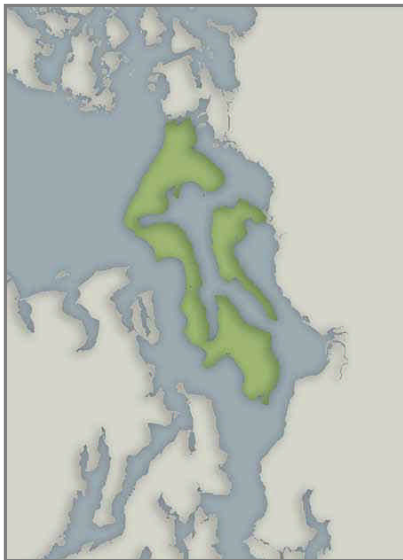


Island County 2012 Community Health Assessment

A review of key community health indicators



Island County 2012 Community Health Assessment

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Executive Summary

For 2011, Island County was ranked third in Washington State for Health Outcomes and fourth in Washington State for Health Factors in the annual County Health Rankings report published by the Robert Wood Johnson Foundation and the University of Wisconsin¹. Island County is among the healthiest places to live, work and play in Washington.

This Community Health Assessment uses key community health indicators to describe the many factors that affect health in Island County. The *Health Indicators Data Table* and *Narrative Health Indicators* illustrate how Island County compares to itself and the state and nation, and whether Island County is achieving the nation's "Healthy People 2020" goals. The collection of these indicators and data allow our community to understand where we stand with regard to determinants of health.

On many issues, Island County does well. We continue to see that Island County residents generally enjoy a long span of healthy life, have high educational attainment levels, and experience low crime rates. School immunization rates have increased in large part due to coordinated local efforts. Since our last community health assessment in 2005, we have seen a decrease in substance abuse among youth as well as positive trends for teenage obesity and physical activity.

Despite a generally healthy population, there are some alarming health trends. Obesity and physical inactivity rates in adults are rising significantly, there remains a lower than average availability of health care providers, and rates of fall-related mortalities do not meet national goals. Since our last community health assessment in 2005, fewer adults report having a "usual source" of care, the number of adults immunized for flu and pneumonia falls short of national goals, and we continue to see high rates of sexually transmitted disease, especially in young women.

A Community Health Assessment offers an opportunity to reflect on community needs. To address the findings of this report, the Community Health Advisory Board will develop a Community Health Improvement Plan focusing on key areas for our community. The plan will identify and promote effective policies and programs to improve public health in Island County.

¹ 2011 *County Health Rankings and Roadmaps*. Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Available at: <http://www.countyhealthrankings.org/>

Introduction

Our Community

Island County is comprised of nine islands lying approximately 30 miles north of Seattle and 50 miles south of Canada in northwestern Washington State. The county covers a total area of 517 square miles and yet has only 208 square miles of land, according to the US Census Bureau. Three of these nine islands, Whidbey, Camano and Ben Ure Islands, are inhabited, and according to the 2010 census had an estimated population of 78,506. Island County has a population density of 378 people per square mile and ranks as the fifth most densely populated county in the state, according to the State of Washington's Office of Financial Management.

In 2010, the median household income was estimated at \$53,754 as compared with \$54,888 for the state. While not as racially or ethnically diverse as some of the larger counties in Washington State, nearly 4.4% of Island County residents consider themselves to be Asian, about 2.2% Black and another 4.8% as two or more races. An estimated 18.4% of Island County's population is age 65 and over.

Distinct regions exist within the county. North Whidbey Island is connected to Fidalgo Island by Deception Pass Bridge and many people commute both on and off Whidbey Island daily across this bridge. North Whidbey is home to the City of Oak Harbor, the largest incorporated city in the county with a population estimated in 2010 at 22,075 people. It is also home to Naval Air Station Whidbey Island, the largest employer in the county, with approximately 7,600 military personnel and their family members. An additional 1,200 civilians and 1,200 contractors are also employed at the air station. Naval Hospital Oak Harbor is located on the naval air station and serves the population who are eligible for military medical care in the area (active duty military, retirees and military family members). Those who are not eligible for care at the Naval Hospital receive health care from local civilian providers and from the public hospital in Central Whidbey.

Central Whidbey includes the small, incorporated town of Coupeville (1.06 square miles), which had an estimated population of 1,831 in 2010, and extends south to include the unincorporated area of Greenbank. The Town of Coupeville serves as the county seat and houses the only public hospital in Island County, Whidbey General Hospital. The Port Townsend-Coupeville Ferry in Central Whidbey connects Coupeville to the community of Port Townsend on the Olympic Peninsula.

South Whidbey is home to the City of Langley and the unincorporated areas of Freeland, Clinton and Bayview. The City of Langley, with an estimated population of 1,035 in 2010 is just less than 1 square mile in area. Many South Whidbey residents commute to North or Central Whidbey or take the Clinton-Mukilteo Ferry to Everett or Seattle.

Camano Island is the fourth distinct geographic region in Island County. It is physically separated from Whidbey Island requiring Camano residents to travel through two other counties to reach the county seat in Coupeville. There are no incorporated communities on Camano Island and residents have to leave the island for many services including some healthcare. Camano children attend middle school and high school off the island in the community of Stanwood, which is part of Snohomish County. This can make data collection and assessment when conducting surveys on youth behavior. The children from Camano Island complete their Healthy Youth Survey in conjunction with classmates in Snohomish County, and it is tedious to separate out risk or behavior factors for the Camano youth who are Island County residents.

Our Health

The goal of public health is to improve the health of a population. Public Health interventions account for the majority of years of life expectancy gained in the United States over the last 100 years. In order to improve the public's health it is first necessary to define the health status of the population and then determine what factors lead to decreases in health status in the community of interest.

A Community Health Assessment involves obtaining and interpreting information to determine the health status of a specific community. The assessment documented in this report utilizes an indicator approach to conducting a Community Health Assessment. Health indicators are measurable health outcomes, such as poverty rate, insurance coverage measures, immunization rates, or other data categories that are relevant to the health of a community. Indicators are data points that provide useful information about the health of a community. Indicators must be selected for those health outcomes where data is readily and routinely available. Indicators also serve as a means of comparing population health through time or to compare the health status of the target population to other communities.

A Community Health Assessment provides useful information to determine the health status of a community and identify behaviors that contribute to the health status of a community. Once community health issues are identified, interventions, including Public Health interventions and services, can be developed and their effectiveness evaluated using a similar approach. The output of a Community Health Assessment can also be used to determine priority health issues, identify areas for public policy development, and help to educate the public.

The purpose of this Community Health Assessment is to take a 2012 snapshot of the health status of Island County in order to prioritize community health challenges and take action on our priority health needs. Identifying health indicators and comparing those indicators to other communities or standards allows us to view a larger picture of what factors are positively and negatively affecting community and individual health in Island County. Additional narrative health indicators were developed to help us understand many of the factors that indirectly

influence our health, but cannot be simply quantified and included into a data table as with the quantifiable indicators.

The Community Health Assessment reflects the outcome of a process used to assess if community health needs are being met and where scarce public resources could be invested to make a positive impact in our community. Finally, the information obtained in this assessment can help guide community partners to evaluate and consider policy decisions that improve the health status of the residents of Island County.

Our Community Team

The act of compiling this information has been a community effort and reflects the collaborative nature of Island County's approach to health matters. Members of the Community Health Advisory Board and Island County Public Health co-authored this document to provide a comprehensive understanding of the health of Island County. This document was prepared by Katie Hicks, Island County Public Health.

A special thanks to our authors and contributors:

- **The Island County Community Health Advisory Board (CHAB):** David Macys (Chair), Celine Servatius (Vice Chair), Cary Anderson, Charles Scurlock, Colleen Zickgraf, Greg Wisont, J.M. Kiel, Jan Gross, Laura Luginbill, Laurell Brault, Roger Case, Sandy Ziemer, Trish Rose
- **Island County Public Health professionals**, especially including: Roger Case (Health Officer), Keith Higman (Island County Public Health Services Director), Aneta Hupfauer, Doug Kelly, Helena Hennighausen, Jill Wood, Joe Laxson, Karen DuBose, Kathleen Parvin, Katie Hicks, Kerry Graves, Sally Waters, Suzanne Turner, Vanya Brown, Vin Sherman
- **Snohomish Health District:** Mark Serafin and Carrie McLachlan, for special assistance providing analysis of the Behavioral Risk Factor Surveillance System survey data.

Data Reporting and Limitations

The Health Indicators Data Table is presented to display a significant amount of data at a glance. The indicator column describes the specific factor being evaluated. The next three columns describe Island County. The first two of these columns show the most recent available figure followed by a past figure for comparison over time within Island County. The next column highlights whether the Island County trend is positive or negative with a "thumbs up" or "thumbs down" symbol.

To contrast Island County with the state and nation, Washington and U.S. figures are shown next when available, but a direct comparison is not made. The last two columns compare Island County to national "Healthy People 2020" goals. The "Healthy People 2020" goal is provided when it directly aligns with the data presented. Unfortunately, there are many goals















that address the general topic area covered by the data presented but are not directly comparable. A “thumbs up” or “thumbs down” in the last column is used to indicate whether or not Island County is meeting the Healthy People 2020 goal. Healthy People provides science-based, 10-year national objectives for improving the health of all Americans. For 3 decades, Healthy People has established benchmarks and monitored progress over time in order to encourage collaborations across communities and sectors, empower individuals toward making informed health decisions, measure the impact of prevention activities.²

Dates listed for data sources vary between indicators because different data sources collect data at different intervals. In situations where multiple years are cited for one data point, the sample size for a single year was too small to be statistically significant and consequently the survey results are combined for the purpose of drawing an accurate assessment of the data.

In reviewing this report it is important to understand its limitations. In some important and emerging public health areas data is not yet being collected consistently or is not available at a local county level. The Island County Public Health Department continues to work with the Washington State Department of Health and community partners in the preparation and selection of key community health indicators. Additionally, the Department has experienced reduced funding for assessment activities including the preparation of this assessment report.

² Healthy People 2020. U.S. Department of Health & Human Services. More information available at: <http://www.healthypeople.gov/2020/about/default.aspx>














Health Indicators Data Table

| Indicators | Island County | | | Washington State Figure (Date) | National Figure (Date) | Healthy People 2020 | |
|--|--|--------------------|---|---|------------------------|---------------------|---|
| | Most Recent Figure (Date) | Past Figure (Date) | Trend | | | Goal | Goal Met? |
| N/A Data not available -- Not able to determine * Rate not calculated if less than five cases | | | |  Positive  Negative  No significant change | | | |
| Social Context & Quality of Life | | | | | | | |
| Educational Attainment: Adults over age 25 who are <u>not</u> high school graduates | 2.9% (2010) | 7.9% (2000) |  | 10.2% (2010) | 14.4% (2010) | 2.1% |  |
| On-Time Graduation Rate | 82.8% (2011) | 74.3% (2000) |  | 76.6% (2011) | 74.9% (2007-08) | 82.4% |  |
| High School Cohort Drop-out Rate | 11.1% (2011) | 19.5% (2001) |  | 16.8% (2011) | N/A | No goal | -- |
| Unemployment Rate | 9.0% (2011) | 4.9% (2007) |  | 9.2% (2011) | 8.9% (2011) | No goal | -- |
| Poverty Levels for entire population (Individuals at or below the Federal Poverty Level) | 9.4% (2010) | 7.9% (2005) |  | 13.4% (2010) | 15.3% (2010) | No goal | -- |
| Children in Poverty (Individuals under 18 years old at or below the Federal Poverty Level) | 14.4% (2010) | 10.1% (2005) |  | 18.2% (2010) | 21.6% (2010) | No goal | -- |
| Hunger & Food Insecurity | <i>See Narrative Health Indicators Section</i> | | | | | | |
| Health Care Access, Satisfaction & Care | | | | | | | |
| Adults rate health as good, very good, excellent | 86% (2008-10) | 90% (2000-01) |  | 87% (2009) | 86% (2009) | No goal | -- |
| Years of Healthy Life at 20 (Additional years a 20 year old is expected to live in good, very good, or excellent health) | 54 (2008-2009) | 54 (2003-2005) |  | 52 (2008-2009) | 48 (2007) | No goal | -- |
| Provider availability (No. physicians/ 1000 residents) <i>Data prior to 2003 counts only physicians who are not employed by the federal government.</i> | 1.4 (2010) | 1.2 (2001) |  | 2.4 (2010) | 2.4 (2010) | No goal | -- |

| Indicators | Island County | | | Washington State Figure (Date) | National Figure (Date) | Healthy People 2020 | |
|--|---|--------------------|-------|---|------------------------|---------------------|-----------|
| | Most Recent Figure (Date) | Past Figure (Date) | Trend | | | Goal | Goal Met? |
| N/A Data not available -- Not able to determine * Rate not calculated if less than five cases | | | | 👍 Positive 👎 Negative ↔ No significant change | | | |
| Percent of adults under 65 years with health insurance | 87% (2008-10) | 94% (2000) | 👎 | 84% (2009) | 83% (2009) | 100% | 👎 |
| Adults reporting having a usual source of health care | 82% (2008-10) | 86% (2000) | 👎 | 78% (2009) | 80% (2010) | 83.9% | 👎 |
| Environmental Health | | | | | | | |
| <i>Incidence rate (per 100,000) for 4 diseases identified by state that are transmissible by food, water or air.</i> | | | | | | | |
| Salmonellosis | 12 (2010) | 7 (2006) | 👎 | 12 (2010) | 15.2 (2006-08) | 11.4 | 👎 |
| Campylobacteriosis | 14 (2010) | 9 (2006) | 👎 | 20 (2010) | 12.7 (2006-08) | 8.5 | 👎 |
| E. coli (Shiga toxin-producing Escherichia coli) | * (2010) | * (2006) | ↔ | 3 (2010) | 1.2 (2006-08) | 0.6 | 👍 |
| Giardiasis | 12 (2010) | * (2006) | 👎 | 8 (2010) | 7.4 (2008) | No goal | -- |
| Additional Environmental Health Topic Areas | | | | | | | |
| Food Safety | See Narrative Health Indicators Section | | | | | | |
| Air Quality | See Narrative Health Indicators Section | | | | | | |
| Septic Systems | See Narrative Health Indicators Section | | | | | | |
| Failing Septic System Assistance | See Narrative Health Indicators Section | | | | | | |
| Solid Waste | See Narrative Health Indicators Section | | | | | | |
| Hydrogeology | See Narrative Health Indicators Section | | | | | | |
| Drinking Water | See Narrative Health Indicators Section | | | | | | |
| Surface Water Quality Monitoring | See Narrative Health Indicators Section | | | | | | |
| Shellfish | See Narrative Health Indicators Section | | | | | | |
| Environmental Release to Penn Cove | See Narrative Health Indicators Section | | | | | | |
| Zoonotic Diseases | See Narrative Health Indicators Section | | | | | | |

| Indicators | Island County | | | Washington State Figure (Date) | National Figure (Date) | Healthy People 2020 | |
|---|---------------------------|--------------------|-------|--------------------------------|------------------------|---------------------|-----------|
| | Most Recent Figure (Date) | Past Figure (Date) | Trend | | | Goal | Goal Met? |
| N/A Data not available -- Not able to determine * Rate not calculated if less than five cases | | | | | | | |
| Positive Negative No significant change | | | | | | | |
| Unintentional Injury | | | | | | | |
| Unintentional Falls (Age-adjusted mortality rates per 100,000) | 10 (2010) | 12 (2005) | 👍 | 11 (2010) | 7 (2007) | 7 | 👎 |
| Unintentional Falls in Older Adults (65 years and older, mortality rate per 100,000) | 76 (2010) | 75 (2005) | ↔️ | 82 (2010) | 45 (2007) | 45 | 👎 |
| Motor Vehicle Accident Fatality Rate (Rate per 100,000) <i>Note: Island County figures are highly variable. See Narrative Health Indicators Section.</i> | 10.6 (2010) | 15.4 (2006) | -- | 7.8 (2010) | 13.8 (2007) | 12.4 | 👍 |
| Homes with firearms | 47% (2008-2010) | 40% (2000) | -- | 34% (2009) | N/A | No goal | -- |
| Homes with loaded & unlocked firearms | 7% (2008-2010) | 4% (2000) | 👎 | 6% (2009) | N/A | No goal | -- |
| Firearm Fatality Rate (per 100,000) | 0 (2010) | 0 (2005) | ↔️ | 0.16 (2010) | 10.2 (2007) | 9.2 | 👍 |
| Infectious Disease & Prevention | | | | | | | |
| Adults Immunized for the Flu (Over age 65) | 72% (2008-10) | 67% (2000) | 👍 | 71% (2009) | 70% (2009) | 90% | 👎 |
| Adults Immunized for Pneumonia (Over age 65) | 70% (2008-10) | 71% (2000) | ↔️ | 71% (2009) | 69% (2009) | 90% | 👎 |
| Immunization Coverage for Kindergarteners (% Students with Complete Coverage) | 88% (2011-12) | 80% (2006-07) | 👍 | 85% (2011-12) | N/A | 95% | 👎 |
| Gonorrhea (Rates per 100,000) | 16 (2010) | 31 (2006) | 👍 | 43 (2010) | 101 (2010) | No goal | -- |
| Syphilis (Rates per 100,000) | * (2010) | * (2006) | ↔️ | 4 (2010) | 4.5 (2010) | No goal | -- |
| Chlamydia - Total Population (Rates per 100,000) | 247 (2010) | 222 (2006) | 👎 | 318 (2010) | 426 (2010) | No goal | -- |
| Chlamydia reported for females ages 15–24 (Rate per 100,000) | 2136 (2009-10) | 2179 (2004-06) | ↔️ | 2510 (2009-10) | 3251 (2009) | No goal | -- |

| Indicators | Island County | | | Washington State Figure (Date) | National Figure (Date) | Healthy People 2020 | |
|--|---|--------------------|-------|---|------------------------|---------------------|-----------|
| | Most Recent Figure (Date) | Past Figure (Date) | Trend | | | Goal | Goal Met? |
| | N/A Data not available -- Not able to determine * Rate not calculated if less than five cases | | | Positive Negative No significant change | | | |
| Pertussis "Whooping Cough" (Rate per 100,000) <i>Note: Island County figures are highly variable. Island County has experienced outbreaks in 2008 and 2012.</i> | 16 (2010) | 108 (2008) | -- | 9 (2010) | 4.5 (2008) | No goal | -- |
| Chronic Disease & Physical Activity | | | | | | | |
| Adults Overweight or Obese | 65% (2008-10) | 54% (2000) | | 62% (2009) | 69% (2005-08) | No goal | -- |
| Adults who perform regular physical activity for 30 minutes/day | 43% (2008-10) | 73% (2000) | | 41% (2009) | 44% (2008) | 48% | |
| Obese Adults | 25% (2008-10) | 24% (2006) | | 26% (2009) | 34% (2005-08) | 31% | |
| Teenagers Overweight (10th grade) | 11% (2008) | 15% (2004) | | 14.2% (2009) | N/A | No goal | -- |
| Teenagers Obese (10th grade) | 7% (2008) | 9% (2004) | | 26% (2008) | 18% (2005-08) | 16% | |
| Teenagers who perform moderate physical activity (10th grade, 30 min for 7 days over the past week) | 21% (2008) | 14% (2004) | | 23% (2008) | N/A | No goal | -- |
| Maternal & Child Health | | | | | | | |
| Pregnant women who received prenatal care access in the first trimester | 80% (2008-09) | 81% (2003-05) | | 77% (2008-09) | 72% (2008) | 77.9% | |
| Pregnant women who do not smoke during pregnancy <i>Note: 2008-09 figure is missing 20-30% of data.</i> | 88% (2008-09) | 88% (2003-05) | | 90% (2008-09) | 90% (2008) | 98.6% | |
| Adolescent Pregnancy Rate (Mothers age 15-17, rate per 100,000) | 14 (2006-08) | 18 (2003-05) | | 27 (2008) | 40 (2005) | 36 | |
| Oral Health | | | | | | | |
| Adults with dental visit in the past year | 76% (2008-2010) | 82% (2000) | | 72% (2009) | 70% (2009) | 49% | |

| Indicators | Island County | | | Washington State Figure (Date) | National Figure (Date) | Healthy People 2020 | |
|--|--|--------------------|---|---|-----------------------------------|-----------------------------------|---|
| | Most Recent Figure (Date) | Past Figure (Date) | Trend | | | Goal | Goal Met? |
| N/A Data not available -- Not able to determine * Rate not calculated if less than five cases | | | |  Positive  Negative  No significant change | | | |
| Untreated Decay in Children | 12.6% (2005) | 12.7% (2000) | ↔ | 14% (2010) | 17%-26% Depending on age group | 15%-26% Depending on age group |  |
| Caries rate in children | 42% (2005) | 38% (2000) |  | 59% (2005) | 33%-54% | 30%-49% | -- |
| Mental Health | | | | | | | |
| Adults Reporting Adverse Childhood Experiences | <i>See Narrative Health Indicators Section</i> | | | | | | |
| Adults reporting 8 or more poor mental health days per month | 15% (2008-2010) | 9% (2000) |  | 13% (2009) | N/A | No goal | -- |
| Adults who report getting needed emotional support only sometimes, rarely or never | 17.4% (2008-10) | 15.7% (2005) |  | 16.7% (2009) | N/A | No goal | -- |
| Adults receiving treatment for an emotional problem | 15% (2008-2010) | Not asked | -- | 15% (2009) | N/A | No goal | -- |
| Youth depression (10th graders reporting feeling so sad or hopeless almost every day for two weeks or more during the past year) | 28% (2010) | 37% (2004) |  | 30% (2010) | N/A | No goal | -- |
| Youth reporting seriously considering suicide in the past year (10th graders) | 16% (2010) | 22% (2004) |  | 18% (2010) | N/A | No goal | -- |
| Youth reporting attempting suicide one or more times in the past year (10th graders) | 7% (2010) | 11.5% (2004) |  | 7% (2010) | 8% (2011) | No goal | |
| Substance Abuse | | | | | | | |
| Cigarette use among 8th graders (in the past 30 days) | 6.9% (2010) | 6.8% (2004) | ↔ | 6.6% (2010) | 20% (2009, 9-12th Graders) | 16% (9-12th Graders) |  |
| Cigarette use among 10th graders (in the past 30 days) | 13% (2010) | 14% (2004) | ↔ | 13% (2010) | | | |
| Smoking rates among adults | 15% (2008-2010) | 19% (2000) |  | 15% (2009) | 18% (2009) | 12% |  |

| Indicators | Island County | | | Washington State Figure (Date) | National Figure (Date) | Healthy People 2020 | |
|--|---|--------------------|-------|---|-----------------------------------|---------------------|-----------|
| | Most Recent Figure (Date) | Past Figure (Date) | Trend | | | Goal | Goal Met? |
| | N/A Data not available -- Not able to determine * Rate not calculated if less than five cases | | | 👍 Positive 👎 Negative ↔ No significant change | | | |
| Alcohol use among 8th graders (in the past 30 days) | 12% (2010) | 17% (2004) | 👍 | 13% (2010) | N/A | No goal | -- |
| Alcohol use among 10th graders (in the past 30 days) | 24% (2010) | 37% (2004) | 👍 | 28% (2010) | N/A | No goal | -- |
| Adult alcohol use with a focus on binge-drinking | 13% (2008-2010) | 15% (2000) | 👍 | 16% (2009) | 16% (2009) | 24% | 👍 |
| Youth who report using marijuana or hashish in the past 30 days (10th graders) | 14% (2010) | 19% (2004) | 👍 | 20% (2009) | 23% (2011) 9th-12th graders | No goal | -- |
| Crime & Violence | | | | | | | |
| Island County Sheriff's Department Responses to Domestic Disputes | 635 (2011) | 624 (2002) | ↔ | N/A | N/A | No goal | -- |
| Violent Crimes (Murder, rape, robbery, assault) per 1,000 | 1.2 (2011) | 1 (2002) | ↔ | 2.9 (2011) | 4.0 (2010) | No goal | -- |
| Emergency Preparedness | | | | | | | |
| Residents who have a disaster evacuation plan | 26% (2008-2010) | N/A | -- | 26% (2009) | N/A | No goal | -- |

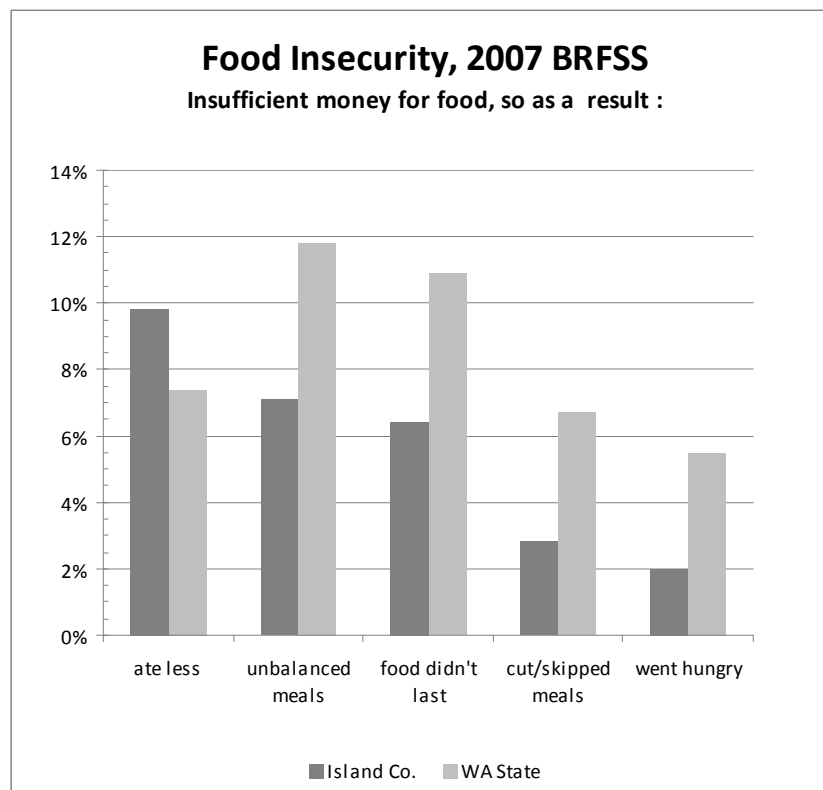
Narrative Health Indicators

Social Context & Quality of Life

Hunger & Food Insecurity

Food security is defined as having access at all times to enough food for an active, healthy lifestyle. Hunger and food security have been recognized as problems in the United States and inadequate food supply can have detrimental effects on health, nutrition and behavior.

In 1996 and 2000 five percent of Island County adults reported concern about having enough food for themselves or their family. In 2007, Island County adults reported similar concerns about food security. The associated graph demonstrates how residents who reported having insufficient money for food handled this concern.



Environmental Health

Food Safety

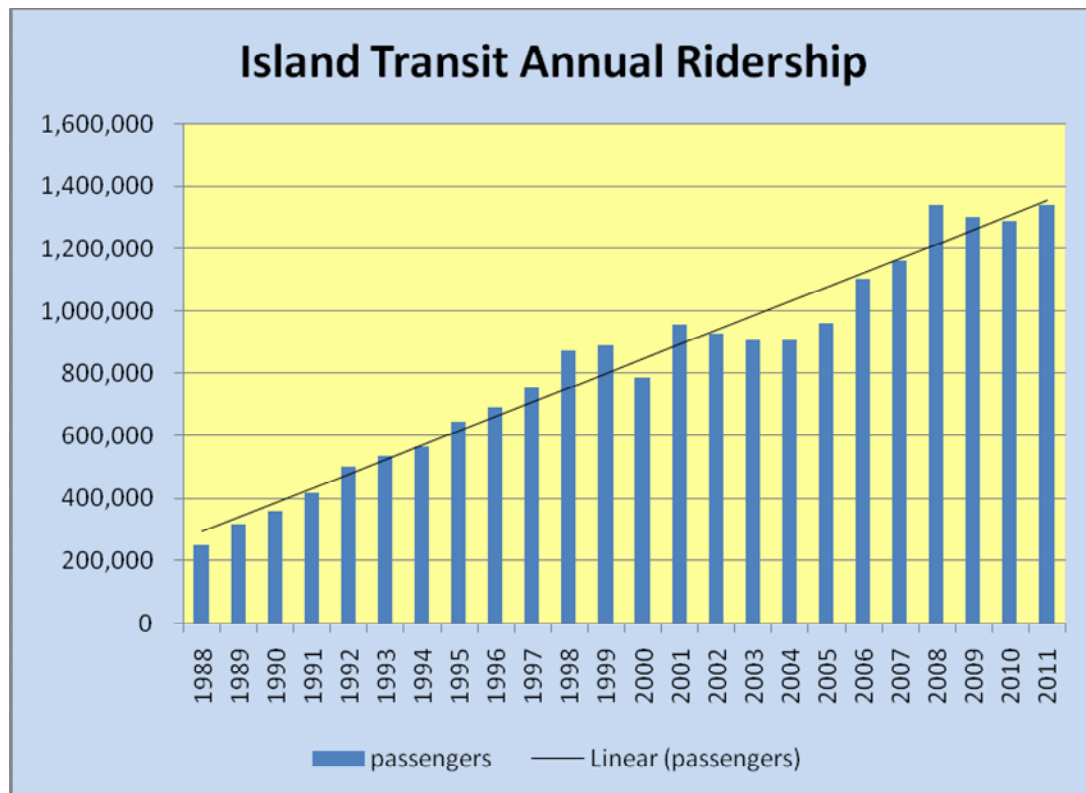
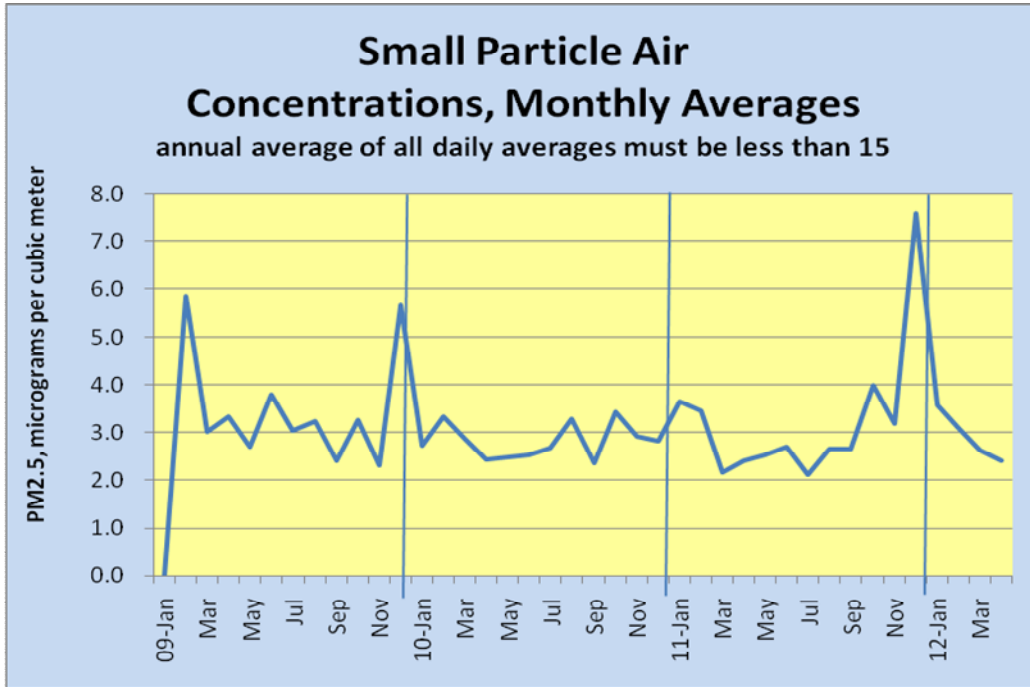
The food safety program inspects food service establishments and temporary food events to make sure that employees follow safe food handling practices and have adequate kitchen facilities.

- There are 375 permitted Food Establishments in Island County in 2012.
- Between 2006 and 2011, Island County Public Health trained 1500-2100 food workers.
- In 2012, Island County initiated an online training for food workers. The total number of cards issued as of March 27, 2012 was 461 compared to 385 at the same time in 2011. The expansion of training availability has made it easier and more convenient for food workers to be trained on procedures to reduce the risk of foodborne illness and disease transmission.

Air Quality

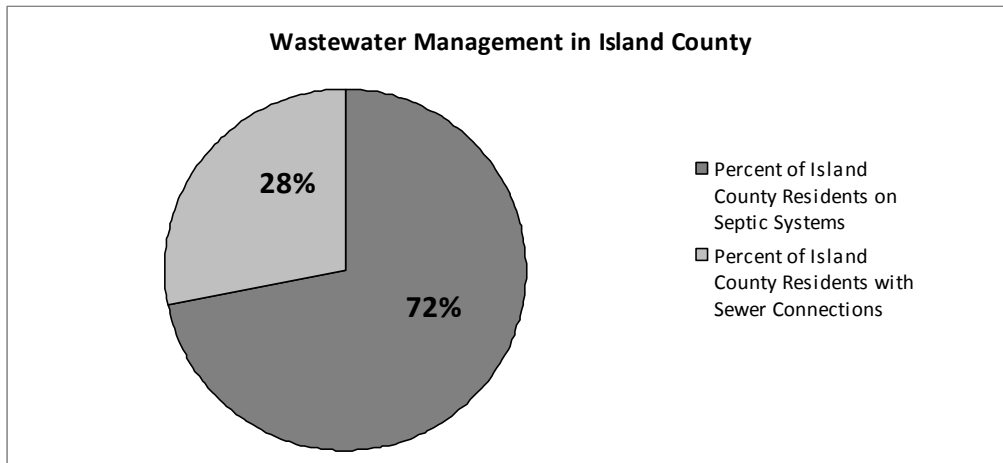
Air Quality in Island County is generally acknowledged to be very good and is well within established air quality standards, with annual average concentrations well below action levels. Data collected at the single air monitoring station in Island County (at Oak Harbor Middle School) reflects seasonality in small particulate matter (also called fine particulate matter or PM 2.5). Numbers for particulate matter are higher in winter months, which may suggest that wood burning as a heat source may be contributing to increased levels in the air. (The associated graph shows monthly average air concentrations and indicates seasonal variation.) Typical sources of concern for air quality are motor vehicles, power generation, combustion sources at industrial facilities and residential fuel burning.

Although it does not link directly to the air quality data a surrogate measure of fine particulate generation in Island County due to motor vehicles could include the number of passengers transported each year by Island Transit as a measure of pollution avoidance based on the premise that transit riders would otherwise travel by individual vehicles. The rate of growth in transit ridership has remained steady across the entire period, averaging 46,000 additional passengers each year. (See associated graph.)

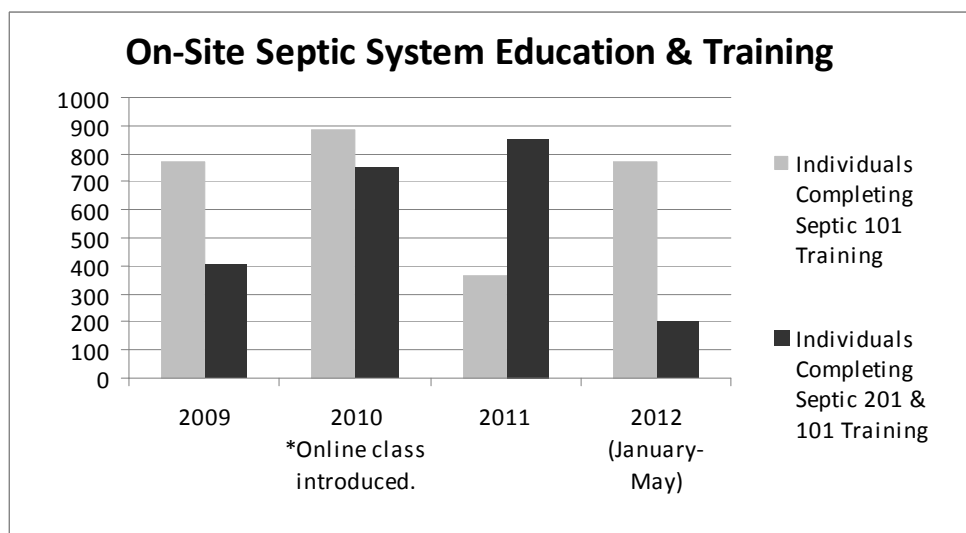


NOTE: The ridership loss in 2000 was a direct result of the passage of I-695, which eliminated the Motor Vehicle Excise Tax (MVET). The loss of 60% of Island Transit’s operating revenue resulted in services being cut or eliminated. Subsequently, county voters approved an increase in local sales taxes to restore services. The impact can be seen in the ridership figures.

Septic Systems



- Septic systems treat and dispose of wastewater and need to be maintained on a regular basis. If they are neglected, they will not operate properly and could fail. This poses a risk to public health and the natural environment.
- In 2007, Island County adopted State regulations requiring routine evaluation of septic systems. These evaluations can be performed by a licensed professional or by a homeowner who has become certified through the **Home Owner Septic Training (HOST)** program. Homeowners need to complete two classes, Septic 101 and Septic 201, to become certified to evaluate their own system. Septic 101 was launched online in 2010. 771 people have completed Septic 101 online since its launch. Septic 201 will be available online in 2012 in partnership with Clallam County and DOH.

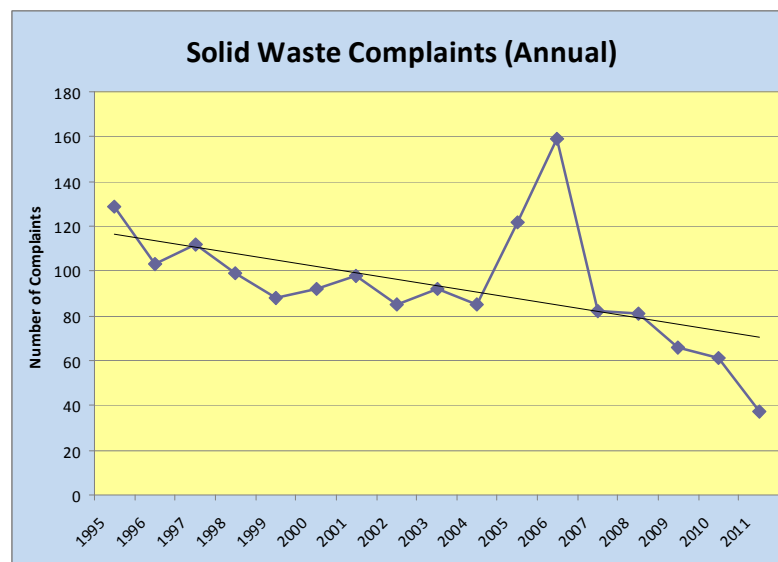


Failing Septic System Financial Assistance

This program provides financial assistance to low income property owners for the repair or replacement of failed on-site sewage (septic) systems. Prevention of a potential public health hazard and adverse impacts to surface waters are top environmental health priorities. The program is available to any homeowner, owner of rental property or commercial property in Island County with an on-site sewage system failure. The program offers low interest loans and/or grants to property owners that meet health hazard and pollution potential criteria. This program has been established through the Washington State Department of Ecology's State Water Pollution Control Revolving Loan Fund and the Centennial Clean Water Fund.

Solid Waste

The Solid Waste program investigates and resolves complaints regarding improper storage or disposal of solid waste and investigates hazardous waste spills in Island County. Island County has solid waste handling facilities, including transfer stations and recycling facilities, which are regularly inspected by the Health Department. Island County Public Health also helps property owners and cleanup contractors with the following: provide technical assistance, help interpret state and local rules and regulations, locate approved cleanup contractors, and confirm that the decontamination procedure meets state and local guidelines. The graph below shows the number of annual solid waste complaints. The spike in 2006-07 likely reflects increased staff and community attention to solid waste and illegal dumping issues. The decrease in 2010-11 likely reflects staff turnover and a reduced staff resource to respond to complaints.



Hydrogeology

The Hydrogeology program assists in providing protection for our groundwater resources. All land-use proposals that have a potential to impact the quality or quantity of groundwater are reviewed to ensure the protection of clean, reliable sources of drinking water for all residents of Island County. Program outcomes include protection of drinking water sources from potential intrusion of seawater, protection of drinking water sources from potential contamination, and sound groundwater resource management. Education is also a key component of the Hydrogeology program. All county residents share the responsibility to keep our groundwater resources safe.

Drinking Water & Water System Surveys

In accordance with United States Environmental Protection Agency (EPA) requirements, all large public water systems (titled “Group A systems”) in the county have a requirement to undergo a Department of Health (DOH) Survey every 3-5 years (depending on water system status). The surveys involve an in-depth analysis of the water system operations and management and a detailed physical inspection of the sources and waterworks infrastructure.

Fifty-nine percent of Island County residents are served by Island County Group A groundwater sources. In 2011, 74 surveys were completed of Island County Group A water systems. Fifteen were performed by the Washington State Department of Health (DOH) and 59 were performed by the Island County Public Health in support of DOH.

The surveys resulted in some recommendations for operational efficiencies. A top priority in Island County is compliance with requirement for installation of water meters throughout the system to facilitate leak detection and water use efficiency. This is especially important in our Island environment where 72% of our community residents rely on groundwater for their water supply. Installation of water meters was a recommended correction on 20 of the surveys in 2011. There was only one survey in 2011 that resulted in notification for corrective action for a significant health-related deficiency.

Surface Water Quality Monitoring

The primary focus of Island County’s Surface Water Monitoring Program is to detect and respond to potential sources of contamination of water in streams, ditches and wetlands that may adversely affect public health and valuable resources such as swim beaches, shellfish beds, streams and nearshore habitats. When a water quality impairment is found in a watershed, source identification efforts may occur.

In 2011, the program monitored 24 streams, wetlands and ditches throughout Island County. Of the 24 sites, seven did not meet state bacteria standards (of which fecal coliform is used as the main indicator species). In addition to the 24 regular monitoring sites, source identification is occurring in the South Holmes Harbor and Maxwellton watersheds.

Shellfish

Island County has 56 marine beaches. As of July 2012, 22 beaches are open and 17 beaches have a harvest advisory. Nine beaches are closed due to a pollution risk from municipal sewage treatment plants or a marina. Eight beaches are closed due to poor water quality from bacterial contamination.

Contaminated shellfish can make you very sick if you eat them. Contaminants can be of natural origin, or they can come from human sources (such as sewage, fuel spills, or pesticide runoff). Of special concern are the many naturally-occurring biotoxins: there is no antidote for biotoxin poisoning, and high levels can be lethal. It is important to be informed and harvest shellfish safely. Public Health works to protect shellfish and shellfish habitat by evaluating marine water quality, monitoring shellfish and beaches for biotoxins, vibrio, and pollution, informing the public when a recreational (public) beach is closed, and participating in public outreach and education about shellfish harvesting.

Environmental Release to Penn Cove

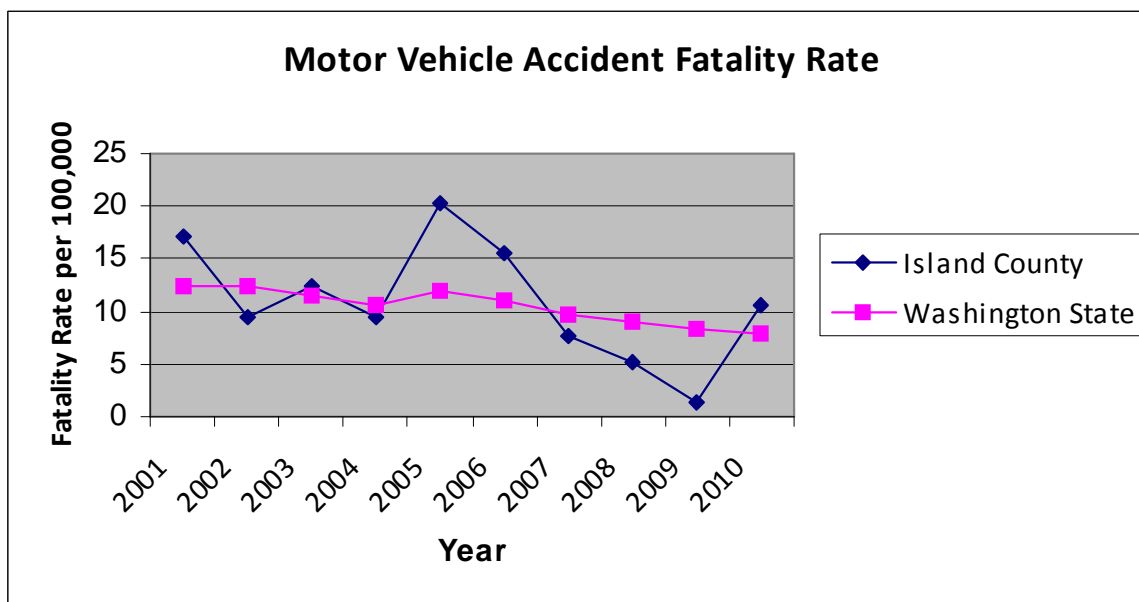
A 128-foot long fishing boat, the Deep Sea, sank in Penn Cove during the spring of 2012. After the Deep Sea sank, over 5,000 gallons of diesel and oil were released into the marine environment. As a result, the Washington State Department of Health issued a one month closure for all commercial and recreational shellfish harvesting in Penn Cove. Island County Public Health worked closely with the community, state and federal agencies to assist with disseminating current and accurate information to the public including press releases and posting signs. Over 3,000 gallons of diesel and oil were recovered from the tanks on the Deep Sea while on the bottom of Penn Cove. Over 2,000 gallons of diesel and oil were recovered from the surface waters of Penn Cove. Island County Public Health worked with Washington State Department of Health regularly until commercial and recreational shellfish harvesting was opened in Penn Cove. This did not occur until after the Deep Sea was raised and relocated and shellfish tissue testing indicated no presence of petroleum hydrocarbons.

Zoonotic Diseases

Zoonotic Diseases are diseases that can be transmitted from animals to people. Island County Public Health collaborates with health care providers and the Washington State Department of Health on all notifiable conditions including rare zoonotic diseases. There are four zoonotic

diseases that are of special importance in Washington State even though they occur rarely. These are West Nile Virus, Hantavirus, Lyme Disease and Rabies. West Nile Virus is spread by the bite of an infected mosquito, and Hantavirus is caused by inhaling the dust from urine, feces, or bedding materials of infected deer mice. Lyme disease is transmitted through the bite of infected ticks. Rabies is spread through a bite or exposure to the saliva from an infected animal. The primary vector for Rabies in Washington State is infected bats.

Unintentional Injury



The Island County motor vehicle accident fatality rate is highly variable.

Mental Health

Adults Reporting Adverse Childhood Experiences

In 2009-2010 Washington State was among only five states to conduct a study on adults reporting adverse childhood experiences through the Behavioral Risk Factor Surveillance System telephone survey. The findings are significant as prior national studies suggest that certain experiences are major risk factors for the leading causes of illness and death as well as poor quality of life in the United States.³

The Centers for Disease Control and Prevention (CDC) have found that adults reporting adverse childhood experiences experience an increased risk for health outcomes including alcoholism and alcohol abuse, chronic obstructive pulmonary disease, depression, fetal death, health-related quality of life, illicit drug use, ischemic heart disease, liver disease, risk for intimate partner violence, multiple sexual partners, sexually transmitted diseases, smoking, suicide attempts, unintended pregnancies, early initiation of smoking, early initiation of sexual activity, and adolescent pregnancy (CDC, 2011).

Analysis of Adverse Childhood Experiences uses the ACE Score, which is a count of the total number of adverse childhood experiences that a respondent reports. The ACE Score is used to assess the total amount of stress during childhood and research has demonstrated that as the number of adverse childhood experiences increase, so do the risk of health problems and poor health outcomes (CDC, 2011).

The associated tables (this page and next) provide insight as to the experience of Island County and Washington State residents.

| Adverse Childhood Experience Scores | Island County | Washington State |
|---|----------------------|-------------------------|
| 0 Adverse Childhood Experiences Reported | 33.4% | 36.4% |
| 1 Adverse Childhood Experiences Reported | 24.2% | 22.4% |
| 2 Adverse Childhood Experiences Reported | 16.1% | 14.1% |
| 3 or more Adverse Childhood Experiences Reported | 26.3% | 27.1% |

³ Centers for Disease Control and Prevention (CDC). (2011). Adverse Childhood Experiences (ACE) Study. Retrieved from <http://www.cdc.gov/ace/index.htm>.

| Adverse Childhood Experiences Reported (Adults Responding “Yes”) | Island County | Washington State |
|--|--------------------------|-----------------------------|
| Did you live with anyone who was depressed, mentally ill, or suicidal? | 17.0% | 22.8% |
| Before age 18, lived with anyone who was a problem drinker or alcoholic OR used illegal street drugs or abused prescription medications? | 36.9% | 31.7% |
| Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility? | 6.1% | 7.1% |
| Were your parents separated or divorced? | 25.8% | 27.5% |
| How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up? | 13.5% | 16.6% |
| Before age 18, how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking. | 18.1% | 18.1% |
| Before age 18, parent or adult in your home ever swore at you, insulted you, or put you down? | 32.0% | 34.4% |
| Before age 18, anyone at least 5 years older than you or an adult, ever touched you sexually, OR anyone at least 5 years older than you or an adult, tried to make you touch them sexually, OR anyone at least 5 years older than you or an adult, forced you to have sex? | 22.7% | 24.3% |

Data Sources & Citations

| Indicator | | Source, Citation or Citation Abbreviation [Additional Full Citations Below] |
|-----------|--|--|
| 1 | Educational Attainment: Adults over age 25 who are <u>not</u> high school graduates | USDOC/Census Bureau; Topic: People/Education/ Educational Attainment. Tables S1501 or B15001 |
| 2 | On-Time Graduation Rate | WA OSPI Annual Reports |
| 3 | High School Cohort Drop-out Rate | WA OSPI Annual Reports |
| 4 | Unemployment Rate | USDOL/BLS |
| 5 | Poverty Levels for entire population (Individuals at or below the Federal Poverty Level) | USDOC/Census Bureau; Topic: People/Poverty/ Poverty. Tables S1701 or B17001 |
| 6 | Children in Poverty (Individuals under 18 years old at or below the Federal Poverty Level) | USDOC/Census Bureau; Topic: People/Poverty/ Poverty. Tables S1701 or B17001 |
| 7 | Adults rate health as good, very good, excellent | BRFSS |
| 8 | Years of Healthy Life at 20 (Additional years a 20 year old is expected to live in good, very good, or excellent health) | BRFSS |
| 9 | Provider Availability (No. physicians/1000 residents) | Indicators Northwest. Island County: Number of Physicians. Available at http://www.indicatorsnorthwest.org/DrawRegion.aspx?IndicatorID=29&RegionID=53029 . Accessed March 2012. |
| 10 | Percent of adults under 65 years with health insurance | BRFSS |
| 11 | Adults reporting having a usual source of health care | BRFSS |
| 12 | Salmonellosis (Cases per 100,000) | WA CD Report |
| 13 | Campylobacteriosis (Cases per 100,000) | WA CD Report |
| 14 | E. coli (Shiga toxin-producing Escherichia coli, Cases per 100,000) | WA CD Report |
| 15 | Giardiasis (Cases per 100,000) | WA CD Report |
| 16 | Unintentional Falls (Age-adjusted mortality rates per 100,000) | Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990-2010, September 2011 |
| 17 | Unintentional Falls in Older Adults (65 years and older, mortality rate per 100,000) | Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990-2010, September 2011 |
| 18 | Firearm Fatality Rate (per 100,000) | Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990-2010, September 2011 |
| 19 | Homes with firearms | BRFSS |
| 20 | Homes with loaded & unlocked firearms | BRFSS |
| 21 | Motor Vehicle Accident Fatality Rate (Rate per 100,000) | Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990-2010, Sept 2011 |

| Indicator | | Source, Citation or Citation Abbreviation [Additional Full Citations Below] |
|-----------|--|---|
| 22 | Adults Immunized for the Flu (Over age 65) | BRFSS |
| 23 | Adults Immunized for Pneumonia (Over age 65) | BRFSS |
| 24 | Immunization Coverage for Kindergarteners (% Students with Complete Coverage) | Washington State Department of Health. Office of Immunization & Child Profile. Summary of Immunization Coverage for Kindergarten School Year 2002-2003 through School Year 2011-2012. Available at: http://www.doh.wa.gov/Portals/1/Documents/Pubs/348-242ImmsCoverageKinderCounty.pdf . Accessed July 2012. |
| 25 | Gonorrhea (Rates per 100,000) | WA CD Report, CDC STD Report |
| 26 | Syphilis (Rates per 100,000) | WA CD Report, CDC STD Report |
| 27 | Chlamydia - Total Population (Rates per 100,000) | WA CD Report, CDC STD Report |
| 28 | Chlamydia reported for females ages 15–24 (Rate per 100,000) | WA CD Report, CDC STD Report |
| 29 | Pertussis "Whooping Cough" (Rate per 100,000) | WA CD Report |
| 30 | Adults Overweight or Obese | BRFSS |
| 31 | Obese Adults | BRFSS |
| 32 | Overweight Teenagers (10th grade) | Healthy Youth Survey |
| 33 | Obese Teenagers (10th grade) | Healthy Youth Survey |
| 34 | Adults who perform regular physical activity for 30 minutes/day | BRFSS |
| 35 | Teenagers who perform moderate physical activity (10th grade, 30 min/7 days week) | Healthy Youth Survey |
| 36 | Pregnant women who received prenatal care access in the first trimester | BRFSS |
| 37 | Pregnant women who do not smoke during pregnancy | BRFSS |
| 38 | Adolescent Pregnancy Rate (Mothers age 15-17, rate per 100,000) | Washington State Department of Health. The Health of Washington State 2007 Report, Adolescent Pregnancy & Child Bearing. Available at: www.doh.wa.gov/DataandStatisticalReports/HealthofWashingtonStateReport.aspx Accessed July 2012. |
| 39 | Adults with dental visit in the past year | BRFSS |
| 40 | Untreated Decay in Children | Smile Survey Island County, WA Smile Survey |
| 41 | Caries rate in children | Smile Survey Island County, WA Smile Survey |
| 42 | Adults reporting 8 or more poor mental health days per month | BRFSS |
| 43 | Adults who report getting needed emotional support only sometimes, rarely or never | BRFSS |
| 44 | Adults receiving treatment for an emotional problem | BRFSS |

| Indicator | | Source, Citation or Citation Abbreviation [Additional Full Citations Below] |
|-----------|--|--|
| 45 | Youth depression (10th graders reporting feeling so sad or hopeless almost every day for two weeks or more during the past year) | Healthy Youth Survey |
| 46 | Youth reporting seriously considering suicide one or more times in the past year (10th grade) | Healthy Youth Survey |
| 47 | Youth reporting attempting suicide one or more times in the past year (10th grade) | Healthy Youth Survey |
| 48 | Smoking rates among adults | BRFSS |
| 49 | Cigarette use among 8th graders (in the past 30 days) | Healthy Youth Survey |
| 50 | Cigarette use among 10th graders (in the past 30 days) | Healthy Youth Survey |
| 51 | Alcohol use among 8th graders (in the past 30 days) | Healthy Youth Survey |
| 52 | Alcohol use among 10th graders (in the past 30 days) | Healthy Youth Survey |
| 53 | Adult alcohol use with a focus on binge-drinking | BRFSS |
| 54 | Youth who report using marijuana or hashish in the past 30 days (10th graders) | Healthy Youth Survey |
| 55 | Island County Sheriff's Department Responses to Domestic Disputes | Island County Sheriff's Department |
| 56 | Violent Crimes (Murder, rape, robbery, assault) per 1,000 | Washington Association of Sheriffs & Police Chiefs. Crime in Washington 2011 Annual Report. Available at www.waspc.org . Accessed April 5, 2012. |
| 57 | Residents who have a disaster evacuation plan | BRFSS |
| 58 | Hunger & Food Insecurity | BRFSS |
| 59 | Food Safety | Island County Public Health - Environmental Health |
| 60 | Air Quality | WA NWCAA |
| 61 | Septic Systems | Island County Public Health - Environmental Health |
| 62 | Failing Septic System Financial Assistance Program | Island County Public Health - Environmental Health |
| 63 | Solid Waste | Island County Public Health - Environmental Health |
| 64 | Hydrogeology | Island County Department of Natural Resources |
| 65 | Drinking Water | Island County Public Health - Environmental Health |
| 66 | Surface Water Quality Monitoring | Island County Public Health - Environmental Health |
| 67 | Shellfish | Island County Public Health - Environmental Health Washington State Department of Health, Office of Shellfish and Water Protection. Available at: http://www.doh.wa.gov/CommunityandEnvironment/Shellfish.aspx . Accessed July 2012. |
| 68 | Environmental Release to Penn Cove | Island County Public Health - Environmental Health |
| 69 | Zoonotic Diseases | Washington State Department of Health. Animal |

| Indicator | | Source, Citation or Citation Abbreviation [Additional Full Citations Below] |
|-----------|--|--|
| | | Transmitted Diseases. Available at: http://www.doh.wa.gov/YouandYourFamily/IllnessandDisease/AnimalTransmittedDiseases.aspx . Accessed July 2012. |
| 70 | Motor Vehicle Accident Fatality Rate <i>Note: This is a second reference to the same citation</i> | Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990-2010, September 2011 |
| 71 | Adults Reporting Adverse Childhood Experiences | BRFSS |

| Key to Abbreviations and Full Citations: | |
|---|--|
| BRFSS: Behavioral Risk Factor Surveillance System. | |
| Washington State Department of Health, Center for Health Statistics, Behavioral Risk Factor Surveillance System, supported in part by Centers for Disease Control and Prevention, Cooperative Agreement U58/CCU022819-1 through 5 (2004-2008), U58 DP001996-1 through 2 (2009-2010). | |
| CDC STD Report | |
| Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2010 . Atlanta, U.S. Department of Health and Human Services; 2011. Available at: http://www.cdc.gov/std/stats10/surv2010.pdf . Accessed July 2012. | |
| Healthy Youth Survey | |
| Washington State 2010 & 2004 Healthy Youth Survey (HYS). The HYS is a collaborative effort between the Department of Health, the Office of the Superintendent of Public Instruction, the Department of Social and Health Services, the Department of Commerce, the Liquor Control Board, and the Governor's Family Policy Council. Available at http://www.doh.wa.gov/DataandStatisticalReports/HealthBehaviors/HealthyYouthSurvey.aspx . Accessed July 2012. | |
| HP2020: Healthy People 2020 | |
| U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Washington, DC. Available at http://healthypeople.gov/2020/topicsobjectives2020/pdfs/HP2020objectives.pdf . Accessed May 2012. | |
| Smile Survey: Island County Public Health Smile Survey 2005 & 2000 | |
| Island County Public Health. Island County Public Health Smile Survey 2005 & 2000. Island County, WA. | |
| USDOC/Census Bureau: US Department of Commerce, Census Bureau | |
| US Department of Commerce, Census Bureau. American Fact Finder is the search engine for the Department of Commerce Census Bureau's databases and the inter-census American Community Surveys (ACS). Available at: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml . Accessed June 2012. Instructions: Choose Geographies, select Counties, select Washington State, select Island County, click on Add to Your Selection, and close the Geographies screen. Choose Topics, select the subtopic of interest, and close the Select Topic screen. Then select the table(s) from the list and choose View. Accessed May 2012. | |
| USDOL/BLS: US Department of Labor, Bureau of Labor Statistics | |
| US Department of Labor, Bureau of Labor Statistics. The Local Area Unemployment Statistics website is the entry for the databases. Available at: http://www.bls.gov/lau/data.htm . Choose the Multi-Screen Data Search icon, select Washington State, select Counties, select Island, select Unemployment Rate, check Not Seasonally Adjusted, click Retrieve Data, Date Range and check Include Graph, click GO. Accessed June 2012. | |
| WA CD Report: Washington State Communicable Disease Report 2010 | |
| Washington State Department of Health. Office of Communicable Disease Epidemiology. Washington | |

| Key to Abbreviations and Full Citations: |
|---|
| State Communicable Disease Report 2010. Olympia, WA. Available at http://www.doh.wa.gov/Portals/1/Documents/5100/420-004-CDAnnualReport2010.pdf . Accessed July 2012. |
| WA NWCAA: Washington Northwest Clean Air Agency |
| Washington State Northwest Clean Air Agency. The state agency responsible for enforcing federal, state, and local air pollution regulations for Island, Skagit and Whatcom Counties. Available at: http://www.nwcleanair.org/airQuality/current.asp . Accessed June 2012. |
| WA OSPI Annual Reports |
| WA Office of the Superintendent of Public Instruction (OSPI). Annual reports contain explanatory material and statewide summaries, and present data tables at the school, district and county level. County level data is generally available in Appendix B, C or D. Available at: http://www.k12.wa.us/DataAdmin/default.aspx . Accessed May 2012. |
| WA Smile Survey: Washington State Department of Health Smile Survey |
| Washington State Department of Health. Office of Maternal & Child Health, Oral Health Program. Washington State Smile Survey 2010. Olympia, WA. Available at http://www.doh.wa.gov/Portals/1/Documents/Pubs/160-099_SmileSurvey2010.pdf . Accessed July 2012. |