

SNOQUALMIE VALLEY  
HOSPITAL DISTRICT



PUBLIC HOSPITAL DISTRICT #4,  
KING COUNTY

COMMUNITY HEALTH NEEDS ASSESSMENT

Health and Safety Consulting Services

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October 2013

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Hopelink	Snoqualmie Tribe
King County Community Services	Snoqualmie Valley Alliance Church
King County Hospital District #4	Snoqualmie Valley Community Network
	Snoqualmie Valley Governance
Hospitals for a Healthier Community	Association
King County Library System	Snoqualmie Valley School District
King County Sheriff's Department	SnoValley Star
Kiwanis	

## **Introduction**

The King County Public Hospital District #4, also known as Snoqualmie Valley Hospital District (The District), has adopted the following mission statement, vision, and values in order to accomplish the primary goal of a healthy community.

**Mission:** Promote the health and wellbeing of people in our community by providing quality care in a collaborative environment.

**Vision:** We will safeguard the health of our community.

**Core Values:** Trust, Integrity, Collaboration, Quality, Innovation

The Patient Protection and Affordable Care Act (PPACA), signed into law in 2010, require hospital organizations to conduct periodic assessments of the health needs of the community they serve. The District began the Community Health Needs Assessment (CHNA) with the collaboration of the leadership of The District and various civic entities in The District and community members to develop a vision for addressing this assessment in the most effective manner. Those entities that have collaborated with The District on this vision are listed in the acknowledgement section.

## **Purpose**

The purpose of this assessment is to identify key areas where our community can take action to improve overall health and reduce health inequities. The greatest outcome of this work would increase community consensus in the process of evaluating how best to characterize, measure and improve community health. This does not necessarily mean creating new social programs and initiatives, but rather developing supportive community cooperation that shares the mindset that the opportunity to enjoy good health is a right for all.

## **Approach**

This assessment considers a wide range of factors which we use as indications of health and longevity. Broadly speaking these types of indications can be described as physical attributes, individual behaviors, and social environmental conditions. Physical attributes include, weight, cholesterol levels, genetics, and disease. Individual behaviors describe levels of exercise, sedentary hours and how we relate to food or other bio chemical substances. Social environmental conditions refer to income, shelter, education, access to nutrition, family structure and individual stresses that can influence physical and mental health. All of these factors are profoundly intertwined. Social discord can lead to destructive individual behaviors that contribute to the incidence of disease or bodily injury which in turn impinge on social systems.

## **Observation**

Many health problems are self inflicted – people frequently behave in ways that are known to be detrimental to their long-term well being. When a majority of individuals subscribe to adverse behavior it can be described as both self inflicted and group inflicted.

According to the journal *Population Health Metrics*, popular norms have extraordinary influence over the formation of personal norms relating to ambitions, appetites and habits, all of which effect individual health and life expectancy. For example, the difference in life expectancy between two neighboring US counties with similar natural resources but different popular norms and social organizations ranges as high as 12 years. (*Population Health Metrics*, 2011)

With so much at stake, it is appropriate that organizations involved in health and well-being pay special attention to how appetites and behaviors are popularized and look for ways to leverage healthy social norms while opposing negative interference. Hence politics, education and promotion are central elements of any meaningful initiative to improve individual health.

## **Goals**

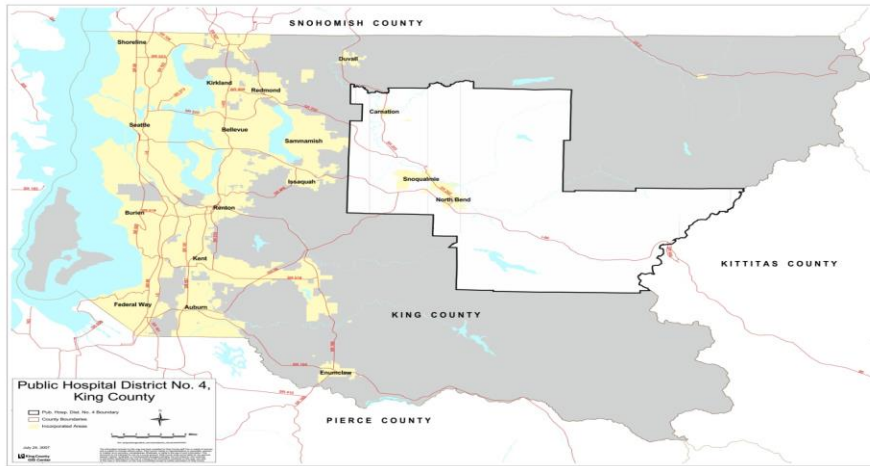
- To establish a common set of key health indicators and benchmarks.
- To use these benchmarks to monitor health trends in The District.
- To identify and prioritize conditions most responsive to intervention.
- To encourage collaboration for developing strategies to address health concerns.

The CHNA is a foundation document which is rooted in the fact that our community has the ability to strengthen social bonds and trust in order to promote our own health and wellness. The District recognizes that this assessment is an evolving process in which alignment with wellness at all levels is the driving motivation for everyone; individuals, families, neighbors, churches, schools and other civic institutions.

### District Description: Who We Serve and What We Do

The King County Public Hospital District #4 comprises the following geographic area:

Figure 1: King County Public Hospital District #4 Map



The District contains the following zip codes, which assisted the District in gathering demographic data from King County:

Figure 2: District 4 Map by Zip Code



Snoqualmie Valley Hospital is the most prominent care facility in the service area. The hospital participates in ‘coordination of care’ with several area healthcare facilities in Western Washington,

such as Harborview Medical Center and Seattle Children’s Hospital in order to provide for a wider category of needs.

Snoqualmie Valley Hospital itself offers emergency services, and anticoagulation clinic, endoscopy and colonoscopy services, infusion therapy, medical imaging services, and outpatient rehabilitation.

The District also provides primary care services, women’s health exams and pre/post natal and maternal care, an in hospital primary care clinic, and a specialty clinic that addresses psychiatric needs, orthopedic, pain management, cardiology, gastroenterology, and bone density testing.

In 2010, the service area contained 39,002 people with as many as 50 patients a day being seen by the Hospital itself in 2012 and as many as 200 a day seen by the entire District, which includes the Hospital and all clinics (Snoqualmie Valley Health District, 2013).

**Figure 3: Hospital Profile**

<b>Hospital Profile</b>	<b>2011</b>	<b>Change since 2006</b>
<b># of Patients Seen Per Day</b>	50	89.8%
<b>Emergency Visits</b>	3,478	-11.8%
<b>Medicare</b>	72.6%	117.2%
<b>Medicaid</b>	7.0%	335.0%
<b>Cost of Charity Care</b>	\$532,251	2548.9%

Source: (Washington State Hospital Association, 2013)

**Figure 4: Other Health Care Services in Area**

<b>Other Community Resources in Service Area</b>	
<b>Type of Provider</b>	<b>Yes/No</b>
<b>Behavioral Health Service</b>	<b>Yes</b>
<b>Dentist</b>	<b>Yes</b>
<b>Outpatient Surgery</b>	<b>No</b>
<b>Urgent Care (Other than Hospital-Owned)</b>	<b>Yes</b>
<b>Nursing Home</b>	<b>Yes</b>

Source: (Washington State Hospital Association, 2013)

The District and other entities within the community provide services necessary for both preventive and critical care.

The number of patients seen per day has risen 89.8% since 2006, yet emergency visits have decreased. This statistic represents a rising need in the community of those seeking services, possibly largely correlated with population increases. An inventory of regional health services and utilization patterns across the district was not included in this assessment. It is estimated that the district handles 10% of an estimated \$300 million worth of medical care supporting our population.

## Executive Summary of Key Findings

Data illustrates the following:

- The population in the service area has grown 33.5% from 2000-2010. As the population in our community grows, more individuals are utilizing District health care services for routine and preventive care. In addition, 6.8% of the population is over 65 and utilizes services more than other segments of the population. Formerly uninsured populations will likely increased demand as universal coverage is implemented.
- Conditions that cause mortality are similar to those of King County and the nation at large, with cancer and heart disease being the leading causes.
- The health issue profile indicates increasing rates of obesity, low or no activity, alcohol use by young people, and an increasing number of poor mental health days.
- The data reflects that 42% of the population is not receiving influenza vaccinations and 37% are not receiving pneumonia vaccinations.
- The infant and maternal health care profile indicates that our community equals the statistics for Washington State for low birth weights while teen birth rates are actually significantly lower than the State. We are also equal to King County and the state for late or no prenatal care and infant mortality.
- Youth in our community are increasingly exposed alcohol and marijuana use, along with the issues of bullying and poor mental health. This is reflected in the statistics that indicate the number of youth considering suicide and suicide attempts has risen.
- The Community Concerns survey suggests that school safety, drug use, economic stability, mental health, and the availability of healthy youth activities are viewed as top concerns. In addition, parent/family support is viewed to be important in maintaining a healthy community. Obesity and mental health were found to be very strong concerns in the community in The District survey as well.
- Pockets of our community are well off economically but other segments of our population are well below regional averages and utilize a variety of social services.
- 26.6% of the community are families with dependent children in the home and 60% of these families are two income households. Two income homes appear to produce a unique set of strengths and limitations that dramatically impact how we care for ourselves, our children, our parents, and our neighbors.
- Housing data shows there is also a significant portion of our population who pay greater than 30% of their income on housing, indicating yet another stressor for this portion of the population.
- Overall, the environmental quality of the area meets or exceeds all EPA standards, with clean water being the only issue that has had times of increased fecal coliform, likely due to agriculture and a larger number of animals in the area. This is monitored routinely.

The main clinical health concerns that the community is facing can be summarized as the following:

- Leading causes of mortality (ranked)
  - Cancer,
  - Heart Disease
  - Stroke
  - Respiratory Diseases



- Leading health risks (ranked)
  - High cholesterol
  - High Blood Pressure
  - Obesity
  - Smoking
  - Low Activity

In addition, 2012 hospital code data and the 2012 Youth Health Survey show that mental health issues are also a major concern for the community.

## **Profile**

### **Current Health Profile of the Community**

This assessment will begin with a presentation of data that highlights some of the key measures of community health. For the purposes of clarity, these components are broken down into the following categories:

- Mortality Profile
- Health Risk Profile
- Maternal and Infant Health Profile
- Access and Preventative Care Profile
- Youth Health Behavior Profile
- Community Concerns Profile

Determinants of health are far ranging and complex. Analysis of this data will assist in eliciting a prioritized list of health issues. These issues can serve as a benchmark for further monitoring of health trends.

### **Determinants of Health Profile**

The assessment realizes that many problematic health behaviors are influenced by a host of social and environmental conditions. The following categories will be examined:

- Demographic Profile
- Income Profile
- Occupation Profile
- Community Environmental Health Profile

Figure 5: Determinants of Health



(Dalhgren & M., 1991)

(World Health Organization, 2013)

As illustrated in the diagram, various factors determine an individual's behaviors, with individual behavior being the greatest determinant of health. The World Health Organization and Booske actually estimated percentages of some effects, with individual behaviors having a 40% effect on health, which of course are influenced by other environmental and social factors. They estimate that genetics contribute 30%, socioeconomic factors 15%, access and quality of health care 10%, and physical environment (housing, water, work) 5% (Booske, 2010).

### Where We Obtained Data

The District gathered the following data in order to meet these goals:

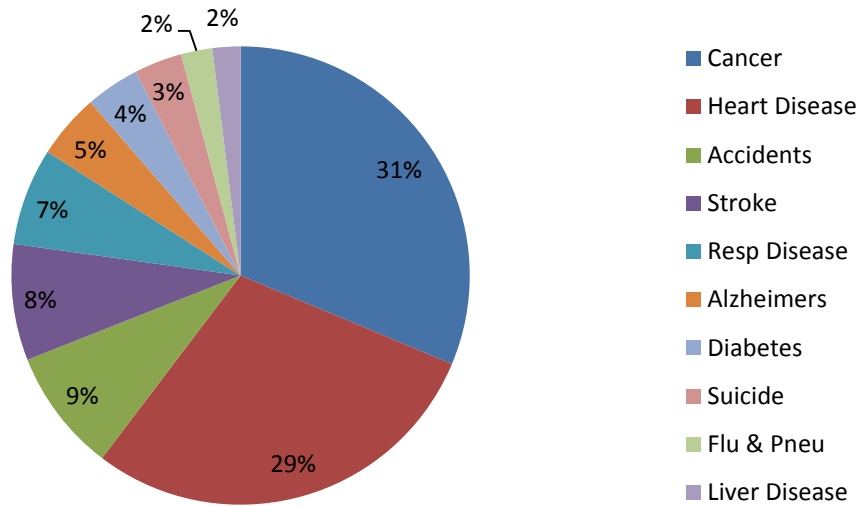
- Community surveys
- 2010 US Census Demographic Data of the District
- Public Health. Seattle and King County Assessment, Policy Development and Evaluation Unit 2001-2010. Source of data Behavioral Risk Factor Surveillance System 5/2013
- King County City Health Profile Snoqualmie/North Bend/Skykomish, December 2012. This document also utilizes Behavioral Risk Factor Surveillance System Data.
- Healthy Youth Survey Forum: Growing Up in Upper Snoqualmie Valley 2013 performed by The Snoqualmie Valley Community Health Network
- Office of Superintendent of Public Instruction: Washington State Report Card 2012
- Washington State Hospital Association Service Area Demographic Profile 2012
- Snoqualmie Valley Community Network Health Issue Survey 2013
- Snoqualmie Valley Hospital Diagnostic Codes 2012

## Mortality Profile

The leading causes of mortality in our community are an important piece that can guide this assessment in the direction of further analysis of drivers that contribute to those mortalities.

Figure 6: Top 10 Leading Causes of Mortality: 2001-2010

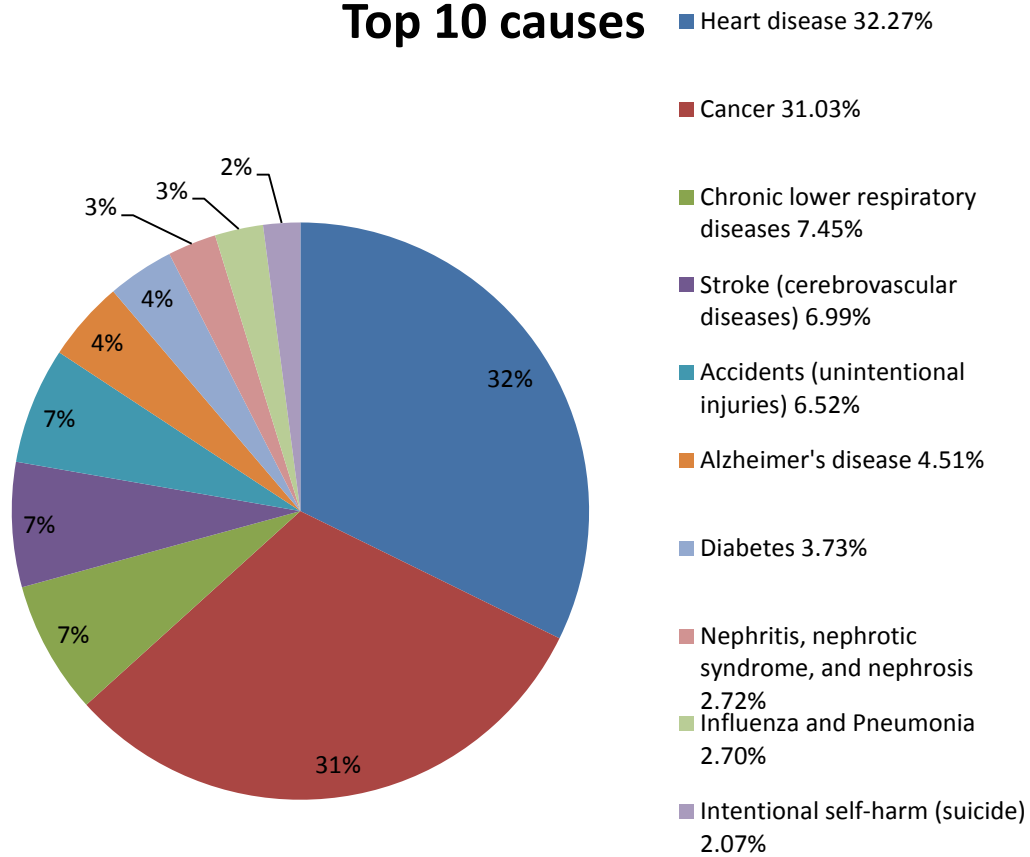
### Mortality Profile for Service Area 2001-2010



Source: (Washington State Department of Health, Center for Health Statistics, 2013)

# Mortality Snapshot of the US

## Top 10 causes

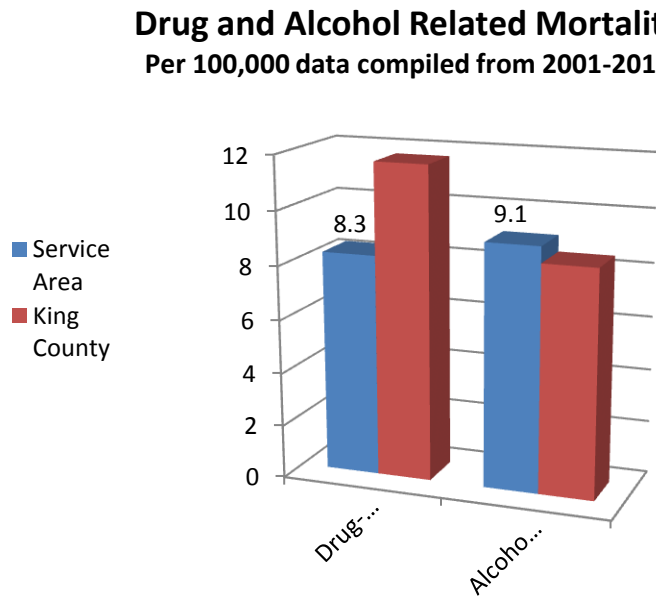


Source: (Centers for Disease Control, 2013)

The leading causes of death in our community are cancer and heart disease followed by accidents and stroke. These conditions are closely associated with genetics, individual behaviors, exposures to toxins, and stress.

In a comparison with the US, our community displays significantly lower rates for the four leading causes of death; cancer, heart disease, stroke, and respiratory disease. This means that fewer deaths are occurring from these causes than for the US as a whole. This could be due to the District's lower percentage of people over 65 (6.8%) as compared to 13.7% for the US (U.S. Census, 2012).

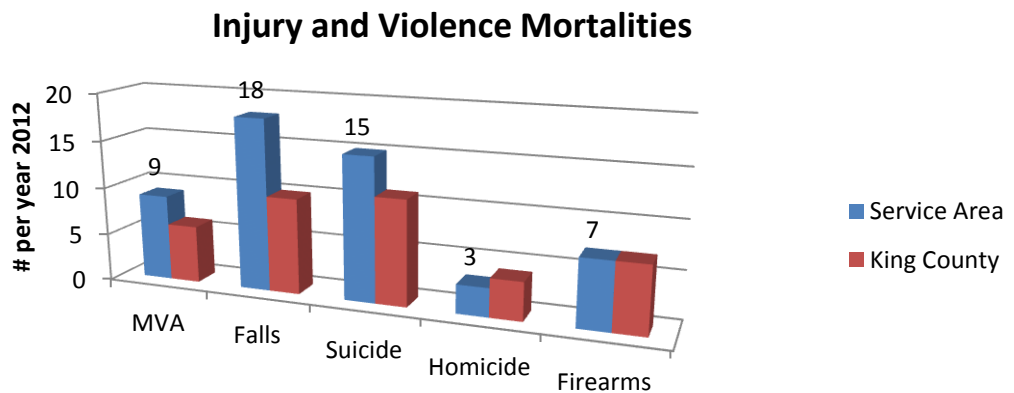
Figure 7: Drug and Alcohol Induced Deaths per 100,000: 2001-2010



Source: (Washington State Department of Health, Center for Health Statistics, 2013)

The service area had slightly fewer drug related deaths than alcohol related deaths.

Figure 8: King County Public Health Survey: Injury and Violence Related Mortalities



Source: (King County, 2012)

The service area had more deaths than King County from falls and suicide than other injury related mortalities.

## Health Risk Profile

Data collected on health status give a clearer picture of service area health issues that are currently occurring and may contribute to future mortalities.

**Figure 9: 2012 Hospital District Patient Visits by Diagnostic Codes for 2012**

<b>Diagnosis</b> (Diagnostic codes were combined into similar categories with number of patients seen for each category divided by total number of patients seen in 2012. There were 16, 856 patients seen)	<b>Percentage</b>
Routine Medical Care	26%
Mental Related (anxiety, depression, Bipolar, PTSD, etc)	17%
Chronic Pain issues	11%
Bacterial Infections	7%
Skin issues (rash, growths, etc)	7%
Drug related diagnoses	6%
Sinus and throat	5%
Heart related issues	3%
Thyroid issues	3%
Kidney related issues	3%
Accidents	2%
Gastrointestinal issues	2%
Hypertension	1%
Lymph issues	1%
Electrolyte imbalances	1%
Viral infections	1%
Benign cancers	1%
Respiratory issues	1%
Cholesterol diagnosis	1%
Malignant cancer, pneumonia, abnormal skin growth	<1%

Source: (Snoqualmie Valley Hospital District, 2013)

In 2012 King County Public Health performed a ‘Health Profile’ for the service area. This “Health Profile” included not only the District Service Area, as defined in the District Description, but also the City of Skykomish and suburb of Klahanie. This assessment considers the data gathered to be informative. The following table represents their findings.

**Figure 10: 2012 King County Public Health Profile Poor Health Indicators**

Average Days in a Month	Service Area	King County	Washington State
Feeling fair/poor health	4	6	16
Activity limitation	15	17	23
Frequent Mental Distress	4	5	7
Poor Mental Days	2	3	4
Poor Physical Days	2	3	4

Source: (King County, 2012), Data Year: Service Area and King County 2007-2011, WA 2006-2010. Original data drawn from Behavioral Risk Factor Surveillance System (BRFSS) WA State Dept. of Health.

The service area experienced fewer days of all five poor health indicators than King County and Washington State from 2007-2011.

In 2013, King County Public Health was requested to gather additional health risk data for the District. Below are their findings.

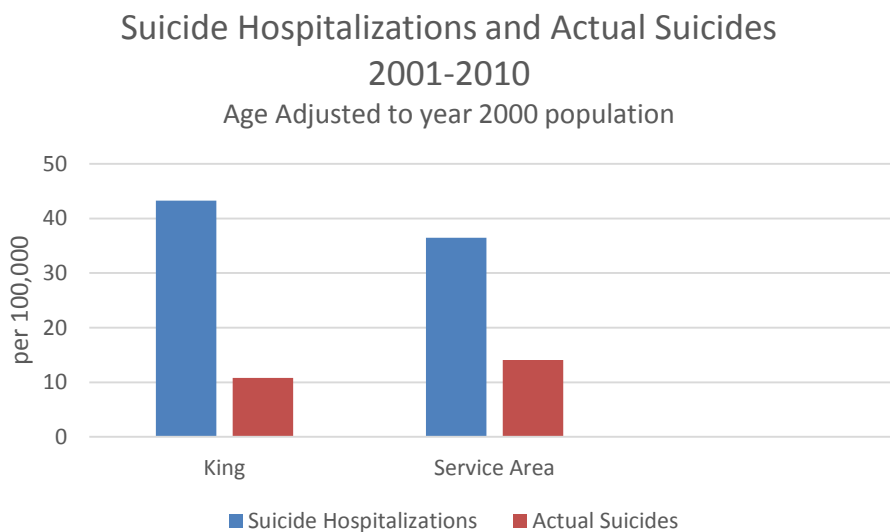
**Figure 11: Risk Factors, Adults 18 and Older, Service Area and King County, 2009-2012 Combined**

Health Risk Factors	Service Area	King
Excessive Drinking (2009-2011)	14%	21%
Frequent Mental Distress	23%	28%
Healthy Weight	45%	45%
Overweight 25-30 BMI	24%	33%
Obese >30 BMI	30%	23%
Physical Activity meet 2008 guideline	80%	69%
Did not participate in leisure time physical activity	16%	16%
Diagnosed High Blood pressure	21%	25%
Smoker	10%	14%

Source: (Behavioral Risk Surveillance System, 2013) prepared by Public Health Seattle and King County Assessment, Policy, Development and Evaluation Unit 5/2013

The service area experienced equal or lower rates for the above health risk factors from 2009-2012 than King County, with the exception of a higher percentage meeting the physical activity guidelines and, interestingly, a higher percentage of obese with BMI >30.

**Figure 12: Suicide Hospitalizations and Actual Suicides**



Source: (Washington State Department of Health, Office of Patient and Data Systems, 2013) Hospital Discharge Data and Death Certificate Data

It is important to note the service area actually had a higher percentage of actual suicides than King County with a lesser percentage of hospitalizations.

**Figure 13: Health Risk Profile Comparison to WA State**

<b>Service Area Health Status</b>			
<b>Measure</b>	<b>Definition</b>	<b>Service Area</b>	<b>WA State</b>
<b>Rates of Obesity</b>	<b>BMI &gt;30</b>	<b>22.6%</b>	<b>25.6%</b>
<b>Current Smoker</b>	<b>Currently smoking status</b>	<b>11.5%</b>	<b>15.7%</b>
<b>Heavy drinking</b>	<b>More than 1/2 drinks a day every day for 30 days a month</b>	<b>6.3%</b>	<b>5.6%</b>
<b>Low Physical Activity</b>	<b>Insufficient moderate or vigorous exercise</b>	<b>39.2%</b>	<b>37.2%</b>
<b>Physical Inactivity</b>	<b>No moderate or vigorous exercise</b>	<b>5.3%</b>	<b>9.0%</b>
<b>High Blood Pressure</b>	<b>Ever been told you have high blood pressure</b>	<b>23.1%</b>	<b>25.6%</b>
<b>High Cholesterol</b>	<b>Ever been told you have high cholesterol</b>	<b>34.6%</b>	<b>37.2%</b>
<b>Asthma</b>	<b>Ever been told you have asthma</b>	<b>8.2%</b>	<b>9.2%</b>
<b>Diabetes</b>	<b>Ever been told that you have diabetes</b>	<b>4.2%*</b>	<b>7.2%</b>
<b>Heart Disease</b>	<b>Ever been told you have coronary heart disease or angina</b>	<b>1.1%*</b>	<b>3.4%</b>
<b>Poor Mental Health</b>	<b>Seven or more poor mental health days per month</b>	<b>15.0%</b>	<b>14.6%</b>

\* Variance from State is statistically significant. Rates are not age-adjusted.

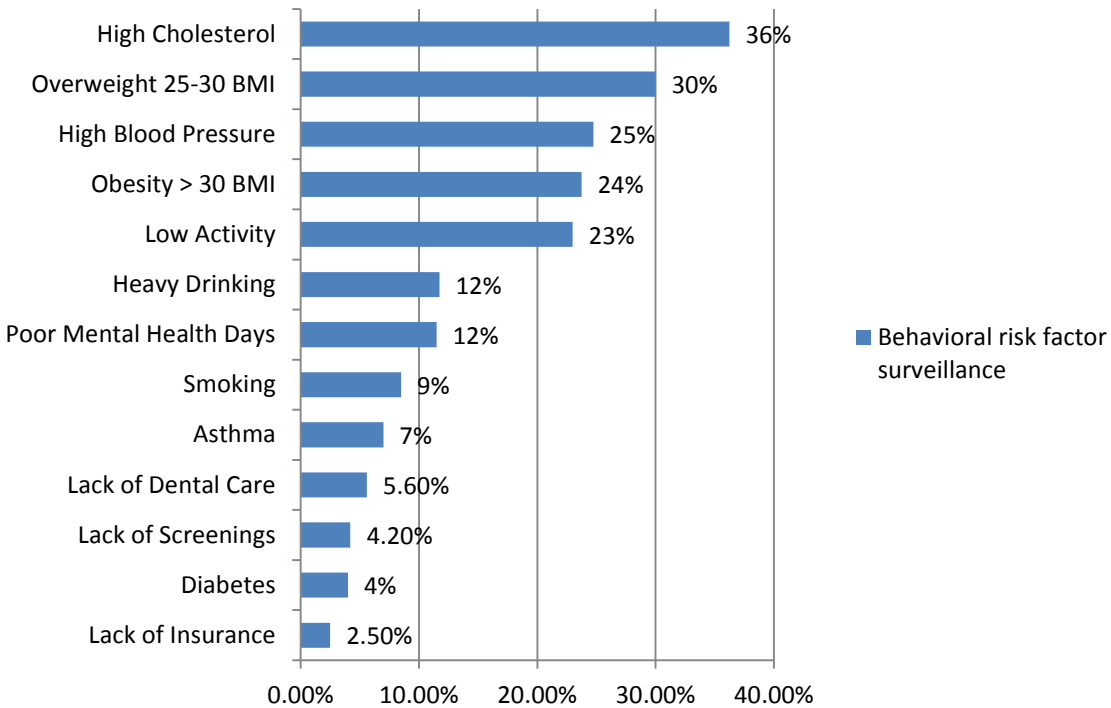
Source: (Behavioral Risk Surveillance System, 2013)



## Health Risk Snapshot

Data from the District and King County were combined. Per 100,000 rates were converted to percents and these were combined with percent data and all were averaged to create the following snapshot. 2012 Hospital Code data will be considered separately due to the different nature of that data.

### Health Risk Snapshot of the Community



\*Gathered averages from District and King County Data

Sources: (Behavioral Risk Surveillance System, 2013) (King County, 2012)

The most reported health risks our community is dealing with are, in order:

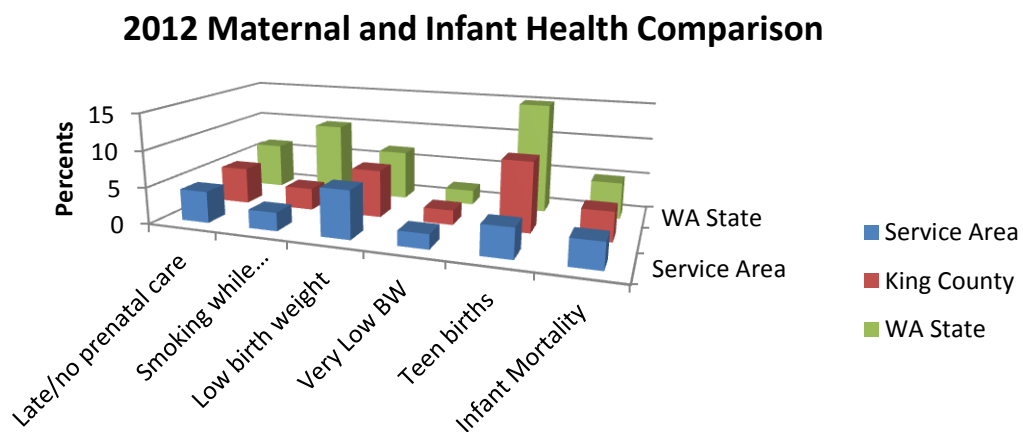
- High cholesterol (36%)
- Overweight >25<30 BMI (30%)
- High Blood Pressure (25%)
- Obesity (24%)
- Low activity (23%)
- Poor mental health and heavy drinking (12%)

It is also noted that high cholesterol, high blood pressure, obesity, and low activity rates are very near those of King County and Washington State. Poor mental health in our community is at or above the rates for Washington State in the Washington State Hospital analysis.

Hospital care visits gathered from 2012 indicate that a relatively large amount of visits are for routine/preventative care including sexual health services. It is likely that many of these routine visits are related to monitoring health issues such as high blood pressure and high cholesterol, however they are not coded as the primary reason for the visit. Mental health issues rank high, including bi-polar, anxiety, ADD, and depression. This is followed by chronic pain, bacterial infections, skin conditions, sinus and throat issues, and drug addiction issues.

## Maternal and Infant Health Profile

Figure 14: King County Public Health Survey: Maternal and Child Health Status



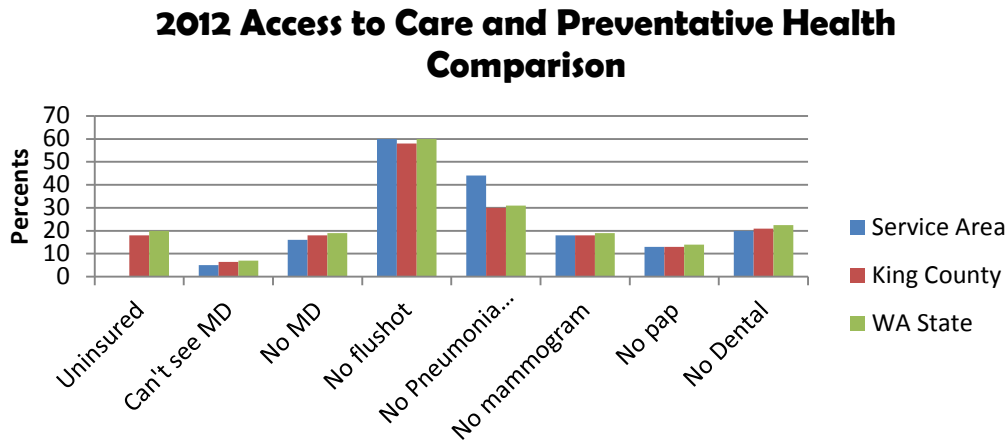
Source: (King County, 2012)

### Maternal and Infant Health Snapshot

The service area is at a slightly lower rate than Washington State for late or no prenatal care. Service area statistics for low birth weights and smoking while pregnant nearly equal those for the rest of the State. The service area teen birth rates are significantly lower than those for King County and Washington State.

## Access and Preventative Care Profile

Figure 15: King County Public Health Profile: Access to Care and Preventative Services



Source: (King County, 2012) (Behavioral Risk Surveillance System, 2013)

### Access and Preventative Care Snapshot

It appears our most neglected areas are lack of flu and pneumonia vaccinations, although King County has a higher proportion of the unvaccinated. 6.8% of the service area population is 65 and over, whereas King County has 11.6% of its population 65 and over (US Department of Commerce, 2013). This could explain the inequity.

In addition, we are equal with the County and the State as far as access to dental care is concerned. Few in our community are uninsured, however many do not have a primary care physician. This may be due to a large population of young people who have not felt the need to have a doctor as yet. Social drivers of such issues will be discussed later in this assessment.

### Youth Health Behavior Profile

In 2013, the Snoqualmie Valley Community Network presented an analysis on the 2012 Healthy Youth Survey Data provided by the Snoqualmie School District.

Figure 16: Onset Age of Cigarette Use (Percent)

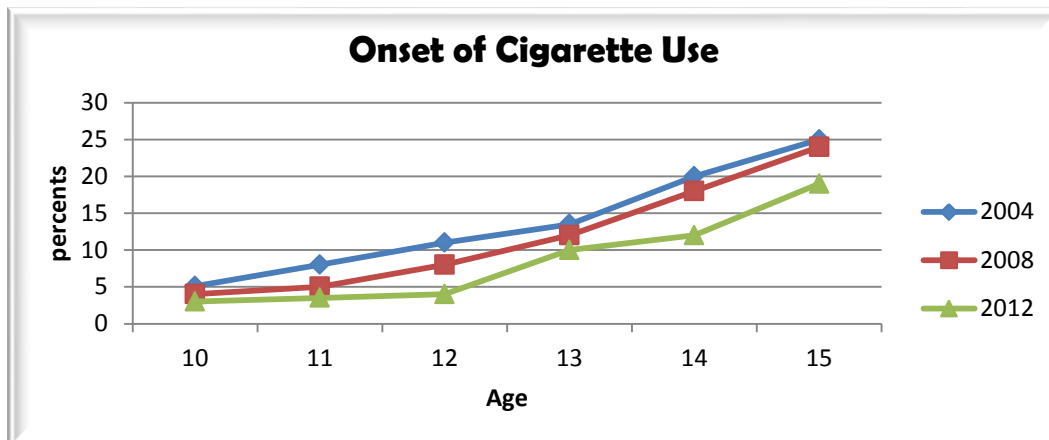


Figure 17: Onset Age of Alcohol Use (Percent)

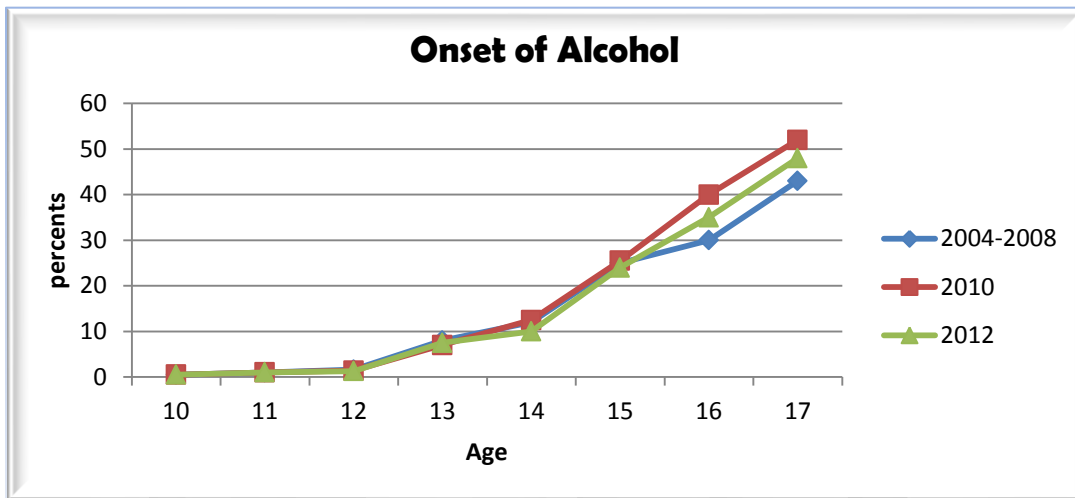


Figure 18: Onset Age of Marijuana Use (Percent)

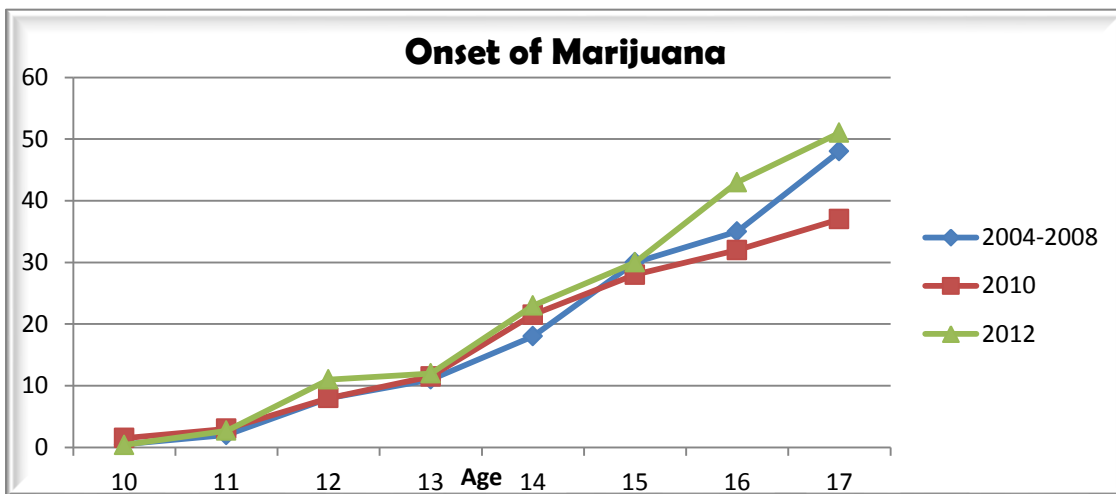
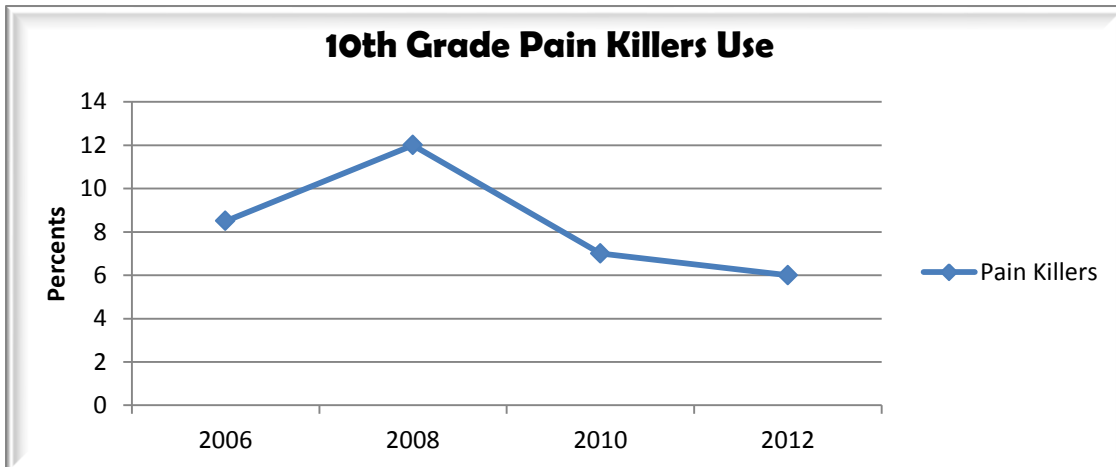


Figure 19: 10th Grade Prescription Drug Use

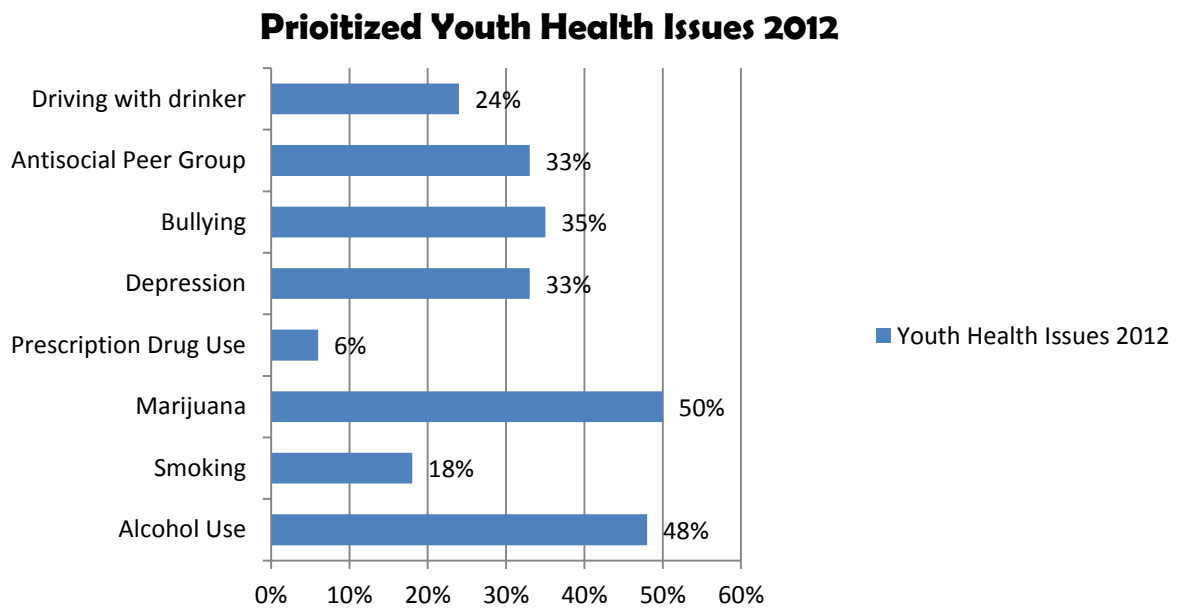


**Youth Health Snapshot**

Figure 20: 2012 Snoqualmie Valley Youth Health Survey Snapshot

<b>BEHAVIORS</b>	<b>Percent</b>	<b>Age/Grade</b>
Onset of cigarette use	18%	15
Onset of alcohol use	48%	17
Onset of marijuana use	50%	17
Percentage of prescription drug use	6%	Not available
Youth Depression	33%	12 <sup>th</sup> Grade
Suicide plans	16%	12 <sup>th</sup> Grade
Bullying	36%	6 <sup>th</sup> Grade
Interaction with antisocial peers	33%	10 <sup>th</sup> Grade
Driving with drinking driver	24%	12 <sup>th</sup> Grade

Figure 21: Youth Behavior Risk Summary

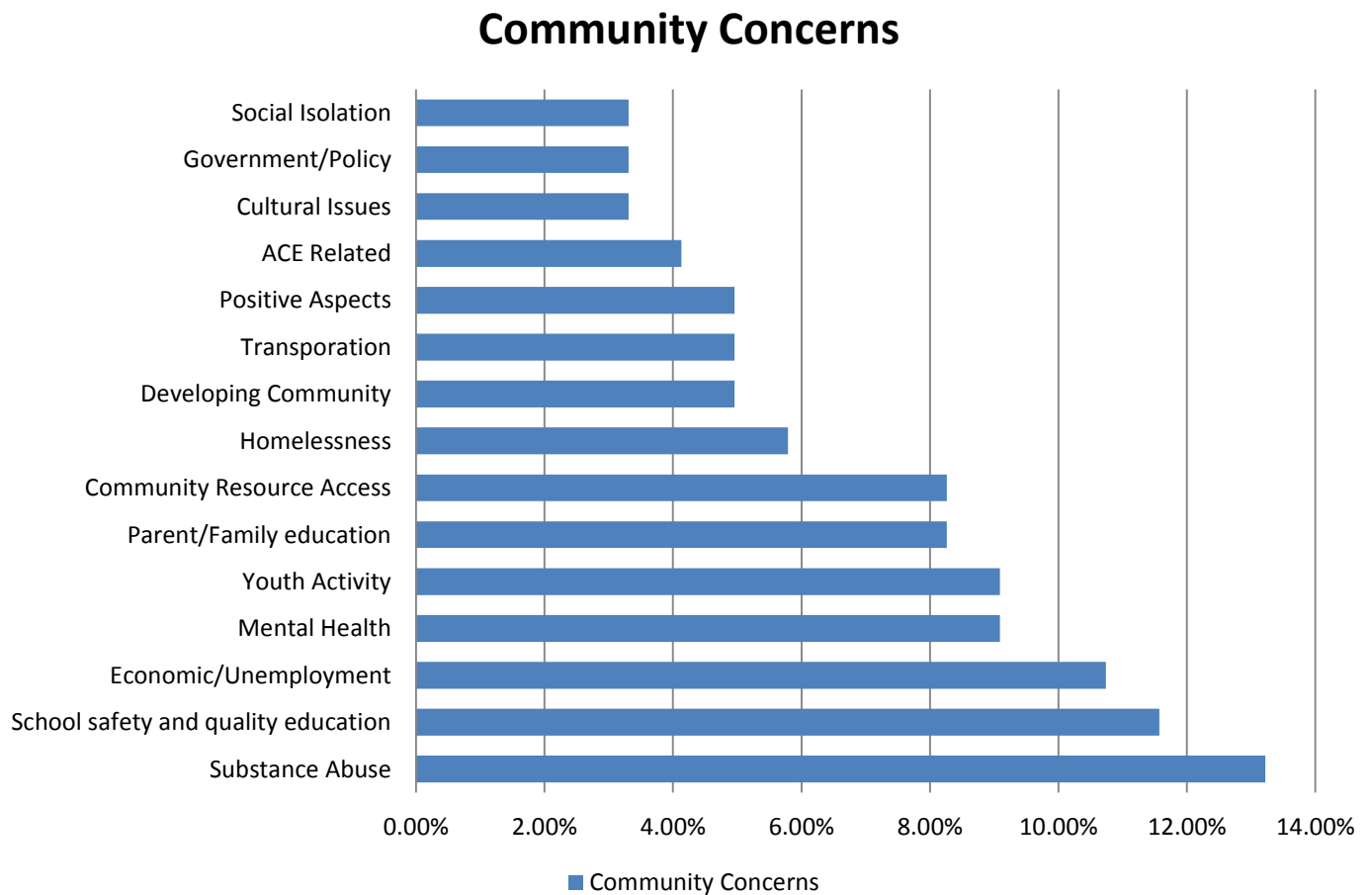


The leading issues our youth are dealing with are: marijuana and alcohol use, bullying, depression, antisocial peer group interaction, and driving with drinkers. (Snoqualmie Valley School District, 2013).

**Community Health Concerns Profile**

In 2012, 121 key leader participants were gathered at the KLS World Café in order to prioritize their thoughts on pressing issues they feel the community is facing. These leaders included school district authorities, board members, church leaders, counselors, hospital district personnel, youth leaders, city council members, and other community members. Below is a summary of this survey.

Figure 22: Key Leader Summit Concerns



Source: (Key Leaders Summit, 2012)

In addition, a survey was conducted by The District to gather community input on how residents view community health. The following graphs are snapshots of their findings. The input represents just under 54 respondents and may or may not represent the community at larger.

Figure 23: Health District Member Survey

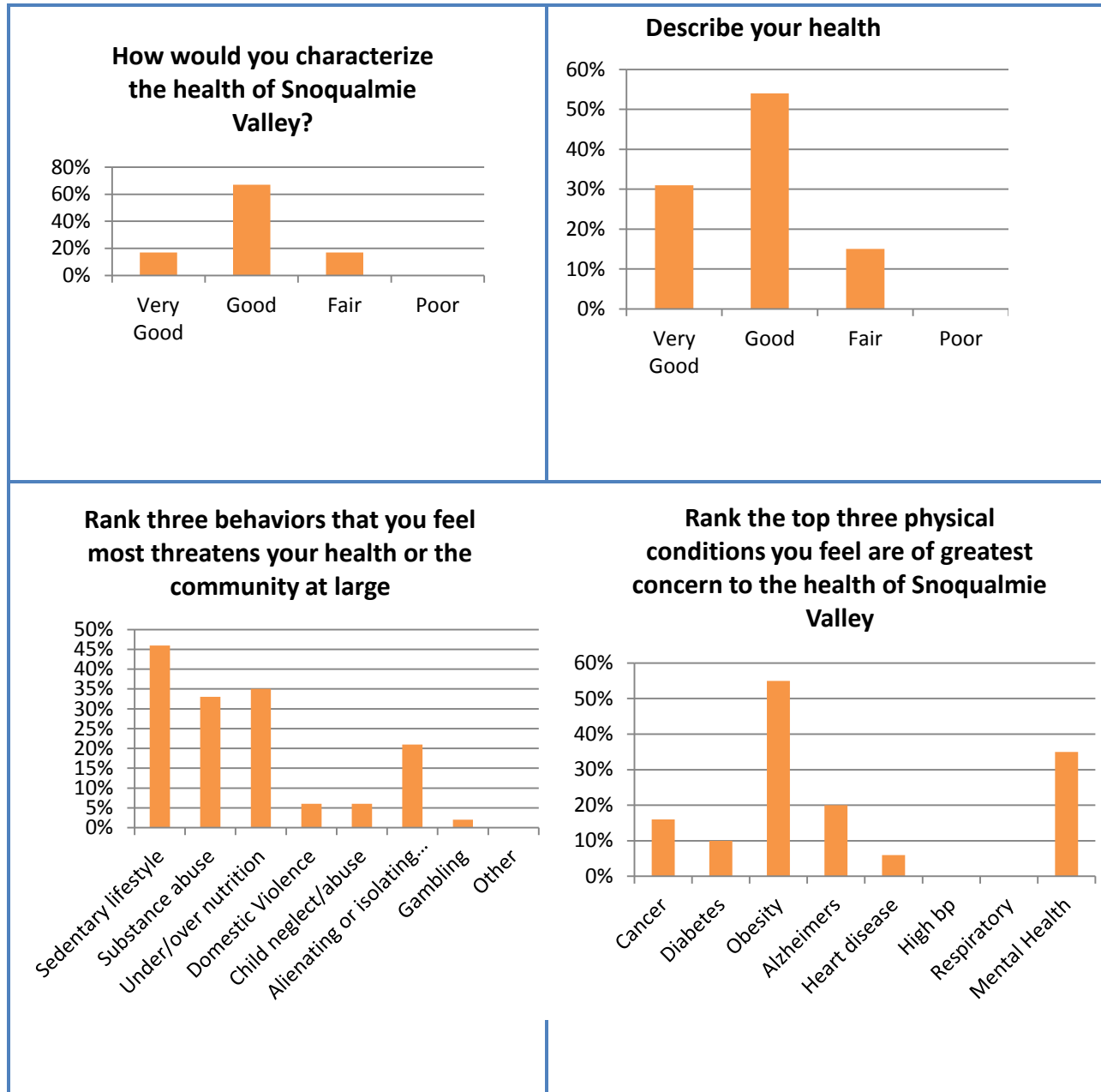
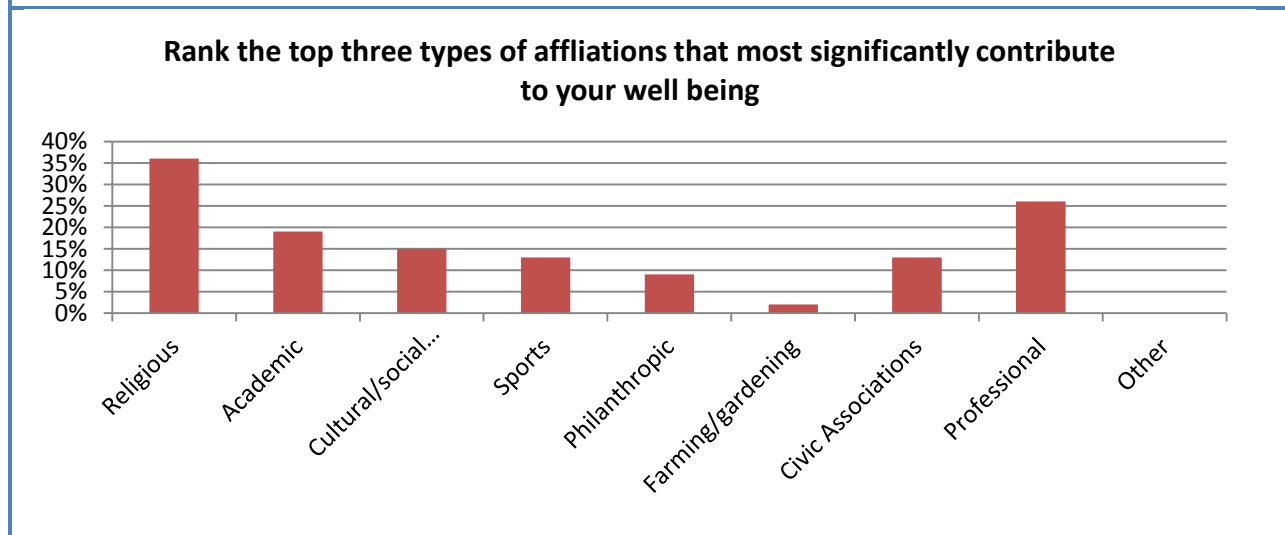
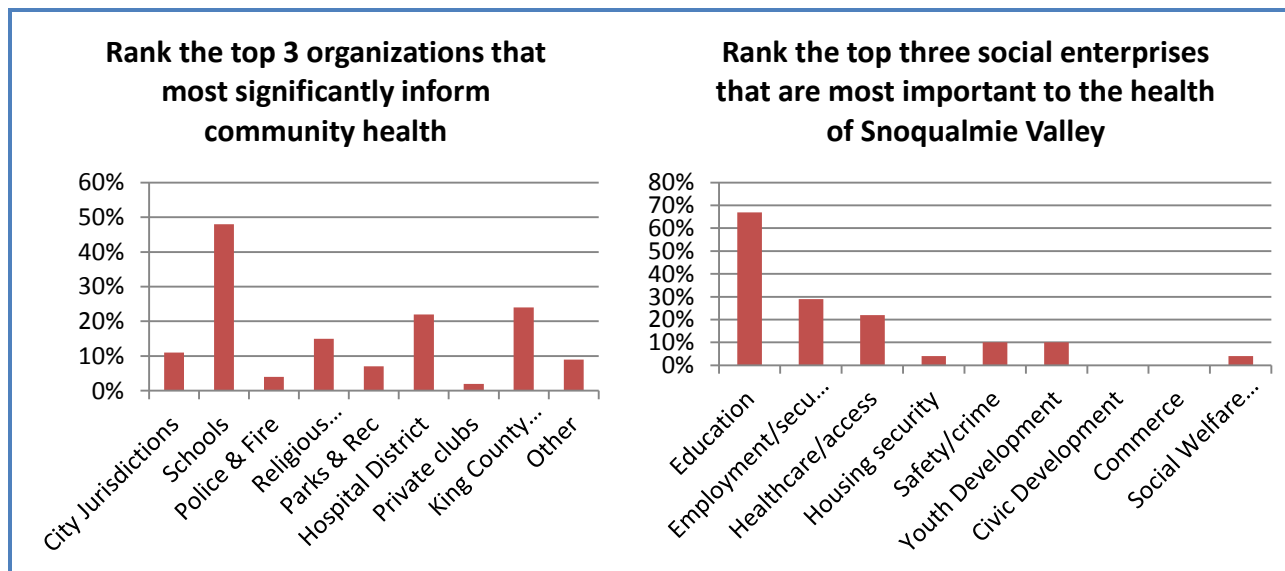
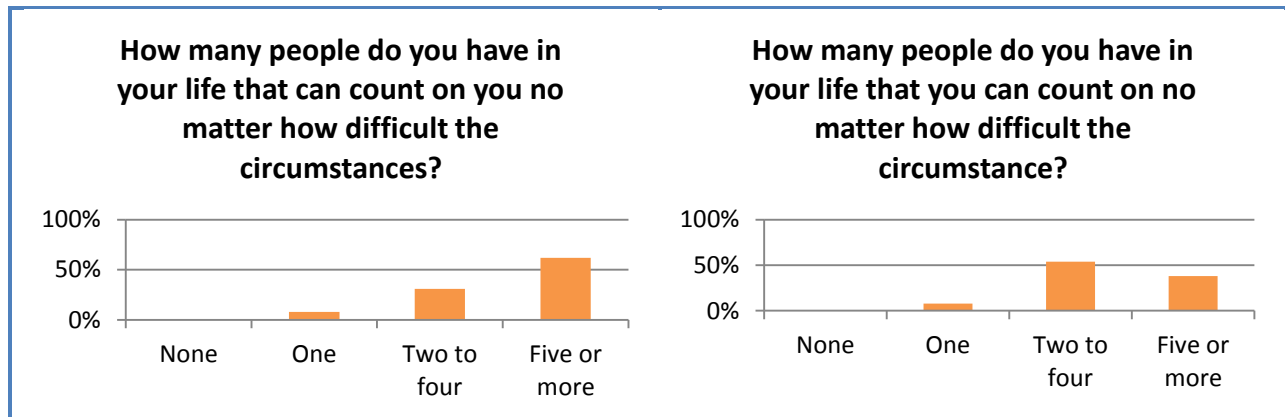


Figure 24: Health District Member Survey





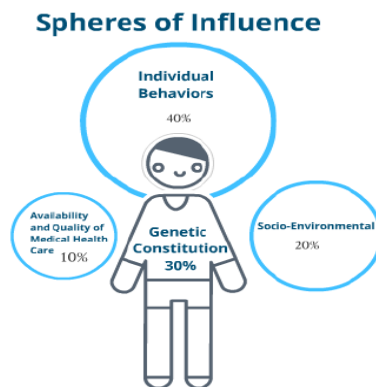
## Community Concerns Snapshot

It appears that our community views the health of our citizens and themselves as fairly good. However, we have concerns regarding inactivity and obesity, nutrition, substance abuse, and mental health issues. Of these, obesity and mental health have high importance.

The input suggests that school, religious organizations, the hospital district, and King County Public Health are expected to play a prominent role in shaping the health of the community. Religious organizations are indicated as key contributors to wellbeing, along with professional and academic involvements.

## How are these linked and where are they leading us?

Issues such as obesity, high blood pressure, and lack of activity all have household structure, socioeconomic, mental health, and even educational ties that can strongly affect personal behaviors. For instance, it has been shown that poor food choices correlate strongly with socioeconomic status (Dahlgren & M., 1991). The sphere of influences on an individual's health are illustrated below, and behaviors are highly affected by a person's environment, status, stress, and mental health. Therefore, an examination of the social and environmental conditions relating to health is the next logical step.



DNA + optimal environment = maximum longevity

## Social Determinants of Health

### Community Demographic Profile

### Age and Population Profile

Figure 25: Service Area Ages

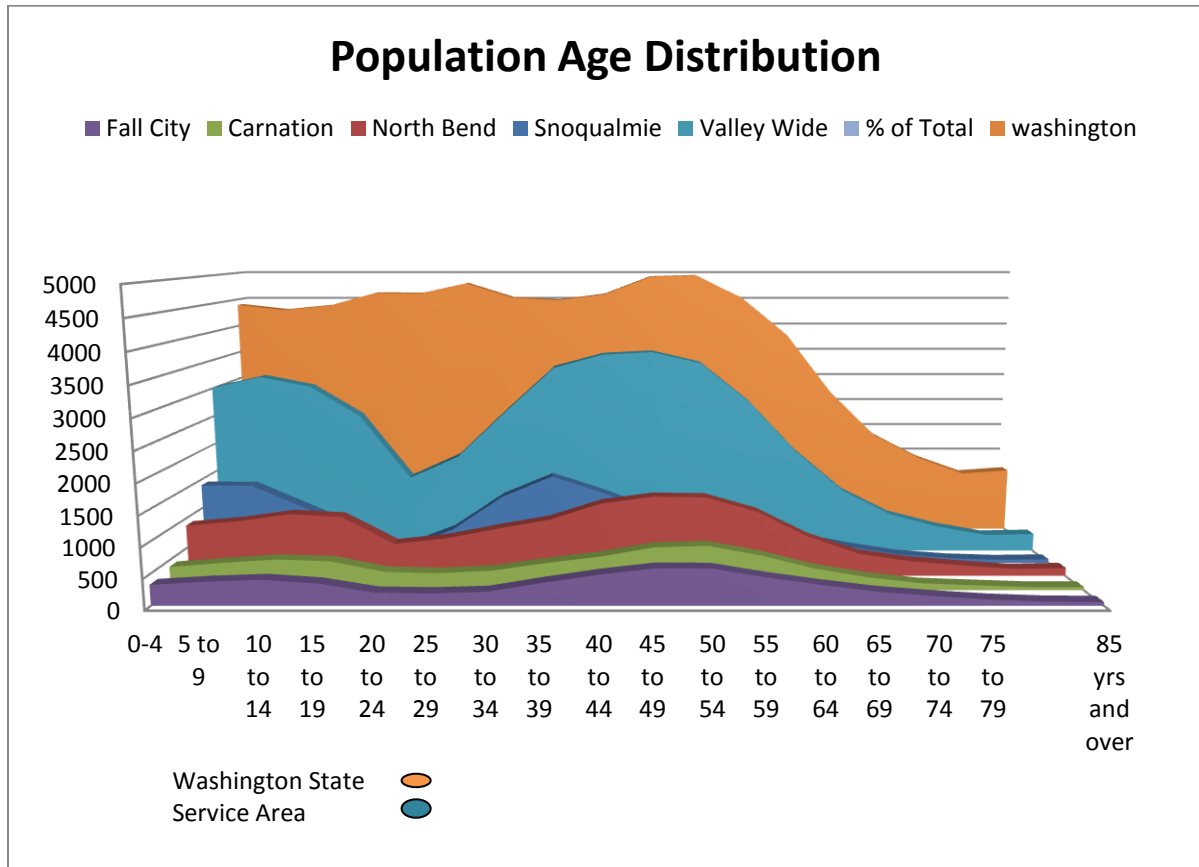
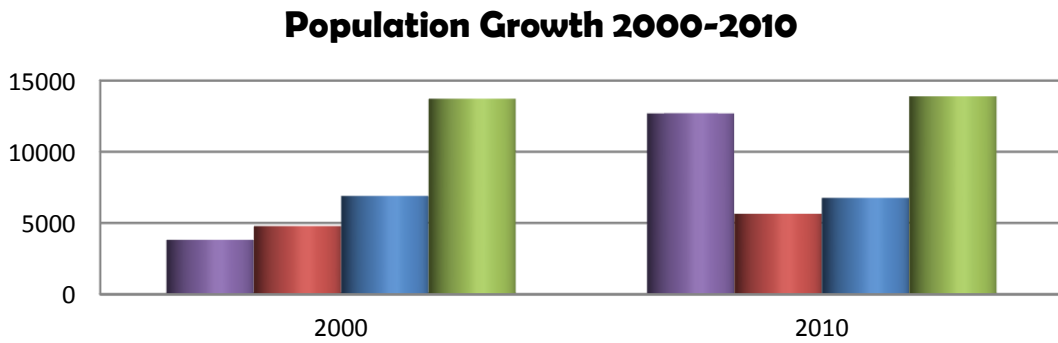


Figure 26: Service Area Population



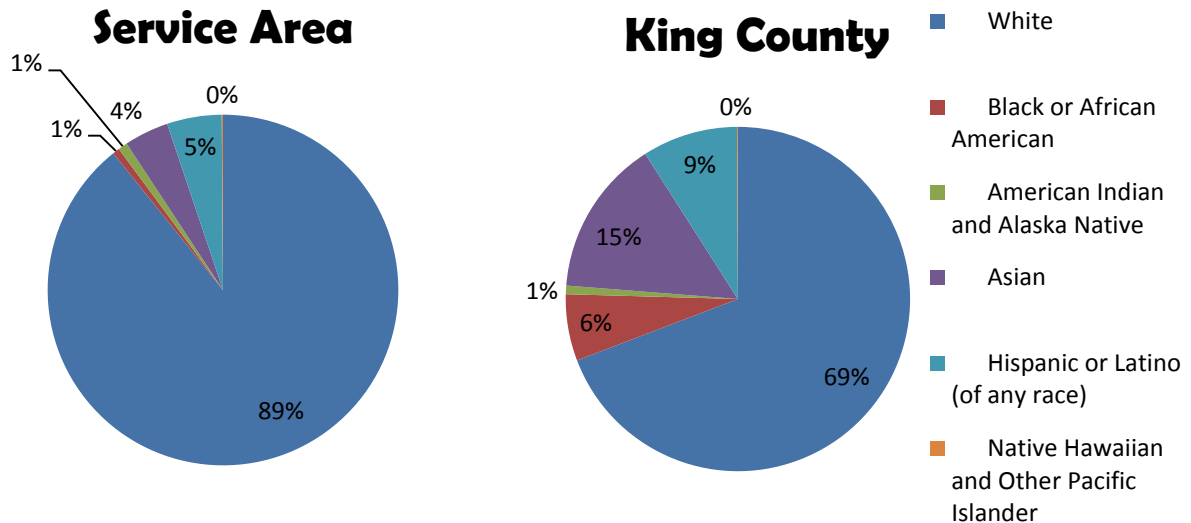
	2000	2010
■ Snoqualmie	3822	12699
■ Fall City	4787	5650
■ Carnation	6894	6765
■ North Bend	13717	13888

Figure 27: Demographic Changes 2000-2010

Service Area Demographics	2000 Census	2010 Census	Change since 2000
Population	29,220	39,002	33.5%
Percentage Population 65+	6.8%	7.3%	8.3%
Percentage Population <18	29.1%	28.1%	-3.4%
Percentage Population Hispanic	2.9%	5.0%	76.6%
Percentage White	95.3%	92.3%	-3.1%
Percentage Non-White	7.3%	11.4%	56.3%
Density/Square Mile	59.1	78.8	33.5%
Percentage Non-English Speaking in Home	6.4%	9.7%	52.4%

Source: (Washington State Hospital Association, 2013)

Figure 28: Service Area Race Profile vs King County



Source: (King County, 2013)Housing

### Demographic Snapshot

The service area has a population growth of 33.5% from 200-2010, with Snoqualmie showing the largest increase. Population growth leads to an increase in density also, with 78.8 people per square mile. Our community has a large number of 0-24 year olds and then another large number of 35-59 year olds. The number of non-English speaking residents in 2010 comprised 9.7% of the population, an increase 52.4%. A majority of residents are white, with 9% of the population being either Hispanic or Asian in origin.

## Housing and Household Structure Profile

Figure 29: Housing Profile

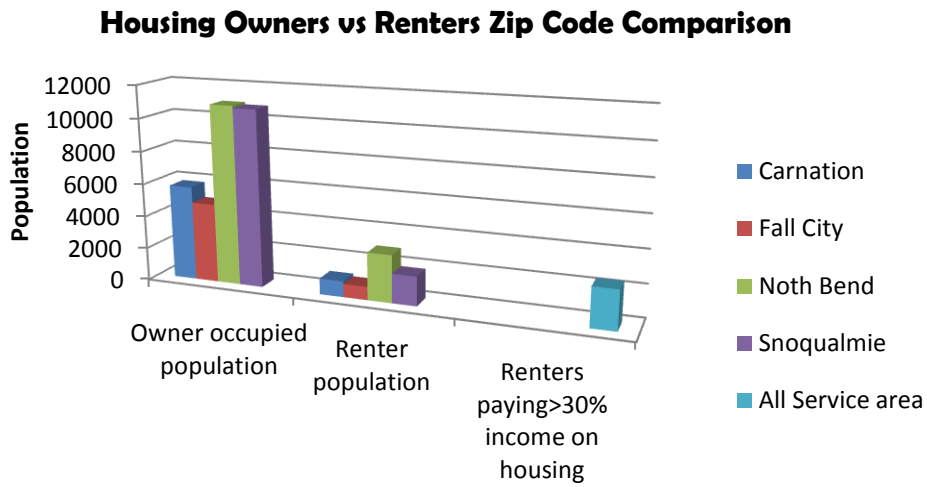


Figure 30: Household Structure

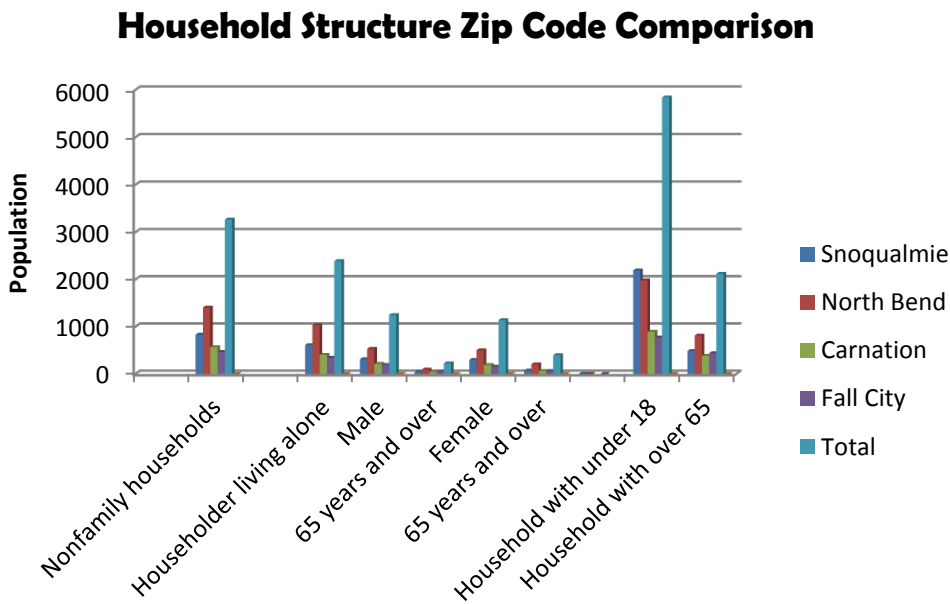


Figure 31: Household Structures Entire Service Area

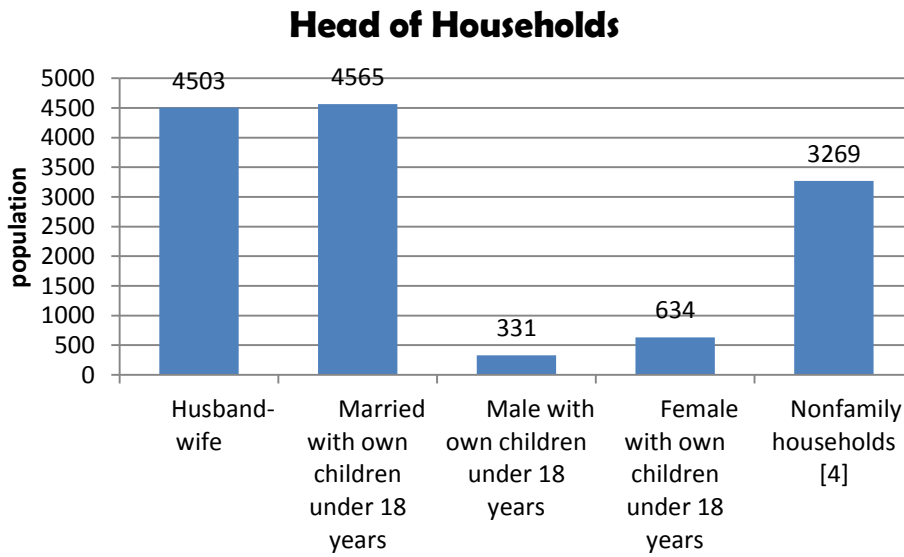
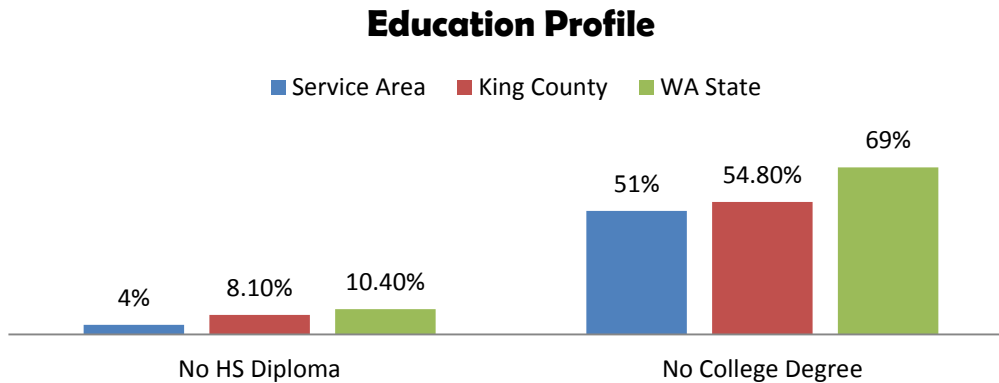


Figure 32: Education Profile Adults Over 25

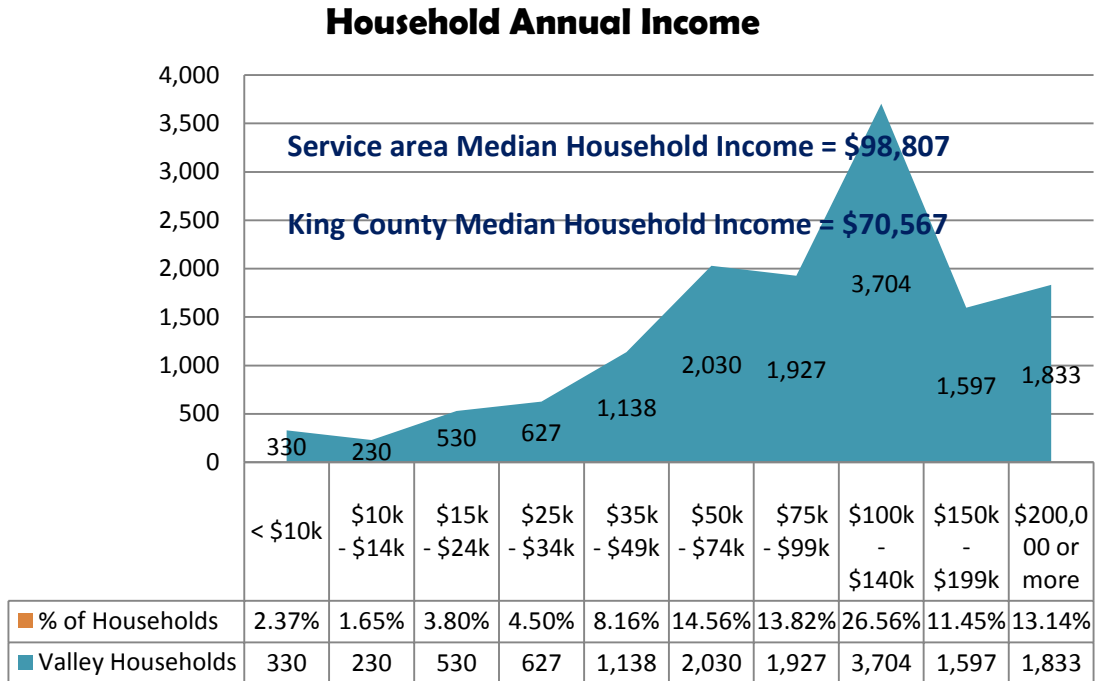


### Housing and Household Snapshot

Most homes are owner occupied with approximately 23% of the population renting homes. Of these, 2,000 out of 40,000 are paying > 30% of their income for rent. 14.8% of households have children under 18 and 2.4% are single parent homes. 5.1% have members 65 or older and 5.6% of the population lives alone. Approximately 50% of the service area population does not have a college degree, which is approximately 25% less than Washington State.

## Income Profile

Figure 33: General Income Profile vs King County



Source: (US 2010 Census, 2010).

As shown above, our community has a higher median income than that of King County, with a median income of \$98,807 annually.

Figure 34: Per capita income and Poverty

Service Area Social Determinants 2010			
	Service Area	WA State	Variance
Per Capita Income	\$39,336	\$29,733	32.3%
Percent Below Federal Poverty Level	2.6%	7.9%	-67.2%
Unemployment Rate (2011)	6.2%	9.2%	-32.9%
Percent with High School Diploma	95.7%	89.6%	6.8%
Community Need Index (CNI)*	1.9 (2nd Lowest Quintile)	3.2 (Mid-Quintile)	-41.4%

(Washington State Hospital Association, 2013)

### Income Snapshot

Income in the service area is higher than that of the County and Washington State, however, we do have 2.6% of our population below the Federal Poverty level and this population is likely receiving public assistance.

### Community Work Profile

All data was collected from King County Health, Hospitalization, Mortality, and Economic Data by Service Area (2001-2010).

Figure 35: General Labor Status

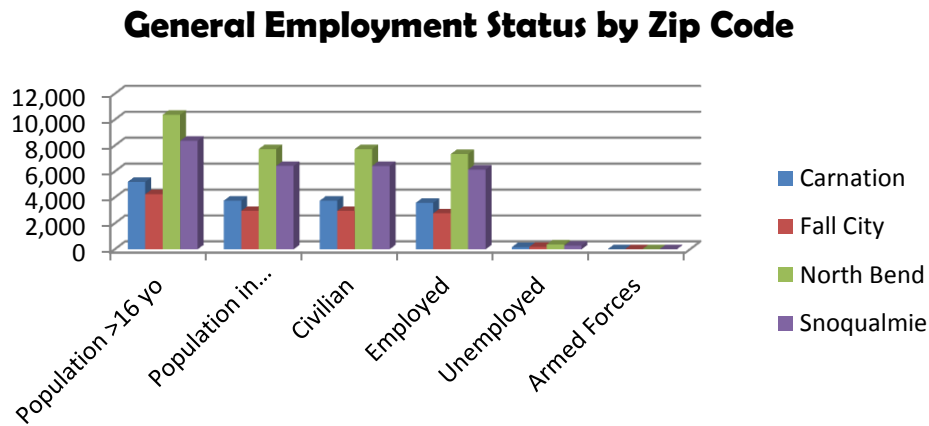


Figure 36: Women and Work

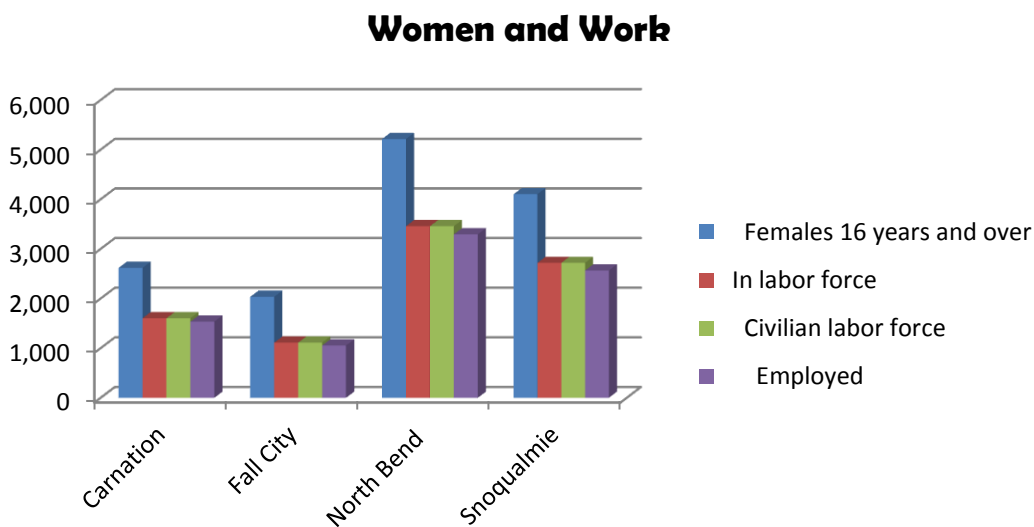


Figure 37: Families with Working Parents

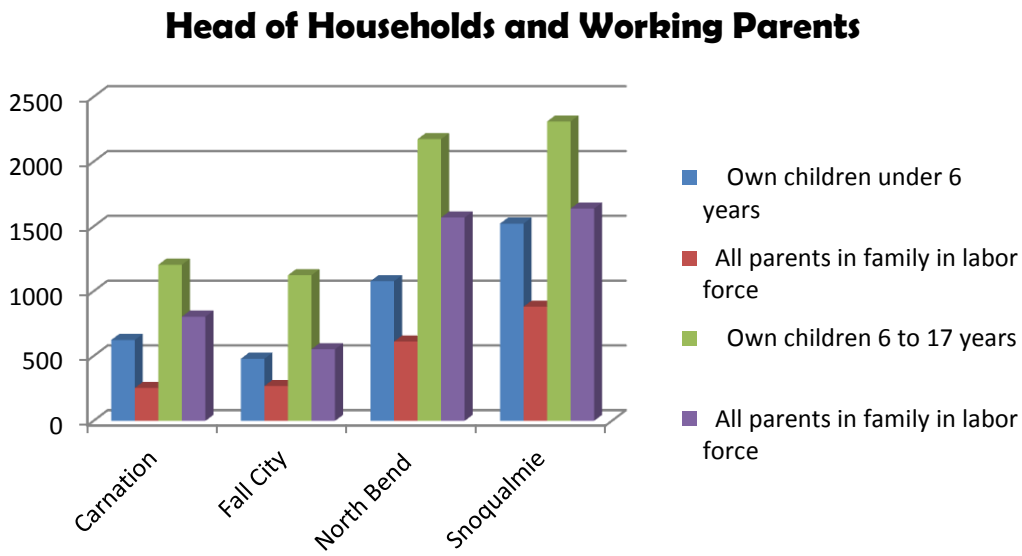


Figure 38: Commuting Profile

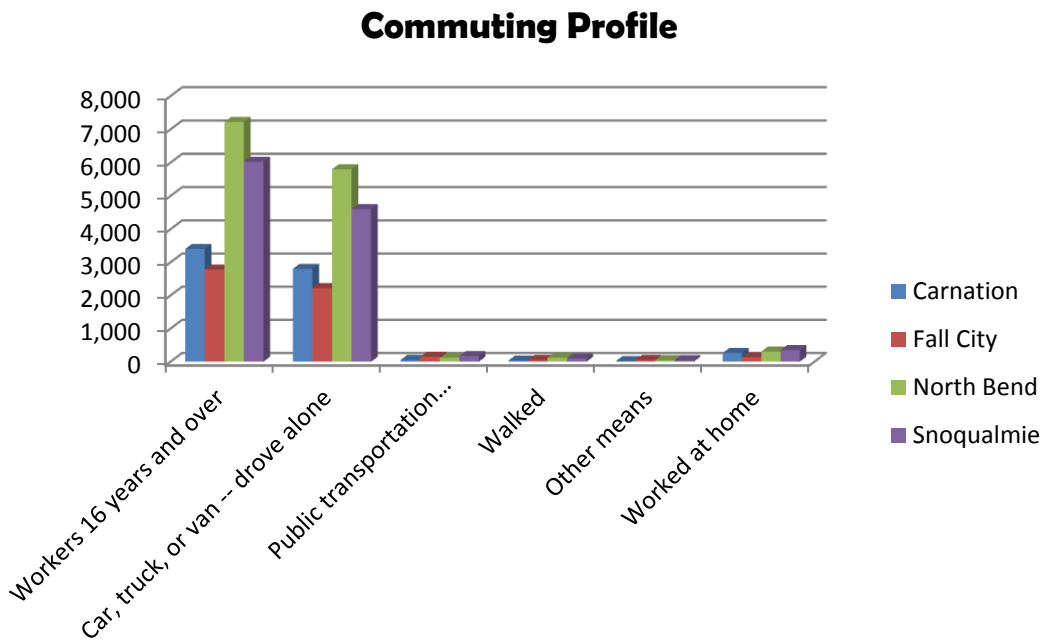




Figure 39: Mean Travel Time to Work

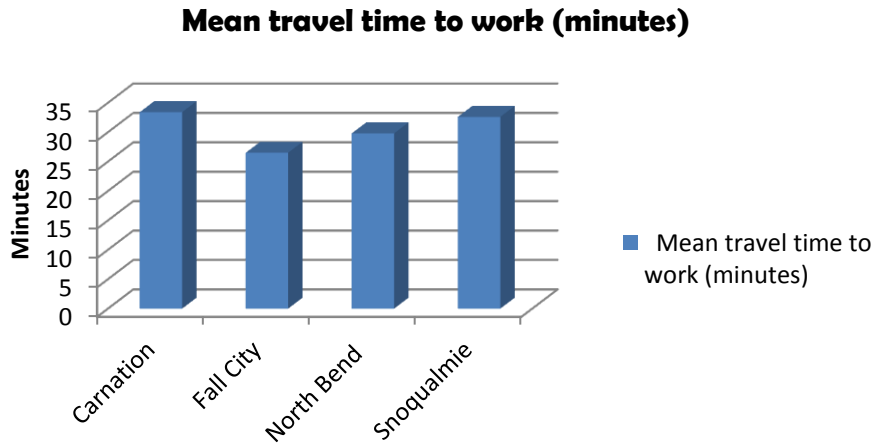
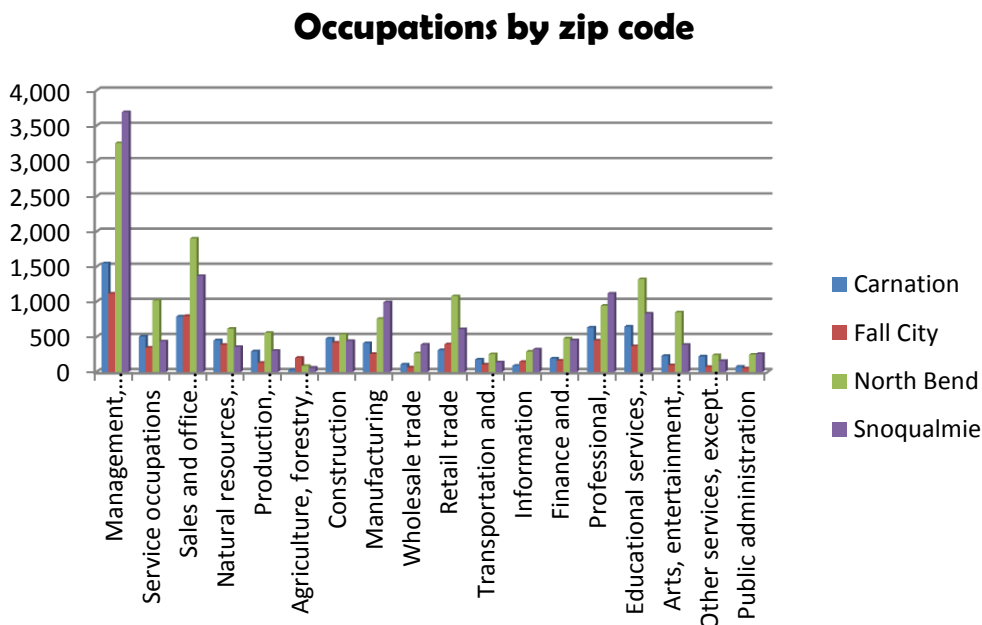


Figure 40: Occupation Profile



**Occupation Snapshot**

69.2% of the population are over 16 and of those, 48.2% are working and 22% are working women. 27% of the populations are families with children in the household and approximately 60% of those households have two adults working.

Approximately 48.2% of the population commutes with an average commute time of 29.25 minutes. Types of employment rank in order of management, sales and office work, educational, professional, retail, and manufacturing work.

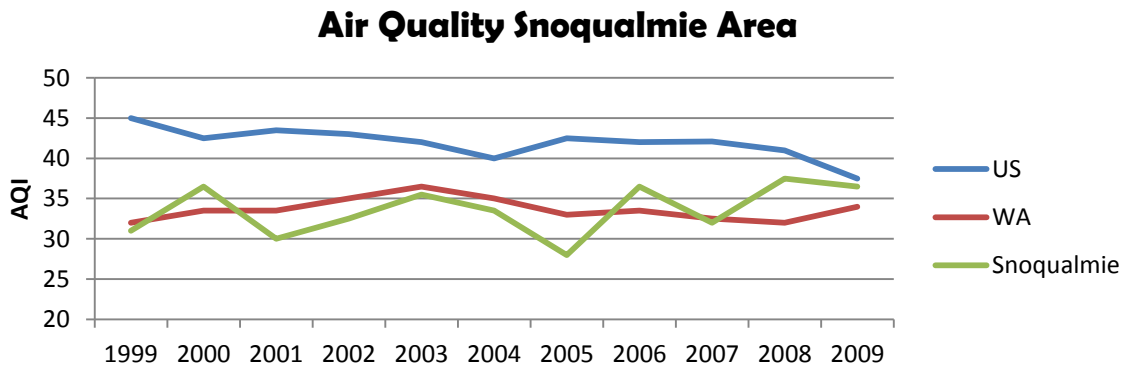
## Community Environmental Health Profile

### Water Quality

According to the City of Snoqualmie (2011) and North Bend (2012) Annual Water Quality Reports, levels of inorganic and organic contaminants, microbiological contaminants, and radionuclides were all below US EPA standards for compliance (City of Snoqualmie, 2011) (City of North Bend, 2012). Fall City had two stations that exceeded coliform standards in 1999 and 2000 (City Data Water Quality, 2013). The City of Carnation had only one violation, which was a failure to report data in 2004 (City Data City of Carnation, 2013).

### Air Quality

Figure 41: Air Quality Snoqualmie Region



Air quality indices (AQI) are numbers used by government agencies to characterize the quality of the air at a given location. As the AQI increases, an increasingly large percentage of the population is likely to experience increasingly severe adverse health effects. Air quality index values are divided into ranges, and each range is assigned a descriptor and a color code. Standardized public health advisories are associated with each AQI range. The United States Environmental Protection Agency (EPA) uses the following AQI:

Air Quality Index (AQI) Values	Levels of Health Concern	Colors
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

(EPA, 2010)

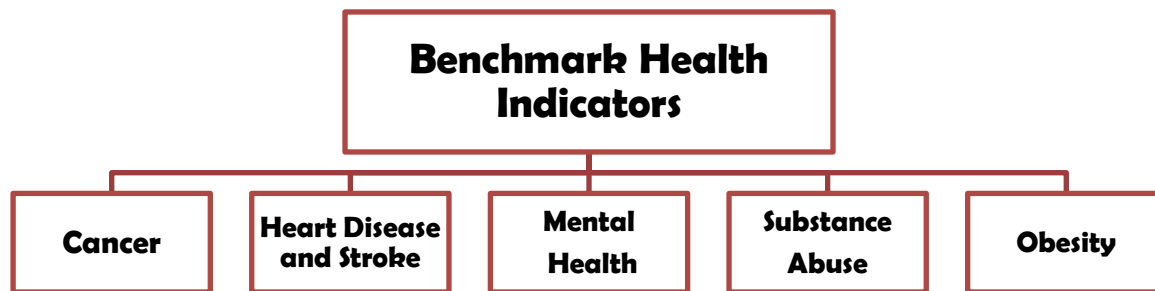
### Environmental Snapshot

The air and water quality data show that the community has good air quality and water quality is within standards with the exception of coliform readings, which may be due to increased numbers of livestock and pets in the area.

## Conclusions

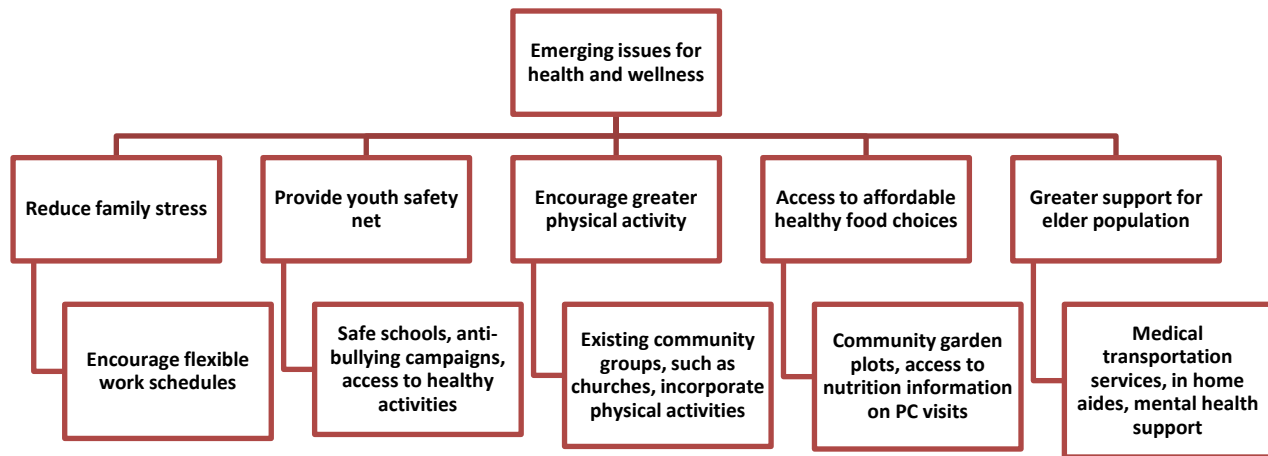
Our data reveals a healthy community where a majority of the population has adequate or above adequate income levels, higher educational levels, moderate commute times, and professions that are considered non-toxic. Nonetheless conditions such as cancer, heart disease, stroke, high cholesterol, high blood pressure, mental distress, substance abuse and obesity persist at surprisingly high levels compared to other regions throughout the world with lesser means

It appears that youth are increasing their alcohol and marijuana use, and there is strong community concern regarding substance abuse. In addition, the rate of suicide attempts among our youth, while not significantly higher than the national average, is still cause for action. The number of poor mental health days displayed in the data should also be called to attention, as poor mental health affects individual behaviors and physical health. By examining the data, this assessment has concluded the following important emerging issues for our community's health.



The conditions themselves are highly correlated with individual behaviors. Our most destructive behaviors often seem harmless but the accumulative effect of the extra soda or minor insult can have devastating health consequences. We know that much of what is considered healthy behavior is grounded in proper nutrition, stress management, coherent family structure, and adequate physical activity levels.

We can discern individual behaviors from community data and examine some of the social drivers behind those behaviors as part of a process to identify and prioritize conditions most responsive to intervention. We can observe what is happening in our community that is going well, and energize efforts to promote those activities that drive an even healthier, bonded community that supports individuals in their efforts to maintain health.



Individually and collectively we struggle to maintain health in the face of adversity. Everyone struggles in one way or another with their own real or perceived diminishment of mind, body or soul. Our capacity to face adversity as individuals and a community is every bit as much an indicator of health as our weight or blood pressure.

Population resilience involves a capacity for change in individual behaviors and collective behaviors. Capacities for change are most radical at levels of relationship where individuals and the surrounding social authority are able to mutually and to some extent deliberately inform one another. Ironically, even our own sense of self interest develops in collaboration with others. For example, we learn that home ownership is in our self interest or not and we learn that smoking is in our self interest or not. If we cannot trust the mass of competing ideologies surrounding us to help guide our appetites and ambitions or govern our fears then lets trust a friend, a family, a neighbor, a pastor, a colleague, a city administrator, a parks director, a police chief, a councilmember, a commissioner, a community? The lowest level of authority capable of informing an issue appears the most effective in achieving the health benefits of personal ownership and social responsibility.

The District's aim is to cultivate an environment that encourages healthier individual and collective choices, without forcing certain outcomes. This is already being accomplished at the local level through the efforts of individuals, churches, schools, public, private and nonprofit organizations. It is our intent that through this assessment and the development of a “community health improvement plan”, The District can play a role in coordinating these efforts to address our most systemic health problems.

## Community Health Support Structures already in place

- Snoqualmie Valley Senior Center in Carnation serves area seniors and offers arts and crafts classes, clubs and societies, education library, fitness and exercise classes, games and recreation, and health safety and wellness services (including low cost chiropractic and naturopathic services, massage, and health screenings) and low cost meals. Included in services is low cost legal and financial planning services, senior assistance, and transportation services
- Youth organizations include:
  - Snoqualmie Valley Soccer Association
  - Snoqualmie Valley YMCA
  - Snoqualmie Valley Youth Hub
  - Snoqualmie Valley Youth Activity Center
- Snoqualmie Valley Community Network whose vision is ‘to create a community working together to promote a supportive environment for families to thrive.’ They provide lists of key resources, developed youth leadership councils, developed parenting support classes, and gathers leaders and individuals and formed the ‘Healthy Community Coalition.’
- Snoqualmie Valley School District
- Over 25 churches throughout the Service Area (count from Google search)

**....to be continued**

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