

OBESITY IN OUR COMMUNITY

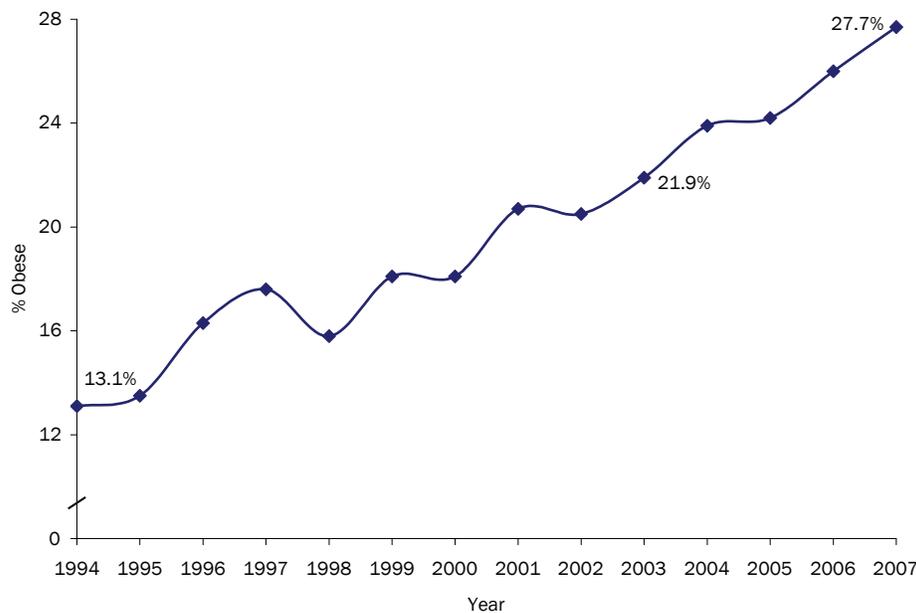
TRENDS, DISTRIBUTION, CONSEQUENCES, DISPARITIES, AND THE RESPONSE A POLICY BRIEF FROM SNOHOMISH HEALTH DISTRICT

INTRODUCTION AND PURPOSE

Since 1994, the prevalence of obesity* has doubled in Snohomish County. The increase in obesity over the past 14 years represents a major challenge for the Snohomish Health District, whose purpose is to prevent disease in communities. There are currently more overweight and obese adults in Snohomish County than healthy-weight adults.

The obesity epidemic in Snohomish County deserves careful attention from public health. Local health assessments help identify areas and populations where special attention is needed. The goal of this brief is three-fold. First, it identifies areas of the county that are disproportionately affected by obesity and subsequent health outcomes, including chronic disease. Second, it explores how some community characteristics may be related to obesity. Last, this brief highlights the need for multi-pronged response strategies, with special emphasis on environment and policy changes to promote healthy living.

Exhibit 1. Obesity Trends in Snohomish County, 1994-2007



Obesity is at epidemic levels in Snohomish County. In 2007, 27% of county adults were obese, up from 13% in 1994.

The increase in obesity in Snohomish County cannot be explained by changes in genetics. Rather, dramatic changes in how we live our lives are most likely to explain the increase in obesity. Some explanations may include increases in sedentary employment, growing portion sizes, increasing dependence on motor vehicles due to changes in urban design, and increasing disparities in the cost of healthy and less-healthy foods.

No single change alone explains the increase in obesity. Rather, the sum of these changes and many others remain the most likely cause.

Obesity is an important contributor to numerous adverse outcomes. Obesity is associated with heart disease, type 2 diabetes, hypertension, high cholesterol, stroke, Alzheimer's, and breast, endometrial, and colon cancer.

Nationally, the medical costs of obesity and overweight are estimated to be 9.1% of total medical expenditures and are likely to increase.

KEY FINDINGS

- From 1994-2007 the percentage of adults who are obese in Snohomish County doubled.
- Dramatic disparities by ZIP Code area are apparent when evaluating the prevalence of obesity, obesity prior to pregnancy, diabetes, and resulting health consequences such as diabetes-related deaths.
- Obesity, diabetes, and their consequent health outcomes are associated with poverty and area resources, including property values.
- Multi-pronged interventions are needed to address the complex determinants of obesity. High-level policy and environmental approaches show the most promise.

*HOW DO WE DEFINE OBESITY?

In this brief, weight status is defined by body mass index (BMI), which is based on a person's weight and height. A BMI greater than or equal to 30 was used to define obesity. Overweight (BMI 25-29.9) was not evaluated because it is inconsistently associated with adverse health outcomes.



Distribution of Obesity and Related Outcomes in Snohomish County

Within Snohomish County the burden of obesity is not distributed equitably (**Exhibit 2**). The map identifies areas that are affected. Darker colors represent areas with higher rates of obesity, while lighter colors represent areas where obesity may be of less concern.

When compared to the county overall, three areas have significantly higher obesity rates: 98270 (Marysville), a combination of rural ZIP Codes (Rural), and 98204 (Everett). Conversely, five areas in the southwest and south-central areas have significantly lower obesity rates: 98012 (Mill Creek), 98020 (Edmonds), 98026 (Edmonds), 98275 (Mukilteo), and 98296 (Snohomish).

Exhibit 3 (facing page) provides information on other selected health measures, including pre-pregnancy obesity, physician-diagnosed diabetes and diabetes-related mortality. Obesity prior to pregnancy is associated with adverse pregnancy outcomes such as gestational diabetes, and may increase the subsequent risk of obesity for the child later in life. Diabetes and diabetes-related mortality represent two of many chronic diseases associated with obesity.

Not surprisingly, ZIP Code areas exhibiting the greatest burden of obesity generally have the greatest burden of pre-pregnancy obesity, diabetes, and diabetes-related deaths. Data on other outcomes may be available by request.

METHODS

Visit the Web for a detailed description of the methods used in this brief.

www.snohd.org/snoWellness/ObesityBrief.htm

Because some ZIP Code areas have small populations, several contiguous areas were combined for this analysis (Bothell/Woodinville, Lake Stevens, Rural and North Lynnwood). The ZIP Codes used to create these combined areas are described on Page 3.

Data for this brief are from the Behavioral Risk Factor Surveillance System (BRFSS) and the Washington State Birth and Death Certificates.

Exhibit 2. Obesity for Adults by ZIP Code Area, 2003-2007

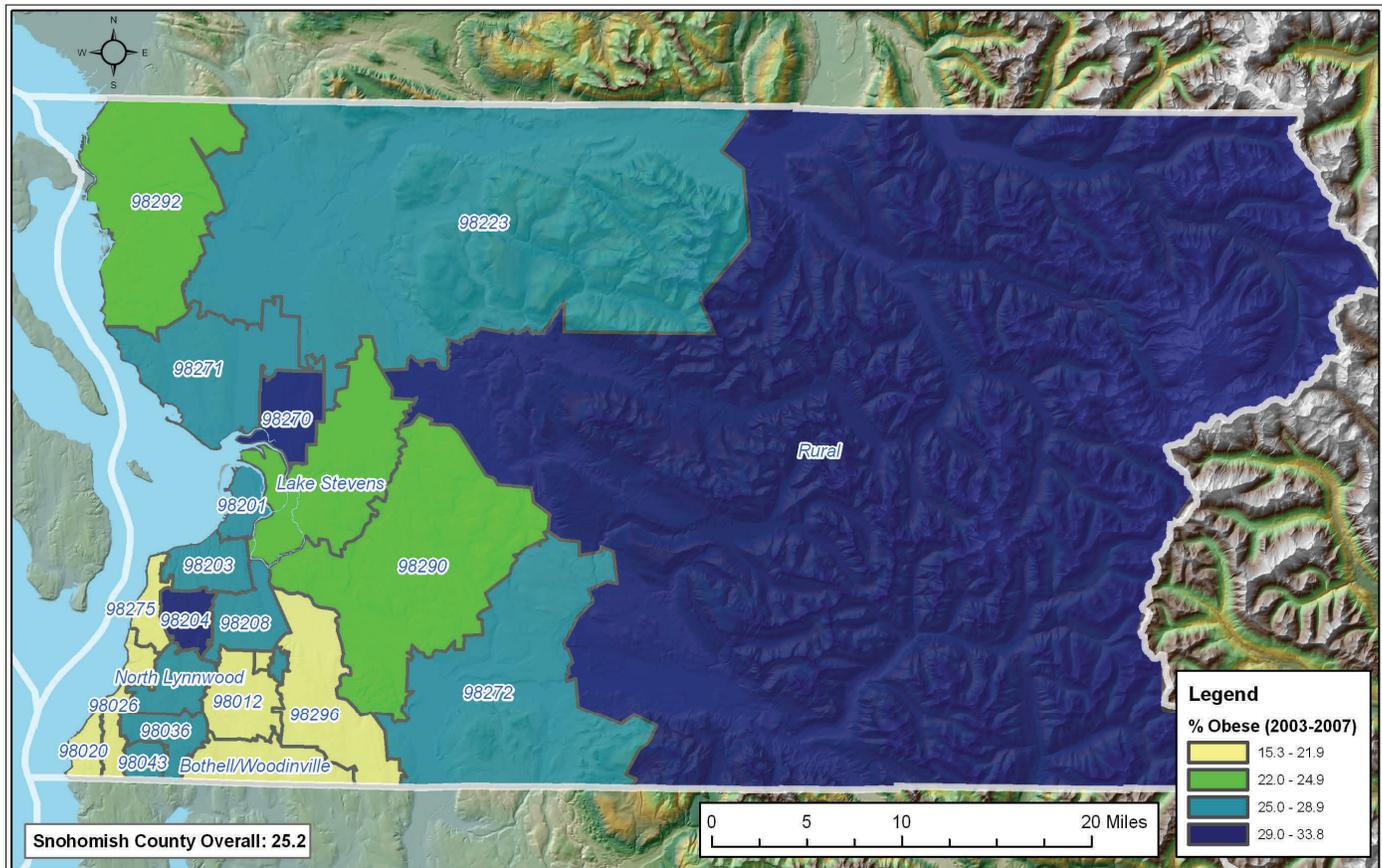


Exhibit 3. Obesity, Pre-pregnancy Obesity, Diabetes, and Diabetes-related Deaths by ZIP Code Area in Snohomish County

ZIP Code Area	% Obese (2003-2007)	% Obese Prior to Pregnancy ¹	% with MD-diagnosed Diabetes (2003-2007)	Age-adjusted Diabetes-related Deaths per 100,000 ¹
98012 - Mill Creek	20.6 [§]	17.9 [§]	5.8	52 [§]
98020 - Edmonds	15.3 [§]	18.8 [§]	4.7	39 [§]
98026 - Edmonds	21.1 [§]	22.1	6.0	61
98036 - Lynnwood and Brier	28.2	21.6	4.3	60 [§]
98043 - Mountlake Terrace	27.5	23.6	7.8	75
98201 - Everett	28.6	28.3 [†]	6.6	90 [†]
98203 - Everett	25.4	24.2	7.4	88
98204 - Everett	29.6 [†]	28.3 [†]	10.4 [†]	111 [†]
98208 - Everett	26.7	24.4	4.5 [§]	106 [†]
98223 - Arlington	27.0	24.2	8.3	82
98270 - Marysville	33.8 [†]	26.5 [†]	10.2 [†]	77
98271 - Tulalip and Marysville	28.5	30.6 [†]	7.7	66
98272 - Monroe	25.4	24.1	5.7	66
98275 - Mukilteo	19.0 [§]	15.8 [§]	6.3	51 [§]
98290 - Snohomish	23.4	21.1	6.2	91 [†]
98292 - Stanwood	23.5	20.6	4.9	66
98296 - Snohomish	17.5 [§]	18.6 [§]	3.4 [§]	65
Bothell and Woodinville ²	21.8	18.0 [§]	7.2	57 [§]
Lake Stevens ³	24.1	24.2	5.7	97 [†]
North Lynnwood ⁴	25.1	22.1	7.6	75
Rural ⁵	31.7 [†]	30.7 [†]	8.7	93 [†]
Snohomish County	25.2	23.3	6.7	74

[§] significantly lower than county percent or rate

[†] significantly higher than county percent or rate

The 98270 (Marysville), Rural, and 98204 (Everett) areas have consistently higher values for most measures evaluated. The 98201 (north Everett) and 98271 (Tulalip and Marysville) areas also have elevated proportions of pre-pregnancy obesity. Additionally, the 98201, 98204, 98208, and Lake Stevens areas have elevated rates of diabetes-related deaths.

The 98012, 98020, 98275, and 98296 areas are generally less affected by these adverse outcomes. The 98208 area has a low prevalence of diabetes, but a high rate of diabetes deaths. This discrepancy is partially explained by a higher than expected number of deaths among 55-59-year-olds. Diabetes-related mortality can also be influenced by other factors such as access to quality care.

1 Represents the age-adjusted prevalence/rate (2003-2006)

2 Defined as ZIP Code 98021, 98072, 98077 (Snohomish County Residents only)

3 Defined as ZIP Code 98205 and 98258

4 Defined as ZIP Code 98037 and 98037

5 Defined as ZIP Code 98241, 98251, 98252, and 98294

Obesity Disparities

The second intent of this brief was to identify factors associated with an increased community risk of obesity and related outcomes. By linking health data and the 2000 Census, numerous community characteristics associated with the adverse health outcomes evaluated in this report were identified.

Measures identified include: Percent of the population living below 200% of the Federal Poverty Level, percent of the population (age ≥ 25) with less than a high school education, percent of households with an annual income greater than \$75,000, and percent of owner-occupied homes valued greater than \$250,000. These measures were all associated with obesity, with lower resource areas (e.g., lower property values or higher poverty) exhibiting a greater prevalence of obesity.

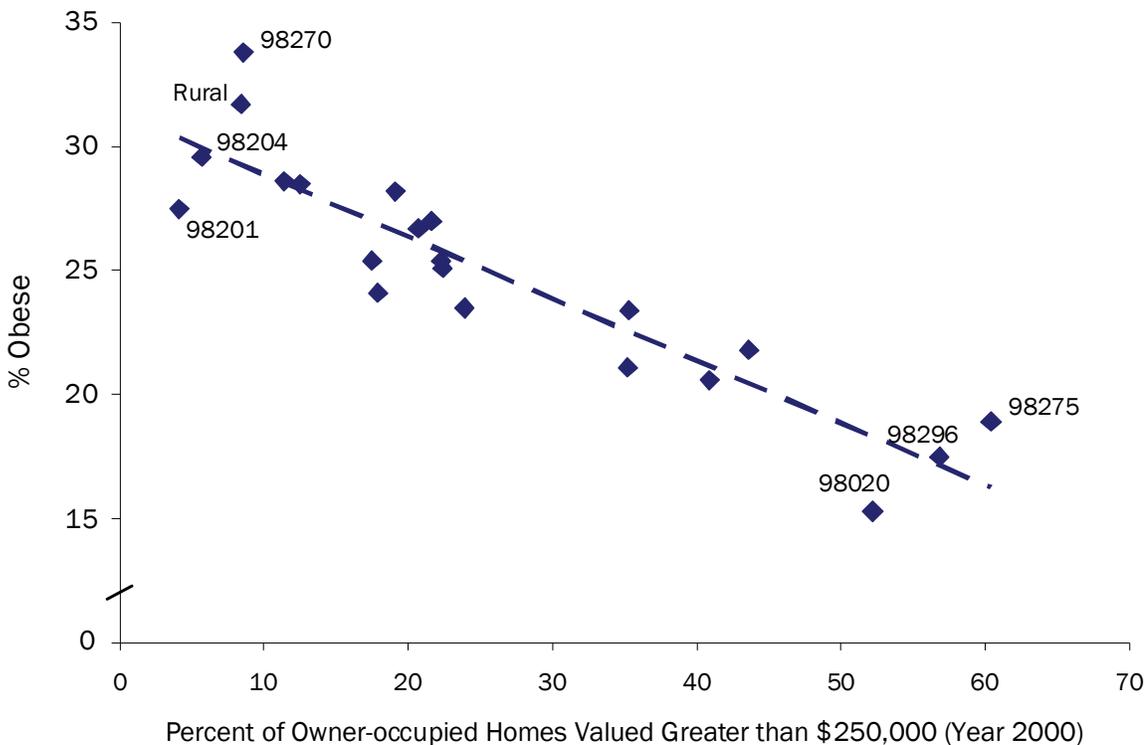
The relationship between area property values and obesity provides evidence that obesity is linked to area economic and social resources. Property values are a robust measure of area resources because they measure accumulated wealth that may be lacking from measures based on income or poverty thresholds. Lower property values were strongly associated with pre-pregnancy obesity, diabetes, and diabetes-related deaths (see methods document for more information).

In addition, availability of healthy eating options and resources for physical activity contribute to obesity disparities. However, additional data is needed to explore disparities in access to healthy foods and physical activity resources.

LIMITATIONS AND CONCLUSIONS

- The data presented in this brief are based on self-reported data and likely underestimate the true burden of obesity and diabetes.
- The observed association between area-based health outcomes and contextual factors cannot be generalized to individuals.
- Diabetes-related deaths may also be influenced by access to timely and quality health care, which may be associated with quality of diabetes care.
- Despite these limitations this brief identifies dramatic health disparities. The results can be used to identify communities in greatest need of interventions and support.

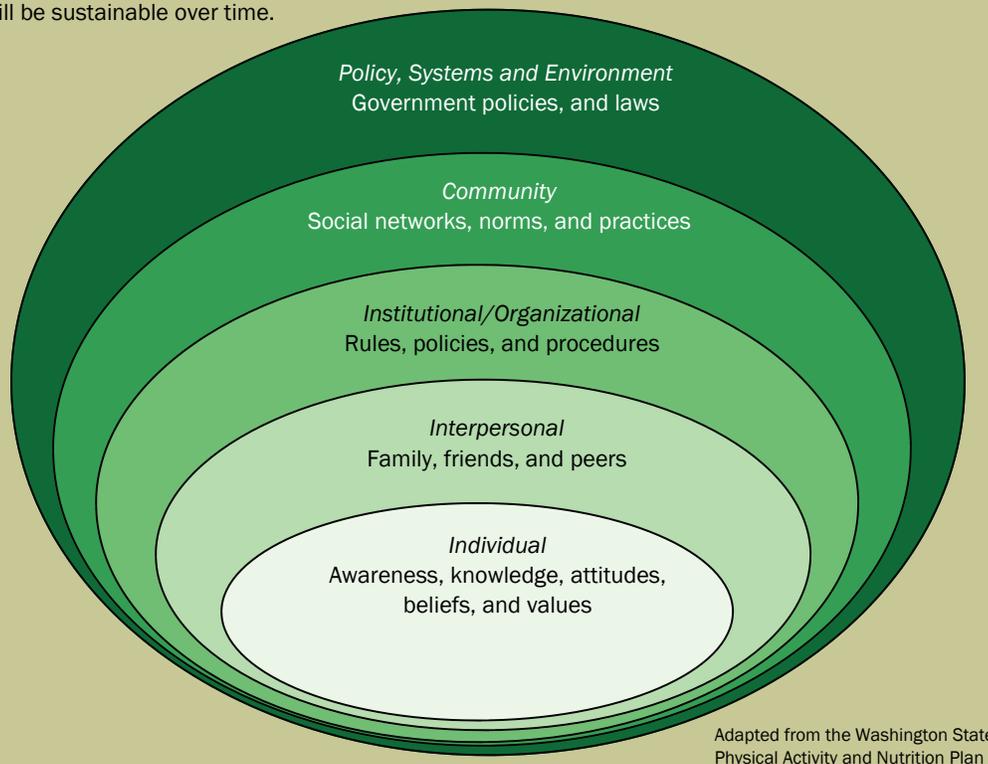
Exhibit 4. Obesity and Property Values in Snohomish County



The Response: Snohomish County Healthy Communities

Exhibit 5. Conceptual Framework for Healthy Communities

Individuals live their lives within numerous spheres of influence. Each of these spheres affects the other. For example, individual behavior may be affected by local policies or institutional changes. Improvements in policy, systems, and environment will benefit the greatest number of people and will be sustainable over time.



CHANGES THAT PROMOTE ACTIVE LIVING AND HEALTHY EATING

- Increase availability of free/ low-cost recreation options
- Advocate for inclusion of mixed-use land use provisions in Comprehensive Plans
- Construct a network of community gardens
- Develop policies to provide healthy vending options in worksites
- Provide point-of-purchase nutrition information in restaurants
- Create integrated biking and walking paths
- Develop hospital policies and procedures to encourage breastfeeding

Population-based strategies in public health focus on making changes that benefit the entire community, not select groups. Given the dramatic increases, the complex causes, and the disparities in the burden of obesity, it is imperative that population-based approaches are used to reduce and prevent obesity. The Snohomish County Healthy Communities Initiative is an example of a population-based approach to support healthy eating and active living.

Snohomish Health District has worked with partner communities to develop and support collaborative projects which lead to sustainable individual, family, and community well-being. Examples of projects communities may focus on are listed in the box to the right.

Though all may benefit from intervention, areas of the county that are disproportionately affected by obesity and chronic disease may benefit the most through immediate action.

Snohomish Health District initiated partnerships in three Snohomish County cities: Marysville, Lynnwood, and Everett. Though at various stages, all three communities have identified areas for policy/environment change to promote healthy living and to reduce the burden of obesity and chronic disease.

In addition to the focus on environment and policy, Healthy Communities provides an opportunity for integrated programming and promotion activities.

“Becoming a healthier community requires grassroots support from everyone. Citizens throughout the county need to develop and implement action plans to improve nutrition and increase physical activity. Marysville, Lynnwood, and Everett are successfully engaged in the Healthy Communities Initiative process with support from Health District staff.”

Gary Goldbaum, MD, MPH
Health Officer & Director
Snohomish Health District

For More Information Visit These Resources

LOCAL RESOURCES TO PROMOTE HEALTHY LIVING

[Snohomish County Healthy Communities](#)

Details about Healthy Communities projects in Snohomish County, including community action plans.

[Marysville Healthy Communities Project](#)

Details about the first Snohomish County Healthy Communities site.

[The Washington State Nutrition and Physical Activity Plan](#)

Provides details and tools for making policy/environment changes to promote healthy living.

[Washington Department of Health \(Nutrition and Physical Activity\)](#)

Description of numerous approaches, including school, worksite, and community-based strategies.

[Leadership for Healthy Communities - A Robert Wood Johnson Foundation Program](#)

Information for local and state government leaders interested in reducing childhood obesity through public policies that promote active living, healthy eating, and access to healthy foods, specifically related to children at high risk.

[Access to Healthy Foods Coalition](#)

Resources on multiple approaches and arenas for improving access to health-promoting foods.

REPORTS AND BACKGROUND INFORMATION

[How Big Are We? Obesity in Snohomish County](#)

Report released by the Snohomish Health District (2006) detailing the extent and burden of obesity within Snohomish County for both youth and adults.

[Obesity in Washington State](#)

An overview of information and data for Washington State. Includes information on statewide trends, disparities, regional variation, risk factors, and chronic disease. Also includes information on obesity and overweight among youth in Washington State.

[Diabetes in Washington State](#)

Provides diabetes statistics for Washington State and all counties. Reports incorporate information on risk factors, hospitalizations, and diabetes deaths.

[Centers for Disease Control and Prevention - Overweight and Obesity](#)

Provides background information on obesity and related health-behavior trends at the national level. Also provides information on national approaches to reducing and preventing overweight and obesity.

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Snohomish Health District Mission Statement: *To improve the health of individuals, families, and communities through disease prevention, health promotion, and protection from environmental threats.*

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Brief also available online, please visit
www.snohd.org/snoWellness/ObesityBrief.htm