able to meet CDC recommendations for physical activity, parks and walkable/bikeable neighborhoods could provide significant changes to the social determinants of health disparities.[36]

4. OUTCOMES OF SOCIAL DETERMINANTS

MORBIDITY

Two-thirds of Marion County adults are overweight or obese. Lack of sidewalks, lack of rural parks, and a prevalence of food deserts in the most low-income areas may contribute to this.

Obesity is a known risk factor for chronic diseases such as diabetes and cardiovascular disease. Obesity prevention has become increasingly pressing as rising rates of chronic diseases have led to increasing health insurance costs and preventable death rates. In Oregon, $16 billion in health care costs and 19,000 lives are lost to chronic disease each year.[37]

The most recent data shows that nearly two-thirds of Marion County adults are overweight or obese. Furthermore, the percent of adults who are obese is significantly higher than Oregon (60.2 %) as a whole,[38] and has been increasing over time.[39] On a

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[34] Salem Health. "Recreation and Fitness Facilities." Marion County Community Snapshot 2011. http://www.salemhealth.org/community/home.php?hcn=%2Fmodules.php%3Fop%3Dmodload%26name%3DNS-Indicator%26file%3Dindicator%26iid%3D615150%26hcnembedredirect_%3D1.

[35] Badger, Emily. "An Alarmingly Strong Link between Lack of Walkability and Diabetes." The Atlantic Cities. September 19, 2012. http://www.theatlanticcities.com/politics/2012/09/alarmingly-strong-link-between-diabetes-and-walkability/3326/.

[36] Oregon Health Authority. "Table II: Age-Adjusted and unadjusted prevalence of modifiable risk factors among adults, by county, Oregon 2006-2009." http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Pages/pubs.aspx#data
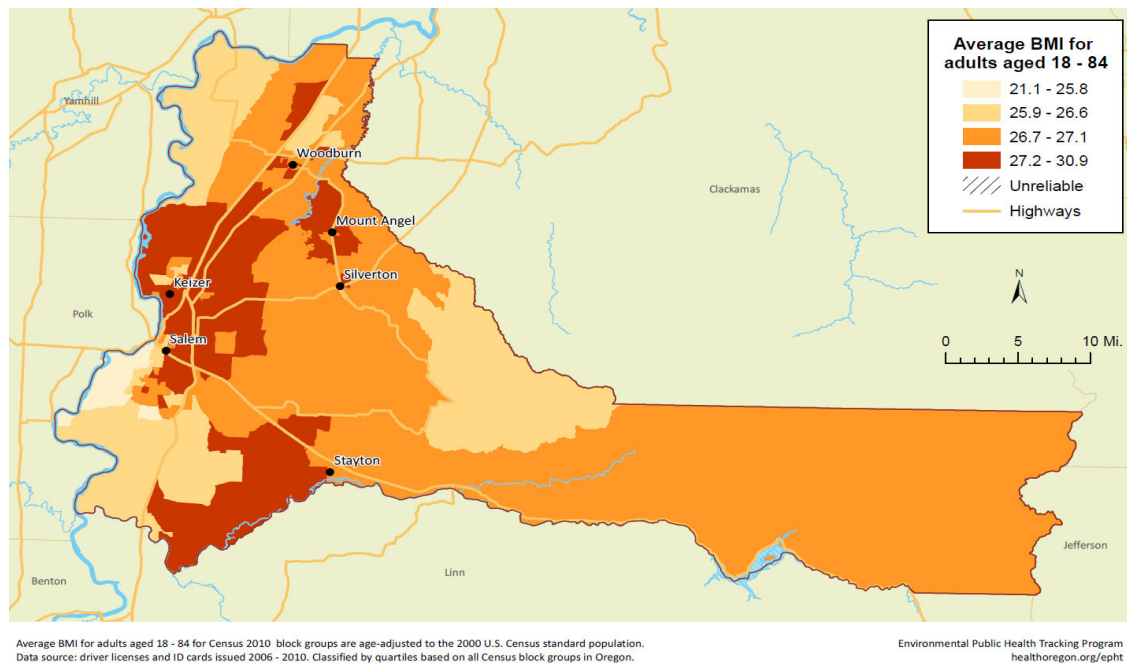
[37] Oregon Health Authority. "The Business Case for Health Wellness." Wellness@ Work 2012.

[38] Health Promotion and Chronic Disease Section. Oregon Overweight, Obesity, Physical Activity and Nutrition Facts. Portland, OR: Oregon Department of Human Services, Oregon Public Health Division, 2012.

state level, Oregon Department of Human Services' report *Oregon Overweight, Obesity, Physical Activity and Nutrition Facts* has found that obesity affects ethnicities/races differently. In a study from 2004-2005, Latino and American Indian persons were the most likely to be obese (30.9% and 30.3%). Asian/Pacific Islanders were the least likely to be either obese or overweight (14.7%). In addition, this study found that Latinos were significantly less likely to meet the physical activity recommendation.

As part of the Oregon Health Authority's Environmental Public Health Tracking Program, Daniel Morris, PhD has compiled and analyzed Oregon driver's license data to estimate BMI down to the Census Block level. In Marion County, BMI measured by driver's licenses and ID cards from 2006-2010, revealed that the highest average adult BMI (27.2-30.9) block groups are around the food deserts in East and North Salem, Woodburn, and Gervais/Mt. Angel (food deserts not shown on this chart). Areas with a high BMI but no noted food desert are Keizer and west of Stayton.

Average BMI for adults aged 18 - 84 for Census 2010 block groups are age-adjusted to the 2000 U.S. Census standard population.
Data source: driver licenses and ID cards issued 2006 - 2010. Classified by quartiles based on all Census block groups in Oregon.

Environmental Public Health Tracking Program
healthoregon.org/epht

Access to healthy food is crucial to combat morbidity rates. Access to this food is negatively impacted in Marion County by a lack of adequate public transport in low-access areas. In Marion County Health Department's 2011 Community Health Survey, over 50% of respondents from throughout the County said that access to public transportation was poor to fair. In addition, the food deserts and the majority of high BMI blocks are located in the areas with the highest poverty rates, lowest income rates,

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[39] Behavioral Risk Factor Surveillance System. Marion County and Oregon data. Available at:
http://www.dhs.state.or.us/dhs/ph/chs/brfs/index.shtml.

highest percentage of youth, highest level of Hispanic/Latino communities, and highest percentage of foreign born and other-language households. Therefore, food deserts unequally affect those groups in society who are already facing significant obstacles.

MORTALITY

Marion County has the same median age of death as Oregon: 79 years. [40]
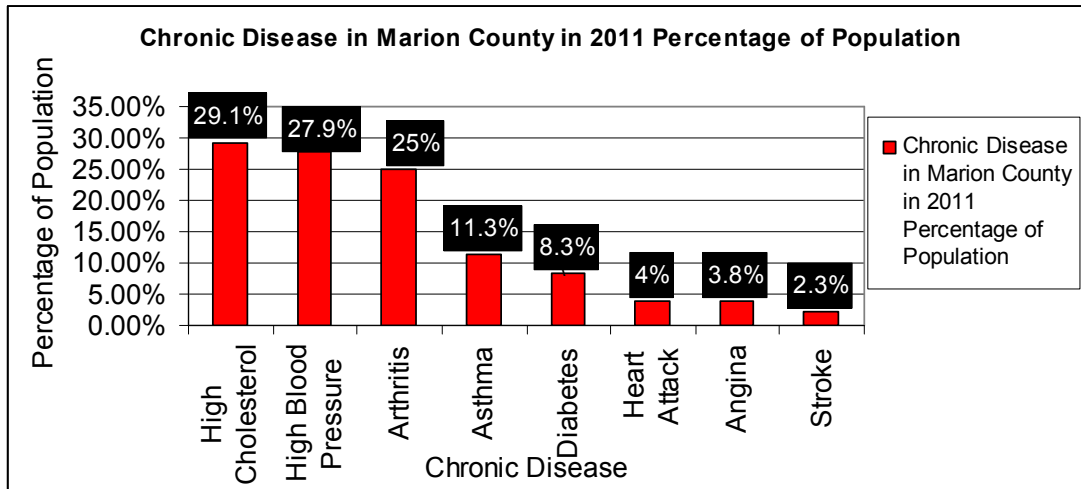
Figure 10: Chronic Disease reports by county. Oregon Health Authority, 2011.
The Chronic Disease in Marion County in 2011 is raw data, directly input from the Oregon Health Authority's 2011 Chronic Disease Reports by County. No calculations were made.

None of the chronic disease percentages in Marion County are statistically different than in Oregon.[41] Virtually all Oregonians are affected by or at risk for chronic diseases.[42] According to the U.S. Department of Health and Human Services, people of color experience higher rates of many chronic conditions (such as heart disease and diabetes) as well as higher death rates from many of these conditions compared to the general population. About 1/3 of the uninsured have a chronic disease and they are six times less likely to receive care for a health problem than the insured.[43]

> **Chronic Diseases that are Leading Causes of Death in Marion County**
> Cancer: 1st Leading Cause of Death
> Heart Disease: 3rd Leading Cause of Death
> Diabetes: 8th Leading Cause of Death
> Chronic Lower Respiratory Disorder: 9th Leading Cause of Death
> Cerebrovascular Disease: 10th Leading Cause of Death

[40] Oregon Health Authority. "Median Age at Death by Sex and County of Residence, Oregon Residents, 2010."
[41] Marion County. CHIP Report 2012. Source: Oregon Health Authority.
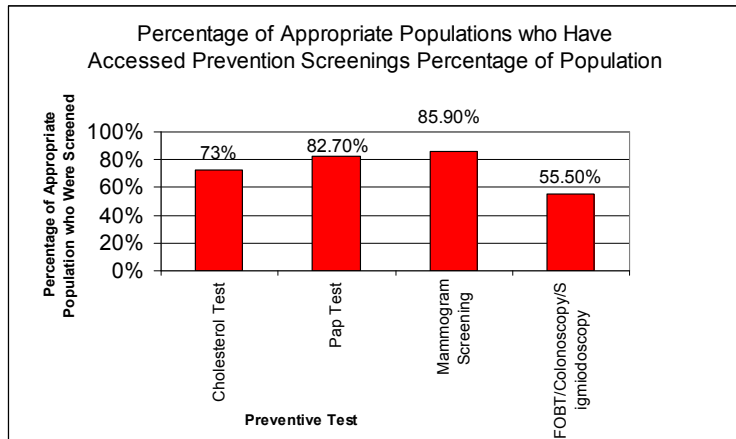[42] Oregon Department of Human Services, Keep Oregonians Healthy Report, July 2007
[43] HealthCare.gov. 2011. "Health Disparities: Improving Health Equity." U.S. Department of Health and Human Services. http://www.healthcare.gov/news/factsheets/2011/06/disparities06092011a.html.

Cancer, heart disease, chronic lower respiratory disease, and cerebrovascular disease are the four leading causes of death (with diabetes as the seventh leading cause) in Marion County. [44] These diseases are heavily influenced by environmental factors and the ability to access prevention screenings. As one of the largest cities in Oregon, Salem has a higher rate of death by diabetes, cancer, circulatory system diseases, and chronic lower respiratory diseases than Portland and Oregon in general. [45]

In 2010 Marion County, people could have lived 3,930 more years if they had not had chronic disease. Chronic disease is a large contributor to early death in Marion County.

And yet, preventive screenings are not reaching all those that need to be screened. As of 2006-2009, anywhere from roughly 14%-45% of Marion County residents did not receive prevention screenings (see Figure 11).[46] In Marion County Health Department's 2011 Community Health Survey, the number one health

Figure 11: Unadjusted Prevalence of Preventive Health Screening among adults, by county. Oregon Health Authority, 2011.
The Percentage of Appropriate Populations Who Have Accessed Prevention Screenings is raw data, directly input from the Oregon Health Authority's 2011 Unadjusted Prevalence of Preventive Screenings. No calculations were made.

concern reported by the public was the cost of care/insurance for all regions. Underserved populations are less likely to get the preventive care they need to stay healthy, and are more likely to suffer from serious illnesses such as diabetes and heart disease. When these populations do get sick, they are less likely to have access to quality health care.[47]

This number also most likely impacts certain ethnicities more severely due to the number of social determinants that affect their access to health care and health services. In Marion County, only 12.7% of non-Hispanic white persons are uninsured,

[44] Oregon Health Authority. "Leading Causes of Death by County of Residence, Oregon 2010." http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/annualreports/10V2/Documents/chapter6/table635.pdf
[45] Oregon Health Authority. "Selected Causes of Death for Portland, Salem, and Eugene, Oregon Residents, 2010." http://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/annualreports/10V2/Documents/chapter6/table640.pdf
[46] Oregon Health Authority. Unadjusted Prevalence of Preventive Health Screening among adults, by county, Oregon 2006-2009. http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Pages/pubs.aspx#data.
[47] HealthCare.gov. 2011. "Health Disparities: Improving Health Equity." U.S. Department of Health and Human Services. http://www.healthcare.gov/news/factsheets/2011/06/disparities06092011a.html

compared to 30.8% of Hispanic or Latino persons of any race. This data was not able to capture other potentially high-risk groups, such as African American or Black, Native Hawaiian or other Pacific Islander, or American Indian and Alaskan Native. However, in comparing race, 14.5% of whites (race) are uninsured, compared to 33.7% of persons who are two or more races.

5. SUMMARY

Marion County's general trends are in line with trends identified by organizations such as the World Health Organization: social determinants are causing unequal access to health insurance and presenting obstacles to healthy lifestyle opportunities which lead to health disparities.

In Marion County, compared with Oregon, there are significant differences in the proportions of (1) persons who are foreign born and/or speak a language other than English at home, (2) have a low education achievement level, (3) are young adults, (4) and live in certain geographic areas with low-access to healthy and affordable foods. Many county residents may experience only one or two of these factors. However, most notably in Woodburn, where there is greater poverty, there are geographical areas in which these social determinants have the potential to compound, creating noticeable barriers that result in preventable health disparities. Both Woodburn and Salem demonstrate the highest number of social determinants, including the greatest proportion of uninsured persons.

This lack of equal distribution of health insurance has been noted on a national level, along with many of its correlations that cannot be measured locally. Nationally, health insurance and health costs are not equally distributed amongst American people. The Joint Center for Political and Economic Studies' report on *The Economic Burden of Health Inequalities in the United States* found that one third of direct medical costs faced by African Americans, Hispanics, and Asian Americans were due to health inequities, adding up to more than $230 billion over a three year period (2003-2006). They estimated that indirect costs of these inequities over the same three year period came to $1.24 trillion dollars.

Marion County's diverse population presents a unique challenge if we are to improve the community's health. It isn't as simple as individual choice. Complex socio-economic factors can limit the individual's access to healthy choices, making it more difficult for them to achieve optimal health.

Promotion of healthy environments that make healthy choices accessible to all is a recognized strategy for improving the public's health. This can be done through implementation of public policies and programs that alleviate consequences of living in lower socioeconomic neighborhoods. Targeting modifiable social determinants, such as

education can help to increase the number of persons who live above the poverty level, obtain health insurance, and have time and resources to engage in healthier lifestyles. [48]

In summary, to combat health inequities and the resulting disparities, it is important to have strategic targets, engage strongly with vulnerable communities, integrate health services, and advocate for health in all policies-especially those that deal with housing, transportation, land use, infrastructure, and education.[49]

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[48] Office of Minority Health and Public Health Policy. "Virginia Health Equity Report 2008: Executive Summary." Virginia Department of Health (2008):11.
[49] Bell, Judith and Mary M. Lee. "Why Place and Race Matter: Executive Summary." Policy Link. 2011.

Quick Facts about Marion County's social determinants and their impact on health, 2013:

- Race/Ethnicity: Marion County is becoming more ethnically and racially diverse than Oregon in general, especially in terms of its Hispanic/Latino community, Native Hawaiian and Other Pacific Islander, and those of another race. Woodburn and Salem currently have the highest percentage of persons of different ethnicities.

- Age: Marion County has a greater ratio of persons under 18 than Oregon, many of whom are at poverty level. Woodburn has the highest proportion of youth in relation to its adult population.

- Gender: The percentage of women in Marion County without a husband, with children, and living in poverty is increasing.

- Morbidity/Disease: Two-thirds of Marion County adults are overweight or obese; however, the levels of obesity are concentrated in specific geographic areas.

- Environment: Food deserts, lack of sidewalks, and lack of rural parks are all contributing to Marion County's high obesity and overweight issue.

- Woodburn and Salem are the most disadvantaged in terms of low median household income and high poverty rate. They are also the areas in which a high number of adverse social determinants are present.

- Woodburn has the highest percentage of persons who are foreign-born and speak a language other than English at home. Salem has the second highest percentage in both of these categories. Foreign birth frequently correlates with lack of health insurance, disproportionately affecting persons who are not citizens. Other languages spoken at home also correlates with disproportionately high poverty levels and low education achievement.

- Depending on the type of prevention screening, 14%-45% of persons who should be screened are not. This is most likely to impact groups whose social determinants affect health insurance coverage.

- Chronic disease caused the loss of 3,930 years of potential life in 2010 and is one of the leading causes of early death.

- Possibly due to a combination of food deserts and a high number of social determinants, the youth in northern Marion County are most likely to be receiving free or reduced lunch.