



North Shore Community Health Data Assessment 2017-2021



**NORTH SHORE
HEALTH DEPARTMENT**

Serving the Wisconsin communities of Bayside, Brown Deer,
Fox Point, Glendale, River Hills, Shorewood and Whitefish Bay

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Introductory Letter

Letter from the Health Director/Officer

In 2017, the North Shore Health Department began the process of creating a North Shore Community Health Assessment with a vision to gather information on the current health needs, assets, and conditions of people living in the seven municipalities that we serve. We wanted to present a comprehensive picture of what is impacting the health outcomes and quality of life of people in our communities. The first task was to collect as much public health data as we could within existing data systems. The results of our data gathering and assessment of this information comprises this document--the **North Shore Community Health Data Assessment**. We also wanted to hear from residents and leaders of our communities to learn their views on the community health issues preventing residents from obtaining optimal health, and their thoughts on our community assets. We interviewed 40 key informants and summarized their input in the **North Shore Community Health Stakeholder Assessment**. The third component of our approach was to hear directly from residents about their top community health concerns. Our **North Shore Community Health Priority Assessment** provides a snapshot of the primary health concerns voiced by residents. The findings of each approach are stand-alone documents which can be accessed through our website at www.nshealthdept.org/CHA.

What stood out from all elements of the North Shore Community Health Assessment is residents of the North Shore generally experience good health and the conditions that drive good health. Education, access to clinical care, and environmental resources such as parks and farmers' markets are important assets within our region. While health outcomes are generally better among residents in the North Shore when compared to Milwaukee County or Wisconsin overall, there still exist several health outcomes, behaviors, and risk factors which are important to address. Examples include:

- Lung cancer is the leading cause of cancer-related deaths in the North Shore, and lung, colorectal, prostate and breast cancers account for almost half of all cancer deaths in our region.
- Drug-related death rates are increasing, including those attributable to prescription opioids and heroin.
- Self-reported rates of diabetes increased from 4% in 2003 to 11% in 2015, and hospitalization rates for diabetes are higher in the North Shore than in Wisconsin as a whole.
- Mental health issues were a top concern for stakeholders and residents.
- Rates of binge drinking in the North Shore have caught up to rates state-wide, with 25% reporting binge drinking in the past month.
- The North Shore has a larger percentage of older adults (65+) than the rest of the state, many of whom live alone.
- Older adults have falls at higher rates, which also contribute to a leading cause of death in the North Shore.

As we move into the next phase of the Community Health Improvement Action Cycle, we welcome your feedback on the Community Health Assessment. Please join us at an upcoming listening session or contact us directly.

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Acknowledgements

Completing a Community Health Assessment (CHA) covering the seven jurisdictions included in the North Shore requires contributions from many partners. The North Shore Health Department acknowledges and appreciates contributions to all components of the North Shore CHA from the following individuals and organizations:

- Residents, elected officials, and leaders from the municipalities served by the North Shore Health Department:
 - Village of Bayside
 - Village of Brown Deer
 - Village of Fox Point
 - City of Glendale
 - Village of River Hills
 - Village of Shorewood
 - Village of Whitefish Bay
- Bayside Communications Center
- North Shore Fire/Rescue
- North Shore Library Directors
- North Shore School Districts' Staff and Leaders
- North Shore NOW
- Fringe Interior Design
- Mark Travel
- Shorewood Family Chiropractic
- Texas Instruments
- REDgen
- Grassroots North Shore
- Aurora Health Care
- Medical College of Wisconsin
- REACH Clinic
- Milwaukee County Department on Aging
- Milwaukee Health Care Partnership
- United Way of Greater Milwaukee and Waukesha County
- University of Wisconsin-Milwaukee, College of Nursing
- University of Wisconsin-Milwaukee, Joseph J. Zilber School of Public Health
- University of Wisconsin, Center for Urban Population Health
- Wisconsin Department of Health Services, Office of Health Informatics
- Wisconsin Department of Health Services, Office of Preparedness and Emergency Health Care
- Wisconsin Department of Health Services, Bureau of Environmental and Occupational Health
- Wisconsin Department of Public Instruction
- Wisconsin Department of Transportation

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Methodology

In 2015, the Robert Wood Johnson Foundation and the RAND Corporation set out to create a national framework to improve health, well-being, and equity in the United States. The Culture of Health Action Framework is built on the premise that health and well-being are influenced by factors including the communities where we live, work, go to school, and play. Local health departments play a large role in both leading and supporting communities in their initiatives to becoming healthier places for everyone. A community health assessment (CHA) is an important tool in determining how healthy a community is currently and what issues need to be addressed to optimize health for all.

The CHA is both a process and a document that uses quantitative and qualitative methods to systematically collect and analyze data to understand the health of a specific community. CHAs review data on health-related risk factors, quality of life, morbidity, and mortality, along with information on community assets and social and economic factors that influence health and quality of life. CHA data and information is used broadly for community decision-making, prioritization of health problems, and the development, implementation, and evaluation of community health improvement plans.

Wisconsin State Statute (Ch. 251.05) and Public Health Accreditation Board requirements call for local health departments to conduct a comprehensive community health assessment at least every five years. Additionally, since 1993, Wisconsin State Statutes have required health departments to lead the development of Community Health Improvement Plans which address the priority community health issues based on CHA findings.

Our Process: The North Shore Community Health Assessment (NSCHA) was developed based on “*Improving the Health of Local Communities: The Wisconsin Way*” and the *County Health Rankings and Roadmaps* from the University of Wisconsin-Madison School of Public Health and Medicine and Robert Wood Johnson. Both resources outline a comprehensive approach to community health assessment and community health improvement planning using a Take Action Cycle (Figure 1). Key components of the Take Action Cycle for community health improvement include:

- **Assess Needs and Resources:** What data help us understand our community?
- **Focus on What’s Important:** What are the priority areas to address?
- **Choose Effective Policies and Programs:** Are there available strategies that have shown they work?
- **Act on What’s Important:** How do we fund and implement identified strategies?
- **Evaluate Actions:** How do we know if our strategies made a difference?



Figure 1: Community Health Improvement Take Action Cycle

The NSCHA specifically focuses on the **Assess Needs & Resources** components of the Take Action Cycle (Figure 1). Activities of this stage include:

- Review *County Health Rankings*
- Identify community assets and resources
- Find existing local, county, and regional data based on measures from *County Health Rankings* and *Wisconsin Way*
- Collect our own data
- Analyze data to move to action
- Share results with community

The NSCHA has three components to thoroughly assess health and quality of life in the North Shore (Figure 2). The first component is a **Data Assessment**. The Data Assessment is a review and analysis of North Shore, Milwaukee County and Wisconsin data based on variables outlined in the *County Health Rankings* and *Wisconsin Way*. The second part of the NSCHA is a **Stakeholder Assessment**. This assessment uses a series of in-depth key informant interviews with North Shore leaders, residents, and community stakeholders. The purpose of the Stakeholder Assessment is to go beyond the data to understand issues impacting health and quality of life that may both be similar to or different than the quantitative data. The interview data helps us to understand issues critically important to residents and leaders. This information will help begin to identify what areas should be addressed later in the Community Health Improvement Plan. The final component of the NSCHA is a **Priority Assessment**. This assessment is a brief survey asking residents their top five community health priorities.

The remaining components of this report focus on results of the North Shore Community Health Data Assessment. The Stakeholder Assessment and Priority Assessment are reported in other documents which can be found on the North Shore Health Department website (www.nshealthdept.org/CHA).

North Shore Community Health Data Assessment

North Shore Health Department staff used the *County Health Rankings* and the *Wisconsin Way* to determine the variables we would use to measure health and quality of life in the North Shore. Both resources provide suggestions for variables that touch on a variety of health factors or determinants impacting both length of life and quality of life. As seen in Figure 3, the first health determinant is **health behaviors**, which account for 30% of health outcomes. The next determinant is **clinical care**, including access to healthcare care services, which accounts for 20% of health outcomes. **Social and economic factors** are responsible for the majority (40%) of health outcomes, and the **physical environment** accounts for the remaining 10%. Sections in this report are organized into health outcomes (mortality and morbidity), and factors that influence health outcomes (health behaviors, clinical care, social and economic determinants, and the physical environment).

North Shore Community Health Assessment

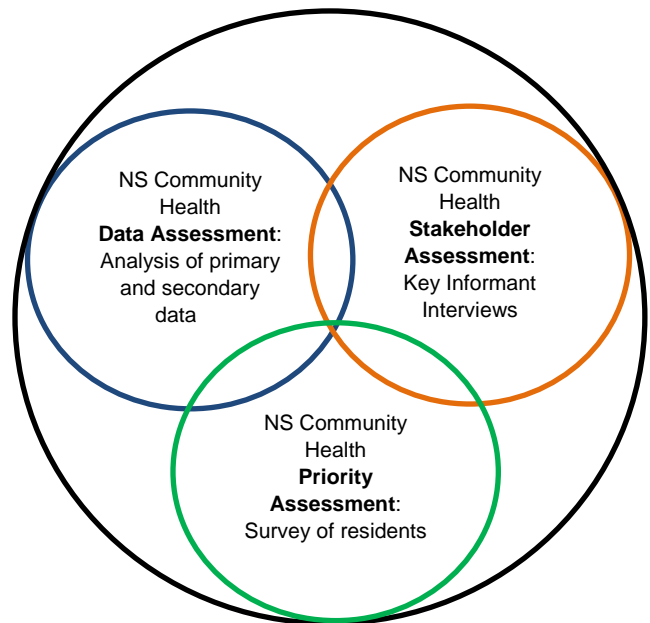
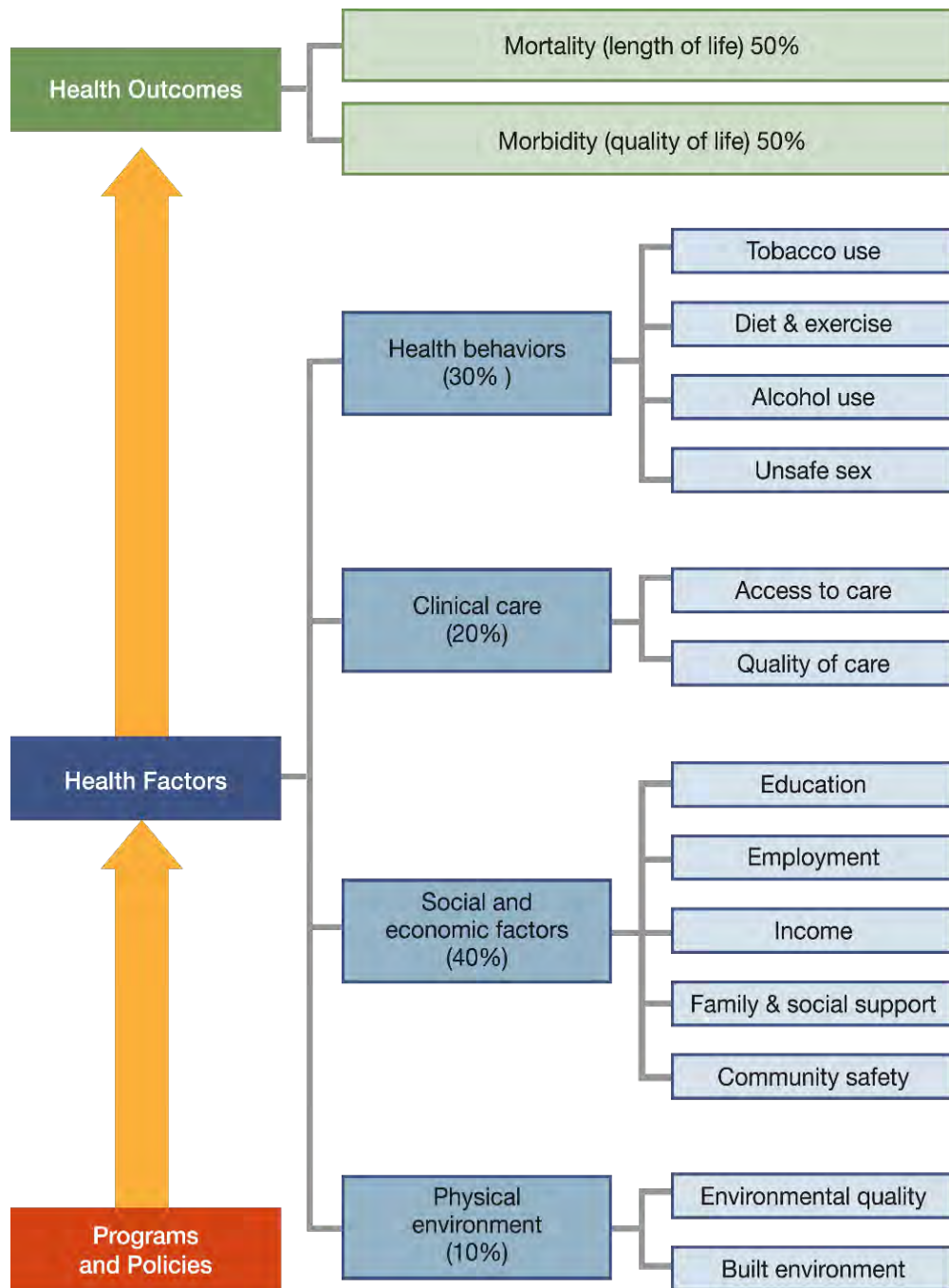


Figure 2: Components of NSCHA



County Health Rankings model ©2010 UWPHI

Source: University of Wisconsin School of Medicine and Public Health

Figure 3: County Health Rankings Model

Data Sources and Methods

The North Shore Community Health Data Assessment (NSCHDA) uses a variety of data sources, including the North Shore Community Health Survey. The Community Health Survey is a telephone survey that has been administered once every three years since 2003. It is commissioned by local hospitals in partnership with the Center for Urban Population Health and the North Shore Health Department. The survey is conducted by JKV Research, LLC and consists of a land or cell phone-based survey of approximately 400 North Shore residents each survey year. Respondents are scientifically selected so the survey is representative of all adults 18 years old and older in the North Shore. More details about these data are included in Appendix B.

The NSCHDA also includes a review of other municipal, North Shore, county, and state level data systems. Below is our approach to organizing the data geographically since not all data are available at a municipal or North Shore-level.

Municipal Data: The NSCHDA presents information for the Villages of Bayside, Brown Deer, Fox Point, River Hills, Shorewood, and Whitefish Bay and the City of Glendale when data are available. The NSCHDA reports municipal-level data if the number of occurrences for a specific indicator are large enough to not violate data privacy guidelines (usually greater than 5 occurrences per indicator).

North Shore Data: State and federal public health data reported for the North Shore may be available by US Census Tract or ZIP Code. When available, **Census Tracts** are combined to report data for the North Shore overall. North Shore area **ZIP Codes** include 53209, 53211, 53217, and 53223. ZIP Code 53217 includes only residents from North Shore communities. The other three ZIP Codes cross borders and include residents from the City of Milwaukee. If data are reported by ZIP Code, we have combined all four to report the information for the North Shore because these data serve as a better proxy for the combined seven communities than using only those residents living in 53217. In addition, approximately 230 North Shore residents live in ZIP Code 53212, which accounts for less than 2% of 53212 residents. Because this is such a small proportion, 53212 is **not** included in calculations of North Shore ZIP Code data. See Appendix C for break-down of population by ZIP Code.

County Data: For many state and federal data sources, the smallest data level available is by county. For data only available at this level, we report Milwaukee County data. Given the North Shore's proximity to Ozaukee County, we also include Ozaukee County data as a comparison in certain circumstances.

State Data: In some cases, specifically the Youth Risk Behavior Survey, the number of local respondents is not large enough to obtain valid estimations for the North Shore or Milwaukee County. In that case, Wisconsin-wide data is used, and compared to National data.

Whenever comparable measures are available, local data is compared to State-wide data. When comparable data was collected during different years at State and local levels, the dates are indicated. When no comparable data was available at the State level, none is presented.

Demographics

North Shore Community Overview: The North Shore Health Department serves the residents of the seven communities of Bayside, Brown Deer, Fox Point, Glendale, River Hills, Shorewood, and Whitefish Bay with a total population of **64,830** (Source: US Census, 2010). Of the seven communities, Whitefish Bay has the highest population (14,122) and River Hills the lowest (1,472). The 21.75 square mile area of the North Shore area is within Milwaukee County, located north and east of the City of Milwaukee.

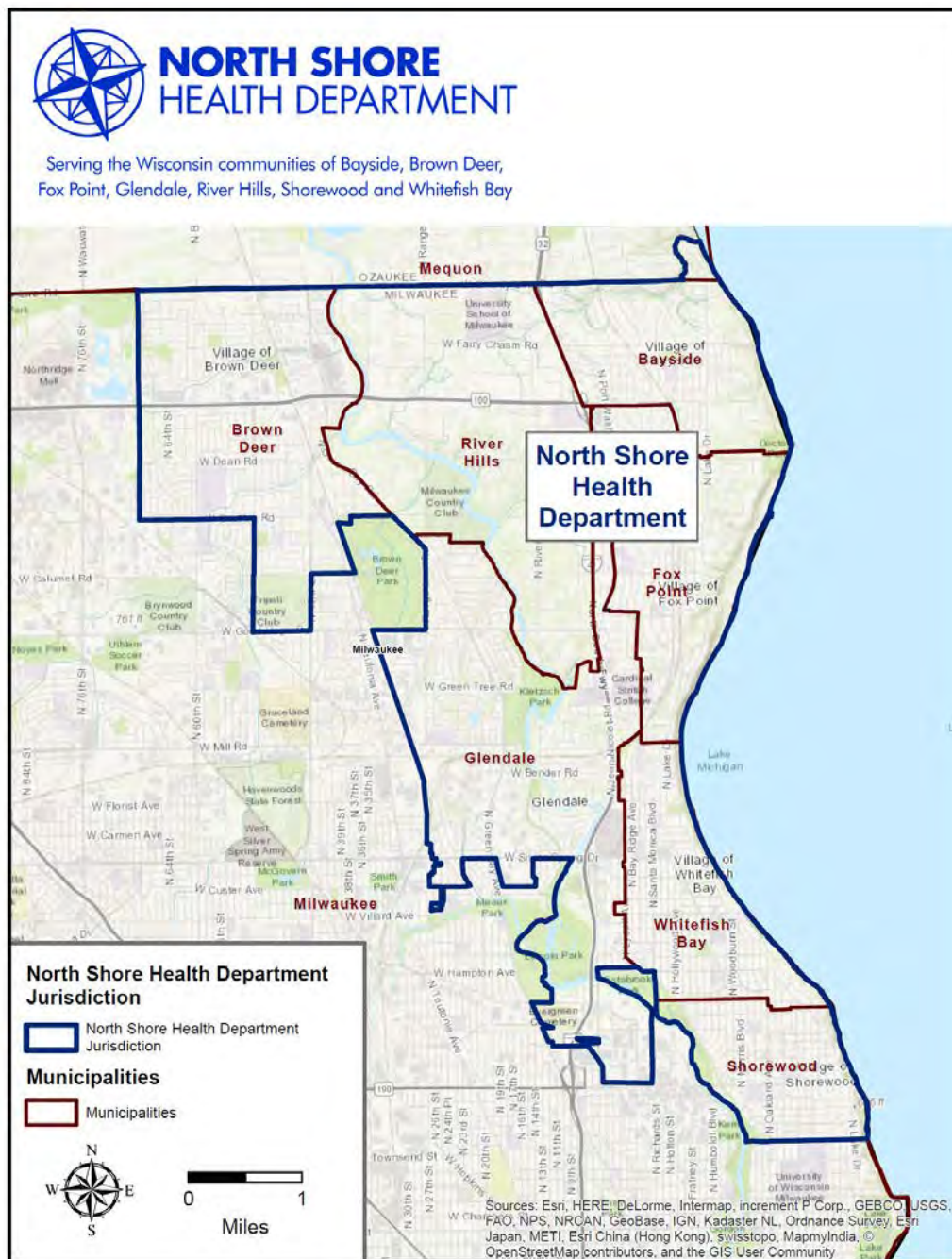


Figure 4: Map of the North Shore communities of Bayside, Brown Deer, Fox Point, Glendale, River Hills, Shorewood, and Whitefish Bay; Milwaukee County, Wisconsin

North Shore Demographic Data: Table 1 shows the composition of the population of the North Shore Health Department’s jurisdiction by age and community. As seen in Table 2, the North Shore is more racially diverse than Wisconsin overall. Four percent of residents are Asian compared to only 3% in Wisconsin overall. Ten percent of North Shore residents are Black or African American compared to 6% of Wisconsin residents. The percent of residents with Hispanic ethnicity, however, is lower overall (4%) compared to the percent of Hispanic Wisconsin residents (6%). As seen in Table, 3, the predominant languages spoken in the North Shore are English, Spanish, Russian and German.

According to the US Census Bureau’s American Community Survey, 2011-15), **10%** of the North Shore population are foreign-born. The category of foreign-born residents includes both non-citizens (immigrants) and people born outside of the US who have become naturalized citizens. In Wisconsin, 5% of residents are foreign-born.

17% of the population in the North Shore is over 65 years of age, compared to 15% state-wide.

Source: US Census Bureau, American Community Survey, 2011-15

Population Change

- The North Shore five-year population estimate from 2011 to 2015 is **65,092**, an estimated **0.4% increase** from 2010 (262 people). In the same timeframe, the population of Wisconsin experienced an estimated 1.8% increase (104,170 people).

Population Density

- Milwaukee County and the North Shore communities are urban areas, with **0.02%** of the county defined as rural compared to 29.9% in Wisconsin. The estimated population density of the North Shore is **2687** people per square mile, compared to 106 in Wisconsin.

Table 1: Population of Communities Served by the North Shore Health Department, 2011-15

| Age Group | Bayside | | Brown Deer | | Fox Point | | Glendale | | River Hills | | Shorewood | | Whitefish Bay | | North Shore Total | |
|-----------------------|---------|-----|------------|-----|-----------|-----|----------|-----|-------------|-----|-----------|-----|---------------|-----|-------------------|-----|
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Children (≤14) | 989 | 22% | 2,095 | 17% | 1,359 | 20% | 1,790 | 14% | 248 | 17% | 2,131 | 16% | 3,560 | 25% | 12,172 | 19% |
| Young Adults (15-24) | 287 | 6% | 1,220 | 10% | 605 | 9% | 1,760 | 14% | 174 | 12% | 1,623 | 12% | 1,244 | 9% | 6,913 | 11% |
| Middle Adults (25-64) | 2,215 | 49% | 6,703 | 55% | 3,384 | 50% | 6,545 | 51% | 723 | 49% | 7,680 | 58% | 7,520 | 53% | 34,770 | 53% |
| Older Adults (65+) | 999 | 22% | 2,083 | 17% | 1,361 | 20% | 2,819 | 22% | 327 | 22% | 1,850 | 14% | 1,798 | 13% | 11,237 | 17% |
| Total | 4,490 | | 12,101 | | 6,709 | | 12,914 | | 1,472 | | 13,284 | | 14,122 | | 65,092 | |

Source: United States Census Bureau, American Community Survey, 2011-2015
Percentages may not add up to 100 due to rounding

Table 2: Race & Ethnicity Population Estimates, North Shore and Wisconsin, 2011-15

| Race or Ethnicity | Percentage in North Shore | Percentage in Wisconsin |
|-----------------------------------|---------------------------|-------------------------|
| American Indian or Alaskan Native | <1% | 1% |
| Asian | 4% | 3% |
| Black or African American | 10% | 6% |
| Two or More Races | 3% | 2% |
| White | 82% | 87% |
| Hispanic | 4% | 6% |
| Non-Hispanic | 96% | 94% |

Source: Population data for the Villages of Brown Deer, Bayside, Fox Point, River Hills, Shorewood, Whitefish Bay, and the City of Glendale, United States Census Bureau, American Community Survey, 2011-2015
Percentages may not add up to 100 due to rounding

Table 3: Primary Spoken Language Estimates, North Shore and Wisconsin, 2011-15

| Primary Language Spoken | Percentage in North Shore | Percentage in Wisconsin |
|----------------------------|---------------------------|-------------------------|
| English | 89% | 91% |
| Spanish and Spanish Creole | 3% | 5% |
| Russian | 1% | <1% |
| German | 1% | <1% |
| All other languages | 7% | 3% |

Source: Population data for the Villages of Brown Deer, Bayside, Fox Point, River Hills, Shorewood, Whitefish Bay, and the City of Glendale, United States Census Bureau, American Community Survey, 2011-2015
Percentages may not add up to 100 due to rounding

Mortality

Mortality refers to the length of life, or more specifically the number of deaths by cause. In 2014, the leading causes of death in the North Shore were cancer and heart disease. Heart disease has consistently been the leading cause of death in the United States. The mortality burden of cancer, however, has surpassed that of heart disease in several states. In 2000, there were only two states where cancer was the leading cause of death; in 2014, there were 22, including Wisconsin.

Nationwide, the **cancer** death rate has declined steadily over the past two decades, falling 25% from the peak in 1991 to 2014. Lung cancer is the leading cause of cancer deaths in the North Shore and Wisconsin. Lung, colorectal, prostate and breast cancers account for approximately 46% of the total cancer deaths among men and women in the US, and almost half of cancer deaths in the North Shore (Source: *Cancer Statistics, 2017*). Cancer death rates are highest among residents 65 and older, accounting for 73% of all cancer deaths in Wisconsin. Residents 65 years and older had 10 times the rate of cancer deaths as residents aged 25-64 (Source: *WI Department of Health Services, Division of Public Health, Office of Health Informatics, Annual WI Death Report, 2015*).

Heart disease is responsible for approximately 20% of all deaths in Wisconsin and the North Shore. The category “heart disease” covers disease of multiple anatomical parts of the heart, including the endocardium, myocardium and pericardium, as well as the internal vessels of the heart, such as the coronaries that supply blood to the heart. Heart disease deaths have declined roughly 14% in the last decade (Source: *WI Department of Health Services, Division of Public Health, Office of Health Informatics, Annual WI Death Report, 2015*).

Table 4: Leading Causes of Death, North Shore and Wisconsin, 2014

| Cause of Death (as recorded on death certificate) | North Shore | | Wisconsin death rate (per 100,000) |
|------------------------------------------------------|-------------------|-----------------------------|------------------------------------------|
| | Deaths (count) | Death rate (per 100,000) | |
| Cancer | 122 | 184.5 | 196.2 |
| Heart disease | 114 | 172.4 | 192.5 |
| Unintentional injury | 29 | 43.8 | 51.1 |
| Cerebrovascular disease | 28 | 42.3 | 42.9 |
| Lower respiratory disease | 28 | 42.3 | 47.7 |
| Total deaths | 524 | 792.3 | 871.8 |
| Substance abuse* | 77 | 116.4 | 179.3 |

*Deaths with any mention of alcohol, tobacco use, or other drugs on death certificate; a death with more than one of these causes mentioned is counted for each one. For instance, a death that mentions both alcohol and tobacco would be counted twice
Sources: *North Shore Public Health Profile, 2016; Wisconsin Public Health Profile, 2016*

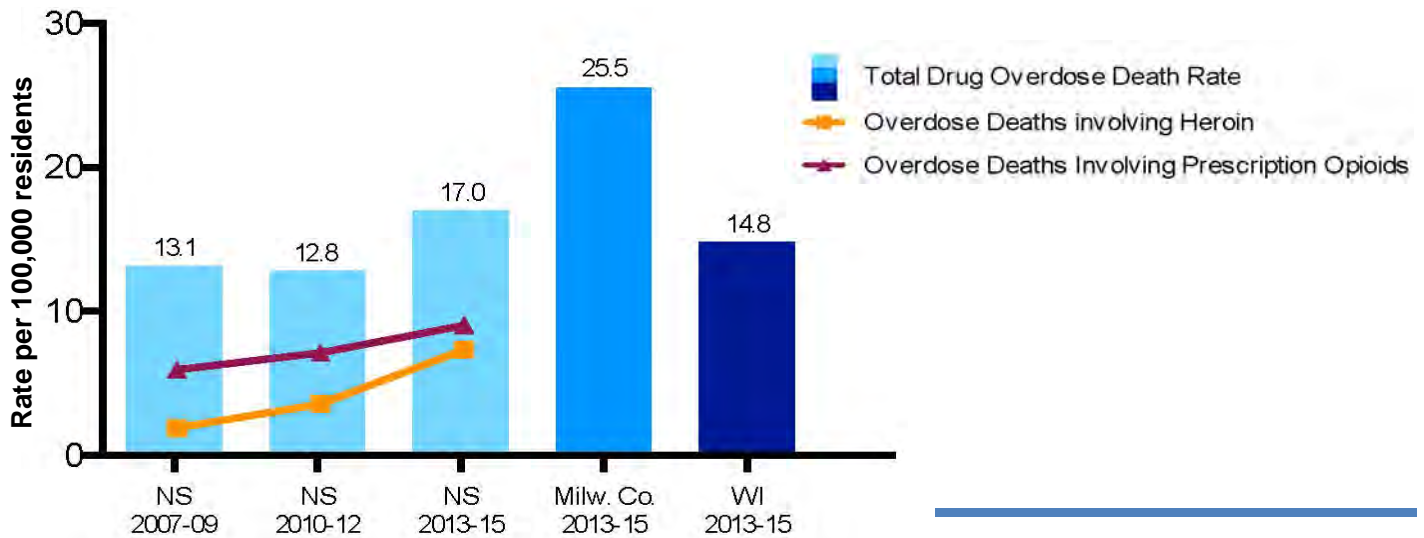
Unintentional injury-related deaths are the third leading cause of death in Wisconsin and the North Shore. Unintentional injury-related death rates have increased 19% in the last decade. Injuries represent any harm or damage done to the body resulting from an external force (physical or chemical), but do not include psychological trauma. Falls, especially those among older adults, are one of the leading causes of injury-related deaths in Milwaukee County and Wisconsin. Deaths attributable to poisonings from substances like prescription opioids, heroin, and other drugs and from motor vehicle crashes are also leading causes of injury deaths in Milwaukee County, including communities in the North Shore.

Table 5: Fall-related Deaths, Milwaukee County and Wisconsin, 2015

| Age Group | Milwaukee County | | Wisconsin death rate (per 100,000) |
|-----------|-------------------|-----------------------------|---------------------------------------|
| | Deaths (count) | Death rate (per 100,000) | |
| 65-69 | 6 | 15.0 | 14.4 |
| 70-74 | 8 | 31.0 | 36.3 |
| 75-79 | 15 | 78.3 | 82.2 |
| 80-84 | 40 | 256.7 | 185.2 |
| 85+ | 117 | 623.3 | 591.6 |

Source: Wisconsin Interactive Statistics on Health (WISH), 2015

Figure 5: Drug-Related Death Rates per 100,000, North Shore, Milwaukee County, and Wisconsin, 2007-15



*North Shore ZIP Codes are 53209, 53211, 53217, and 53223 and include data for North Shore and Milwaukee residents living in these ZIP Codes.
Source: Wisconsin Department of Health Services, 2016

Over the past decade in the North Shore, drug overdose deaths involving prescription opioids increased by **52%**, and drug overdose deaths involving heroin increased by almost **300%**.

Source: Wisconsin Department of Health Services, 2016

Suicide is a public health issue that affects people of all ages, races, and ethnicities. In 2015, suicide was the tenth leading cause of death in the US and in 2016 was the ninth leading cause of death in the North Shore. In the US, suicide is the second leading cause of death for youth aged 10 to 14 years and the fifth leading cause of death for adults aged 45 to 55 years. In the US in 2014, roughly half of all suicide deaths were firearm suicides, and a quarter were by suffocation. Wisconsin's suicide rate is four times its homicide rate.

Table 6: Suicide/Self-Inflicted Death Rate, Milwaukee County and Wisconsin, 2015

| Age Group | Milwaukee County | | Wisconsin death rate (per 100,000) |
|-----------|------------------|-----------------------------|---------------------------------------|
| | Deaths (count) | Death rate (per 100,000) | |
| 15-44 | 46 | 11.1 | 17.5 |
| 45-64 | 36 | 15.8 | 22.2 |
| 65+ | 11 | 9.2 | 14.6 |

Source: Wisconsin Interactive Statistics on Health (WISH), 2015

Infant Mortality includes the death of a baby before his or her first birthday. The infant mortality rate is the number of infant deaths that occur for every 1,000 live births. This rate is often used as an indicator to measure the health and well-being of a community, because factors affecting the health of entire populations also impact the mortality rate of infants. High rates of infant mortality indicate the existence of broader issues pertaining to access to care, preventative health practices, socioeconomic conditions, and maternal and child health. The infant mortality rate in the North Shore was **2.1 per 1000** live births between 2011-2015. This is lower than the State of Wisconsin (5.9 per 1000), Milwaukee County (8.5 per 1000) and Ozaukee County (3.7 per 1,000) for the same time-period. The majority of infant deaths in the North Shore are the result of newborns affected by perinatal complications, low birthweight or short gestation, or other congenital malformations. A small number of deaths are attributable to Sudden Infant Death Syndrome (SIDS) (Source: Wisconsin Interactive Statistics on Health (WISH), 2015).

Morbidity

Morbidity refers to the impact on health caused by living with a disease, illness or injury. Some chronic diseases impact a person for many years. At a community level, morbidity can be measured by the incidence of a disease (which measures new diagnoses), or its prevalence (which counts all people who currently have the disease—whether new or prior diagnoses).

I. Overall Indicators of Health

An individual's self-reported **quality of life** status is an important indicator of health because quality of life can positively or negatively impact daily activities, such as going to work or school, getting enough exercise, and making healthy choices. In 2015, **11%** of North Shore residents rated their health as "Fair or Poor" (Table 7). This is a significant increase from the seven percent of residents who reported their health as "Fair or Poor" in 2003. Additionally, while approximately 30% of residents rated their health as "Excellent" between 2003 and 2012, in 2015, that percent had dropped to 21% (Source: North Shore Community Health Survey Summary Report, 2015).

Low birthweight (LBW) is unique as a health outcome because it represents multiple factors and has numerous health associations and impacts. In terms of the infant's health outcomes, LBW serves as a predictor of premature mortality and/or morbidity over the life course. From the perspective of maternal health outcomes, LBW indicates maternal exposure to health risks in all categories of health factors, including her health behaviors, access to health care, the social and economic environment the mother inhabits, and environmental risks to which she is exposed.

Table 7: Quality of Life Indicators, North Shore and Wisconsin, 2015

| | North Shore | Wisconsin |
|--------------------------------------------------------------|-------------|-----------|
| Fair or Poor Health Status (Self-reported percentage) | 11% | 16%* |
| Low Birthweight (Infants weighing <2,500 grams) | 6% | 7% |

*2016 data

Sources: North Shore Community Health Survey, 2015; Wisconsin Interactive Statistics on Health (WISH), 2018smok

Mental health is an integral and essential component of health. Mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community. There is emerging evidence that positive mental health is associated with improved physical health outcomes. A person struggling with mental health issues may experience stress, depression, anxiety, relationship problems, grief, addiction, learning disabilities, mood disorders, or mental health illnesses of varying degrees. In 2015, **5%** of North Shore residents reported always or nearly always feeling sad, blue or depressed in the past 30 days. This is an increase from 3% of residents reporting always or nearly always feeling sad, blue or depressed in 2003 (Source: North Shore Community Health Survey, 2015).

Mental illness includes health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning. Depression is the

From 2013 to 2015, the percent of North Shore residents who have a mental health condition and report that it is controlled through medication, therapy or lifestyle changes increased from 83% to 95%.

Source: North Shore Community Health Survey, 2015

most common mental illness, affecting over a quarter of the US adult population. While positive mental health can improve physical health, it is also true that mental illness can arise due to diagnosis of chronic diseases including cancer, cardiovascular disease, and obesity. In 2015, **14%** of North Shore residents reported having a mental health condition in the past three years compared to 18% of residents in Milwaukee County overall (Sources: North Shore Community Health Survey, 2015; Milwaukee County Community Health Survey, 2015).

II. Chronic Disease

Chronic diseases such as cancer, diabetes, cardiovascular disease, and respiratory conditions are significant contributors to premature mortality. Additionally, when not well-managed, chronic diseases can cause pain, disability, financial hardship, and overall lower quality of life. Many chronic diseases can often be prevented through healthy diet, physical activity, and eliminating tobacco use and substance abuse. Once a chronic disease has manifested, effective management can prevent more serious complications and premature death. Chronic disease can be measured in several ways. One is by assessing the number of cases of a given disease or by reports by emergency departments and hospital inpatient admissions for certain conditions. Hospitalizations due to certain chronic diseases are an indicator of barriers to effective self-management of the disease. In North Shore ZIP Codes in 2014, the rate of total hospitalizations for all conditions was **113.2 per 1,000** compared to a rate of 104.1 per 1,000 for all Wisconsin residents (Source: Public Health Profiles, 2016). Chronic disease incidence and management data can also be self-reported. Individuals can live well with most chronic diseases if those diseases are effectively self-managed through treatment adherence, healthy lifestyle, and behaviors.

Cancer: The crude incidence rate for prostate and female breast cancer in the North Shore exceeds rates in Milwaukee and Ozaukee Counties and in Wisconsin. Though lung and colorectal cancer rates are lower in the North Shore, the total rate of cancer incidence in the North Shore exceeds that in Milwaukee County and in Wisconsin. For many cancer types, the risk of developing the disease rises with age, and the North Shore population has a higher percent of the population over age 65 than in the rest of Wisconsin. Additionally, the Wisconsin Cancer Reporting System receives incidence data submitted by hospitals, clinics, and physicians. Incidence data therefore depends on a patient being seen (and diagnosed) by a provider. The North Shore has a slightly higher insured population than Wisconsin (Table 29), which may translate into more diagnoses.

Table 8: Cancer Incidence, North Shore and Wisconsin, 2013

| Invasive Cancer type | North Shore ZIP Codes ¹ | | Wisconsin Incidence Rate (per 100,000) |
|----------------------------|------------------------------------|------------------------------|----------------------------------------|
| | Cases (count) | Incidence Rate (per 100,000) | |
| Female breast ² | 71 | 207.7 | 154.5 |
| Prostate ² | 55 | 179.9 | 124.1 |
| Lung/bronchus | 35 | 54.1 | 70.9 |
| Colorectal | 23 | 35.5 | 43.1 |
| All other sites | 195 | 301.1 | 281.2 |
| Total | 379 | 585.3 | 534.6 |

¹North Shore data includes all residents of 53209, 53211, 53217 and 53223, including some Milwaukee residents who share ZIP Codes 53209, 53211, and 53223.

²Rates include cases per 100,000 sex-specific population

Source: Wisconsin Public Health Profiles, 2016, reported to WI Cancer Reporting System; 2013 cases

Early and ongoing health screenings for certain cancers lead to early identification and treatment before health deteriorates. Women in the North Shore report a high percent of cervical cancer screening compared to women in Wisconsin. Among North Shore residents over 50 years, about three-fourths of North Shore residents report having been screened for colorectal cancer, similar to the percent of Wisconsin residents.

Table 9: Self-Reported Screening for Certain Cancers, North Shore and Wisconsin, 2015

| Screening | North Shore | Wisconsin |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|
| Cervical Cancer Screening of women aged 18 years and above PAP Smear HPV Test | 92% ¹ 52% | 85% ¹ - |
| Mammogram of women aged 50 years and above, within past 3 years | 89% | 82% ² |
| Colorectal Cancer Screening of the population aged 50 years and above who had ever had a colonoscopy or sigmoidoscopy | 76% ¹ | 75% ¹ |

¹2012, 2014, 2016 data

²2012 data

Source: North Shore Community Health Survey, 2015; Wisconsin Behavioral Risk Factor Surveillance System, 2012-16

Cardiovascular Disease includes several types of diseases of the heart and blood vessels, including coronary artery disease (CAD) and hypertensive heart disease. Cardiovascular diseases lead to premature death, costly hospitalizations, and potentially long-term disability. In 2015, **11%** of North Shore residents reported that they had heart disease or a heart condition within the past three years. This is an increase from 2003 when 7% of residents reported having heart disease.

High blood pressure and high blood cholesterol are two risk factors for cardiovascular disease. **Over 80%** of North Shore residents reported they had their blood cholesterol checked within the past five years. This is slightly higher than Wisconsin residents overall (77%). Twenty-six percent of residents reported they had high blood cholesterol within the previous three years and 24% of residents reported having high blood pressure. State-level data report that 30% of Wisconsin residents report being told they have high blood pressure. Despite the high prevalence of cardiovascular disease in the North Shore, **98%** of residents reported in 2015 they manage their blood pressure with medications and lifestyle changes. In 2015, **95%** of North Shore residents with high blood cholesterol said that it was controlled—an increase from 88% in 2012 (Source: North Shore Community Health Survey, 2015).

Cerebrovascular Disease refers to a group of conditions that can lead to a cerebrovascular event, such as a stroke. These events affect the blood supply to the brain. If a blockage, malformation or hemorrhage prevents the brain cells from getting enough oxygen, brain damage can result. Cerebrovascular disease is usually caused by atherosclerosis (“hardening of the arteries”) or deep vein thrombosis (blood clots) and can lead to a stroke. Stroke risk increases with age, but strokes can occur at any age. High blood pressure, high cholesterol, smoking, obesity, and diabetes are leading contributing causes of stroke. One in three US adults has at least one of these conditions or habits. Although a stroke is the most common cerebrovascular event, transient ischemic attacks (“mini strokes”), aneurysms, and vascular malformations are also types of cerebrovascular disease. In the North Shore in 2014, there was a higher rate of hospitalizations due to cerebrovascular disease (**280 per 100,000**) than for cardiovascular disease (**232 per 100,000**). The opposite was true for Wisconsin (246 vs. 281 per 100,000; Table 10).

Diabetes is a chronic and long-lasting disease affecting millions of people. The CDC reports approximately one in every ten people have diabetes and one out of three adults have pre-diabetes. People with diabetes are at higher risk of health complications including blindness, kidney failure, heart disease, stroke, and loss of toes, feet, or legs. In the North Shore in 2003, 4% of residents report they had diabetes within the previous three years. By 2015, **11%** of residents reported having the disease within the previous three years (Source: North Shore Community Health Survey, 2015). **Ten percent** of WI residents report they were told by a doctor that they had diabetes (Source: Behavioral Risk Factor Surveillance System, 2016). Table 10 shows that in 2014, residents living in North Shore ZIP Codes had a slightly higher rate of diabetes-related hospitalizations (**161 per 100,000**) compared to WI overall (132 per 100,000) (Source: Wisconsin Public Health Profiles, 2016).

Asthma is a disease that affects the lungs. For many, it can be a lifelong chronic disease leading to premature death, costly emergency department visits and hospitalizations, missed days of work and school, and reduced quality of life. **Nine percent** of North Shore adult residents reported in 2015 they had asthma within the previous three years. This is slightly lower than in 2012 when 11% of residents reported having the disease. In 2015, **100%** of adult residents with asthma also reported it was being controlled with medication and lifestyle changes. The percent of adults with asthma in the North Shore are similar to the reported prevalence in Wisconsin overall.

Fewer than one in ten North Shore adult residents report having asthma, and all who have asthma report that it is controlled by medication and lifestyle changes. However, high asthma hospitalization numbers--double the State rate--could indicate inadequate management, specifically in children with asthma (Table 10).

Source: North Shore Community Health Survey, 2015; North Shore Public Health Profiles, 2016; Wisconsin Public Health Profiles, 2016

Residents living in North Shore ZIP Codes have double the rate of asthma-related hospitalizations compared to Wisconsin overall. The hospitalization rate is **180 per 100,000** residents compared to 90 per 100,000 (Table 10). This is slightly lower than Milwaukee County's rate of 210 but higher than Ozaukee County's rate of 90 per 100,000. Hospitalization data includes children and adults.

Table 10: Chronic Disease-related Hospitalizations, North Shore and Wisconsin, 2014

| Cause of hospitalization | North Shore ZIP Codes* | | Wisconsin Hospitalization Rate (per 100,000) |
|---------------------------------------------------|---------------------------|------------------------------------|----------------------------------------------|
| | Hospitalizations (number) | Hospitalization Rate (per 100,000) | |
| Cardiovascular disease/ coronary heart disease | 326 | 232 | 281 |
| Cerebrovascular disease | 393 | 280 | 246 |
| Diabetes | 226 | 161 | 132 |
| Asthma | 253 | 180 | 90 |
| Total hospitalizations | 15,958 | 11,338 | 10,415 |

*Data includes all hospitalizations to residents of 53209, 53211, 53217 and 53223, including some residents of Milwaukee who share ZIP Codes 53209, 53211, and 53223.

Sources: North Shore Public Health Profiles, 2016; Wisconsin Public Health Profiles, 2016

Breastfeeding as Prevention

Breastfeeding has been shown to decrease the incidence of multiple chronic diseases and risk factors. This includes those in the infant (Celiac disease, inflammatory bowel disease, asthma, childhood leukemia, obesity, and Type 1 and 2 diabetes), and in the mother (postpartum depression, Type 2 diabetes, rheumatoid arthritis, cardiovascular disease, breast and ovarian cancer). Communities also benefit with decreased healthcare and hospitalization costs, decreased parental absenteeism from work, and a reduction in the environmental burden from production, packaging and transportation costs of infant formula.

In the North Shore in 2016, upon discharge from the hospital, **93%** of mothers were breastfeeding. This is higher than the rate in Milwaukee County (74%) and the State of Wisconsin (82%).

Source: Wisconsin Department of Health Services Wisconsin Interactive Statistics on Health (WISH), 2018

III. Communicable Disease

Communicable diseases are also known as infectious diseases. Communicable diseases are caused by a viral, bacterial, parasitic or fungal pathogen which is passed from one human to another. Reduction in infectious disease mortality has increased life expectancy in the 20th century—largely due to immunizations. In 2012, the World Health Organization estimated that vaccination prevents 2.5 million deaths worldwide each year. Four diseases are responsible for 98% of those deaths: measles, *Haemophilus influenzae* type b, pertussis, and neonatal tetanus. Despite the advancements in immunization, infectious disease remains a major cause of disability, pain, and death. Furthermore, incorrect information about vaccine safety has resulted in geographical areas of low vaccination rates, resulting in outbreaks of measles, mumps and pertussis.

Table 11: Communicable Disease Cases*, North Shore and Wisconsin, 2014-16 3-year Totals

| Type of Disease | North Shore | | Wisconsin rate (per 100,000) |
|-------------------------------------|------------------|-----------------------|---------------------------------|
| | Cases (count) | Rate (per 100,000) | |
| Vaccine-preventable Diseases | | | |
| Hepatitis A & B | 23 | 12 | 8 |
| Influenza hospitalizations | 137 | 70 | 47 |
| Meningitis, Aseptic (viral) | 0 | 0 | <1 |
| Meningitis, Bacterial | 0 | 0 | 1 |
| Pertussis (whooping cough) | 49 | 25 | 21 |
| Varicella (chickenpox) | 10 | 5 | 7 |
| Mumps | 0 | 0 | 1 |
| Other Vaccine-Preventable | 0 | 0 | 2 |

Continued on next page

Table 11, continued

| Type of Disease | North Shore | | Wisconsin rate (per 100,000) |
|------------------------------------------|------------------|-----------------------|---------------------------------|
| | Cases (count) | Rate (per 100,000) | |
| Vector-borne Diseases | | | |
| Vector, Mosquito (West Nile, Zika, etc.) | 0 | 0 | 1 |
| Vector, Tick (Lyme) | 14 | 7 | 46 |
| Foodborne and Waterborne Diseases | | | |
| Campylobacteriosis | 32 | 17 | 25 |
| Cryptosporidium | 8 | 4 | 12 |
| E. coli | 5 | 3 | 4 |
| Giardia | 17 | 9 | 10 |
| Salmonella | 18 | 9 | 16 |
| Shigella | 15 | 8 | 8 |
| Other Water/Foodborne | 5 | 3 | 4 |
| Other Communicable Diseases | | | |
| Hepatitis C + non-vaccine preventable | 62 | 32 | 64 |
| Streptococcal | 27 | 14 | 21 |
| Tuberculosis | <5 | - | 1 |
| Tuberculosis, latent infection | 12 | 6 | 15 |
| Mycobacterial disease (non-TB) | 83 | 43 | 21 |
| Parapertussis | <5 | - | 1 |
| Other rare communicable disease | <5 | - | 5 |

*Includes confirmed and probable cases; case counts under 5 are not included in calculations to protect identity

See Appendix C for category classification

Source: Wisconsin Electronic Disease Surveillance System, 2017

Prevention and treatment of **sexually transmitted infections** (STIs) is essential to reproductive health. Many STIs are asymptomatic, and may not be diagnosed until years later. Untreated STIs can lead to reproductive health problems, fetal and perinatal health problems, or cancer. Chlamydia and gonorrhea are important preventable causes of pelvic inflammatory disease (PID). Untreated, about 10-15% of women with chlamydia will develop PID. PID may cause permanent damage to the fallopian tubes, uterus, and surrounding tissues, which can lead to infertility. Infection with STIs can complicate a pregnancy and may have serious effects on the mother and developing baby.

Rates of both chlamydia and gonorrhea are increasing, and particularly concerning as strains are becoming resistant to antibiotics currently used to treat them. Notably, the estimated total number exceeds the number of reported cases because infected people are often unaware of, and do not seek treatment for, their infections and because screening for chlamydia is still not routine in many clinical settings. Teens and young adults represent the majority of STI cases. Although the North Shore rates of STIs are lower than rates in Wisconsin for most age groups, the rate of infection of 45-49 year olds was two and one-half times higher than Wisconsin rates, and that of residents 50 and older was triple the rates in Wisconsin in 2016 (Figure 6).

From 2014-16, 57% of adults (19-64) in the North Shore reported that they had ever been tested for HIV, compared to 34% in Wisconsin (Source: Wisconsin Behavioral Risk Factor Surveillance System, 2012-16).

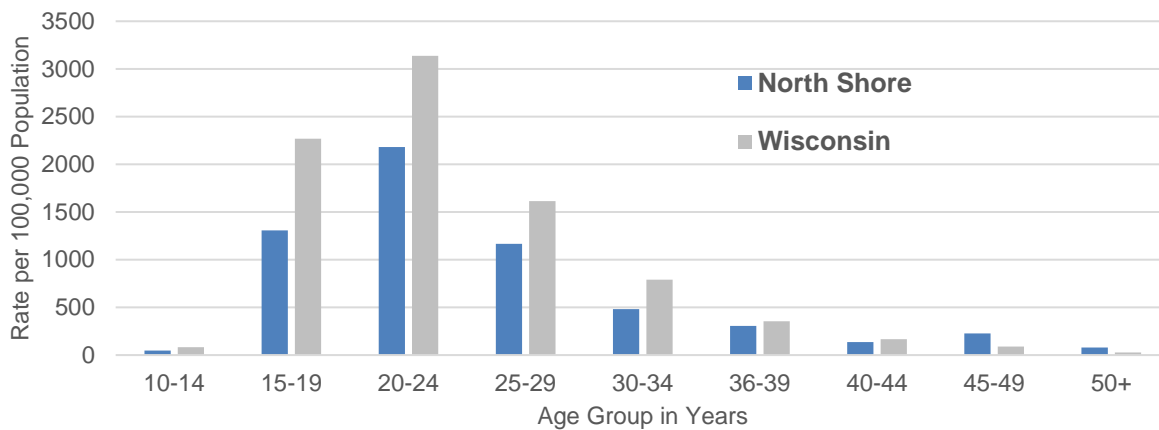
Table 12: Sexually Transmitted Infections (STIs), North Shore and Wisconsin, 2014-16 Three-year Totals

| | North Shore | | Wisconsin rate (per 100,000) |
|-----------------------------------------|------------------|-----------------------|---------------------------------|
| | Cases (count) | Rate (per 100,000) | |
| Sexually Transmitted Infections* | 686 | 352 | 551 |
| Chlamydia | 565 | 291 | 443 |
| Gonorrhea | 101 | 52 | 95 |

*STI counts include Chlamydia, Gonorrhea, and others, as listed in Appendix D

Sources: Wisconsin Department of Health Services, STD Control Section, 2016; Wisconsin Electronic Disease Surveillance System, 2017

Figure 6: Reported STI Infection Rates by Age, North Shore and Wisconsin, 2016



Source: Wisconsin Electronic Disease Surveillance System, 2017

Vaccination to Prevent Communicable Diseases

Overall, the North Shore has a highly-immunized population. The majority of 24-month-old children in the North Shore have received the recommended vaccinations for this age, with all benchmark percentages exceeding the State’s levels (Table 10).

Flu immunization rates among adults 65 and older in the North Shore are similar to those in Wisconsin, but lower than in Ozaukee County, and well below CDC recommendations. CDC recommends all people over the age of 6 months receive a seasonal influenza vaccination, but emphasizes that older adults and

their caregivers are considered high risk groups. The North Shore* has one and a half times the hospitalization rate due to influenza as Wisconsin (Table 11). Adults 65 years of age and older typically account for up to 70% of flu-related hospitalizations each year and up to 85% of flu-related deaths. The North Shore has a higher percent of the population over age 65 than in the rest of Wisconsin (page 11), which contributes to this rate (Source: Medicare Claims Data, National Vaccine Program Office of US Department of Health & Human Services, 2017; *North shore data includes all residents of 53209, 53211, 53217 and 53223, including some residents of Milwaukee who share ZIP Codes 53209, 53211, and 53223).

For the 2016-17 flu season, **59%** of adults 65 and older in the North Shore communities received an influenza (flu) vaccination, compared to 65% in Ozaukee County, 57% in Wisconsin, and 52% in the US.

Source: Medicare Claims Data, National Vaccine Program, Office of US Department of Health & Human Services, 2017

Table 13: Childhood Immunization Rates, North Shore and Wisconsin, 2016

| Recommended Vaccination | % of 24-Month-Old Children Meeting Benchmark in 2016 | |
|-------------------------------------------------------------|------------------------------------------------------|-----------|
| | North Shore | Wisconsin |
| DTap (Diphtheria, Tetanus, Pertussis) x4 | 81% | 78% |
| Polio x3 | 91% | 87% |
| MMR (Measles, Mumps, Rubella) x1 | 92% | 86% |
| Hib (<i>Haemophilus influenzae</i> type b) x3 | 92% | 87% |
| Hep B (Hepatitis B) x3 | 88% | 86% |
| Varicella (Chicken Pox) x1 | 90% | 84% |
| Pneumonia/ PCV13 (Pneumococcal Conjugate Vaccine) x4 | 88% | 84% |
| 4:3:1:3:3:1:4 series (all listed above) | 76% | 73% |

Source: Wisconsin Immunization Registry, 2017

IV. Unintentional and Intentional Injuries

Nonfatal injuries are a leading cause of disability for people of all ages. Though injuries are often thought of as “accidents” or “acts of fate,” most are predictable and preventable. Unintentional injuries result from falls, poisonings, motor vehicle crashes, concussions, drowning, bicycle crashes, and fires, etc. Intentional injuries and violence include self-inflicted injuries, along with child abuse, sexual violence, intimate partner and dating violence.

Rates of injury-related hospitalizations are higher in Milwaukee County than Wisconsin for all of the top five causes of injury-related hospitalizations (Table 14). Poisonings can result from prescription and illicit drug use, as well as toxic substances like carbon monoxide, pesticides, solvents, etc. Other injuries may include those arising from overexertion, fire, drowning, suffocation, firearm, machinery or other transport injuries.

Table 14: Top Injury-related Hospitalizations, Milwaukee County and Wisconsin, 2014

| | Emergency Department Visits Rate per 100,000 | | Hospitalization Rate per 100,000 | |
|----------------------------------------------|----------------------------------------------|-----------|----------------------------------|-----------|
| | Milwaukee County | Wisconsin | Milwaukee County | Wisconsin |
| Falls | 2500 | 2258 | 519 | 436 |
| Poisoning | 344 | 203 | 170 | 125 |
| Cutting or Piercing | 644 | 622 | 46 | 30 |
| Struck By or Against Object or Person | 1334 | 1024 | 46 | 27 |
| Motor Vehicle Traffic Crash-Occupant | 1021 | 519 | 37 | 36 |
| Other Injury | 2582 | 2086 | 371 | 275 |

Source: Wisconsin Interactive Statistics on Health, 2017

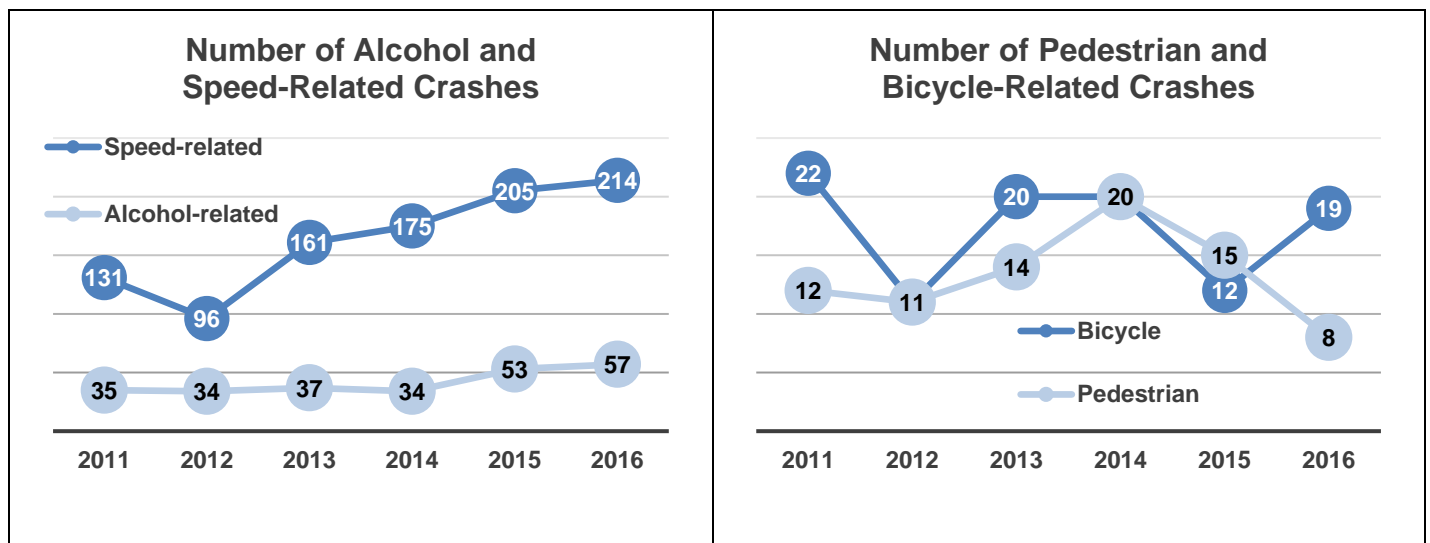
Motor vehicle injuries are the leading cause of death for people ages 5-34 in the United States, and motor vehicle-related injuries send more than 2.3 million people to hospital emergency departments every year. Despite continual improvements to safety features, including seat belts, air bags, and child safety seats, motor vehicle crashes remain a primary source of morbidity. In the North Shore in 2016, there was one crash for every four miles of roadway. Additionally, **456 people** were injured on North Shore roadways in 2016 and **five people** were killed. Five percent of all crashes on North Shore roadways involved alcohol and all fatal crashes involved alcohol. In 2016, **eight** motor vehicle crashes involved pedestrians and **19** involved bicycles (Table 15).

Table 15: Motor Vehicle Crashes in North Shore by Municipality, 2016

| Municipality | Total Crashes | Miles of roadway | Crashes per roadway miles | Alcohol-related Crashes | Total Persons Injured | Total Persons Killed |
|---------------|---------------|------------------|---------------------------|-------------------------|-----------------------|----------------------|
| Fox Point | 31 | 38.7 | .8 | <5 | 5 | 0 |
| River Hills | 98 | 28.7 | 3.4 | <5 | 30 | 0 |
| Shorewood | 124 | 31.5 | 3.9 | <5 | 38 | 0 |
| Whitefish Bay | 131 | 41.5 | 3.2 | 12 | 33 | 0 |
| Glendale | 622 | 75.1 | 8.2 | 23 | 219 | 0 |
| Bayside | 67 | 27.3 | 2.5 | <5 | 16 | 0 |
| Brown Deer | 186 | 59.4 | 3.1 | 13 | 115 | 5 |
| Total | 1,259 | 302.2 | 4.1 | 57 | 456 | 5 |

Source: Wisconsin Department of Transportation, 2017

Figure 7: Alcohol and Speed-Related Crashes; Pedestrian and Bicycle-Related Crashes, North Shore, 2011-16



Source: Wisconsin Department of Transportation, 2017

*Crashes occurring on roadways in Bayside, Brown Deer, Fox Point, Glendale, River Hills, Shorewood, and Whitefish Bay. These do not represent crashes for residents living in these communities.

Self-Inflicted Injuries: Self-inflicted injuries can be the result of poisonings, firearms, cutting or piercing, or suffocation. Data for the North Shore are limited in this area. In reviewing emergency department visits and inpatient hospitalizations for self-inflicted causes of injury between 2010 and 2014, poisoning and cutting or piercing are the most common causes of self-inflicted injuries in the North Shore. Only three hospitalizations or emergency department visits in that time frame resulted from a self-inflicted gunshot wound. This is likely because of the higher likelihood of fatality with a firearm.

Table 16: Self-Inflicted Injuries: Emergency Department and Inpatient Hospitalizations, North Shore and Wisconsin, 2010-2014

| Self-Inflicted Injury | Emergency Department Visits Rate per 100,000 | | Hospitalization Rate per 100,000 | |
|-------------------------|-------------------------------------------------|-----------|-------------------------------------|-----------|
| | North Shore ZIP Codes* | Wisconsin | North Shore ZIP Codes* | Wisconsin |
| Poisoning | 64 | 32 | 50 | 71 |
| Cutting/Piercing | 18 | 19 | 13 | 18 |
| Suffocation | 3 | 2 | - | 2 |

*North Shore data includes all residents of 53209, 53211, 53217 and 53223, including some Milwaukee residents who share ZIP Codes 53209, 53211, and 53223.

Source: Wisconsin Hospital Emergency Department and Inpatient Data Systems, 2016; Wisconsin Interactive Statistics on Health, 2017

Health Behaviors

Health is more than access to health care. Health is also largely influenced by choices made. Personal behaviors that can affect chronic disease and injuries include lack of physical activity, poor nutrition, tobacco use, excessive alcohol consumption, and drug use.

I. Physical Activity and Nutrition

Current behaviors are determinants of future health. Body weight higher than what is considered a healthy weight for a given height is described as overweight or obese. Body Mass Index (BMI) is calculated by weight and height and is used as a screening tool for overweight or obesity. As BMI increases beyond 25, it appears to be strongly correlated with various adverse health outcomes (Source: Centers for Disease Control and Prevention).

Inactivity causes 11% of premature deaths in the United States (Source: Lancet Physical Activity Series Working Group, 2012). Regular physical activity improves quality of life and lowers the risk of chronic disease.

In Milwaukee County in 2014, 99% of the county population had reasonable **access to exercise opportunities**, compared to 81% of Wisconsin. “Reasonable access” is defined as residing within one mile of a recreational facility or residing in a census block within a half mile of a park. In Milwaukee County in 2012, there were 78 recreation and fitness facilities for county residents—an increase of over 25% since 2007 (Source: County Health Rankings, 2017).

Walkscore.com calculates a Walk Score between 0-100 and a walkability ranking for any given address. Within the North Shore, elementary school walk scores ranged from 29 (car-dependent) at Maple Dale School, to 78 (very walkable) for the Shorewood School District.

Within the seven North Shore communities, there are 23 local parks and over 135 acres of public outdoor recreation space.

Table 17: Self-reported Indicators of Adult Physical Health, North Shore and Wisconsin

| | North Shore 2015 | Wisconsin 2016 |
|------------------------------------------------------------------------------------------------------------------|------------------|----------------|
| Overweight adults (BMI greater or equal to 25.0) | 55% | 60% |
| Recommended moderate (5 times/30 min) or vigorous (3 times/20 min) physical activity weekly | 56% | - |

Sources: North Shore Community Health Survey, 2015; Behavioral Risk Factor Surveillance System, 2016

Good nutrition correlates with good health and is especially important to children’s growth and development. A healthy diet and weight also helps individuals reduce their risk for many chronic diseases. Communities that facilitate healthy diets and food security provide access to retail venues that sell affordable healthy options.

Although adult fruit and vegetable intake in the North Shore has remained roughly steady since 2012, the reported percent of children meeting recommended vegetable intake dropped from 45% to 36% in the same period. This parallels findings at the national level, where fruit intake is increasing while vegetable intake is not. Furthermore, children are not “eating the rainbow” and approximately one third of vegetables eaten by children are potatoes, often eaten as fries or potato chips (Source: Centers for Disease Control and Prevention, 2017).

Table 18: Self-reported Nutritional Intake, North Shore and Milwaukee County, 2015

| | North Shore | | Milwaukee County | |
|-------------------------------------------|-------------|----------|------------------|----------|
| | Adults | Children | Adults | Children |
| Fruit intake (2+ servings/day) | 68% | 90% | 62% | 82% |
| Vegetable intake (3+ servings/day) | 36% | 36% | 28% | 27% |

Sources: North Shore Community Health Survey, 2015; Milwaukee County Community Health Survey, 2015

Seasonally, North Shore residents have access to an abundance of fresh produce. From 2009 to 2013, there was a **47% increase** in Farmers' Markets in Milwaukee County. As of 2017, there are four Farmers' Markets within the North Shore, with an additional 19 in Milwaukee County, and seven in nearby Ozaukee County.

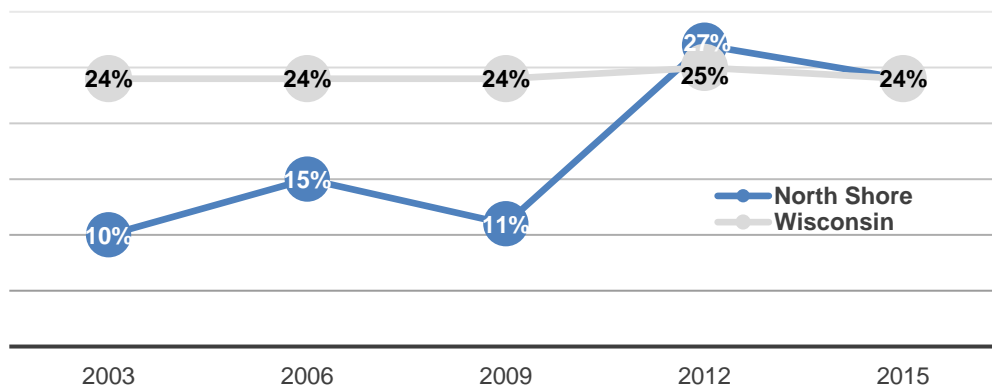
Source: UW-Extension, 2017

II. Alcohol

Excessive alcohol consumption includes binge drinking, heavy drinking, and any drinking by pregnant women or people younger than age 21. It can lead to several immediate health risks including unintentional injuries (traffic injuries, falls, drownings), domestic violence, risky sexual behaviors, poor birth outcomes and alcohol poisoning. Over time, in addition to the potential of developing alcoholism, continued excessive alcohol consumption can lead to the development of chronic diseases including high blood pressure, heart disease, stroke, liver disease, digestive problems, and several cancers (breast, mouth, throat, esophagus, liver and colon). It can also cause neurological (memory and learning) impairment, including dementia and poor school performance; lead to mental health problems like depression and anxiety; and increase social and economic problems including lost productivity, family problems, and unemployment.

The state of Wisconsin has the highest population nationwide of binge drinkers, who report having as many as 9 drinks on an occasion, and averaging approximately **5 episodes** of binge drinking a month. Nationally, 17% of adults report binge drinking in the previous 30 days.

Figure 8: Percent of Adults Self-Reporting Binge Drinking* in the Last 30 Days, North Shore and Wisconsin, 2003-15



*defined as ≥4 drinks per occasion for females; ≥5 drinks per occasion for males

Source: North Shore Community Health Survey, 2015; Behavioral Risk Factor Surveillance System, 2015

Table 19: Alcohol-related Hospitalizations, North Shore ZIP Codes and Wisconsin, 2014

| Number of Alcohol-related Hospitalizations in North Shore ZIP Codes* | Alcohol-related Hospitalization rate (per 100,000) | |
|----------------------------------------------------------------------|----------------------------------------------------|-----------|
| | North Shore ZIP Codes* | Wisconsin |
| 227 | 161 | 182 |

*North Shore data includes all residents of 53209, 53211, 53217 and 53223, including some Milwaukee residents who share ZIP Codes 53209, 53211, and 53223.

Sources: North Shore Public Health Profiles, 2016; Wisconsin Public Health Profiles, 2016

A Note About Youth Risk Behavior Survey Data

The Wisconsin Department of Public Instruction (DPI) has administered the Wisconsin Youth Risk Behavior Survey (YRBS) to a sample of students in Wisconsin's public high schools every two years since 1993. These results provide an estimate of risky youth behavior state-wide and can be compared to results from other states and the nation as a whole. Youth behavior data is an important component of a community health assessment because behavioral patterns established during adolescence help determine young peoples' current health status and their risk for developing chronic diseases during adulthood. While Wisconsin data is available from 2017, the most recent national data available is from 2015, so it is used for comparison. Because YRBS data is not available from all North Shore school districts, state-wide data is presented here.

Table 20: Youth Alcohol Use, High School Students, Wisconsin and USA, 2017 and 2015

| YRBS Measure | Wisconsin ¹ | USA ² |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Percentage of students who had at least one drink of alcohol on one or more days during their life | 65% | 63% |
| Percentage of students who had their first drink of alcohol other than a few sips before age 13 years | 16% | 17% |
| Percentage of students who had at least one drink of alcohol on one or more of the past 30 days | 30% | 33% |
| Percentage of students who had five or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days | 16% | 18% |
| Percentage of students who rode one or more times during the past 30 days in a car or other vehicle driven by someone who had been drinking alcohol | 17% | 20% |

¹Source: 2017 Wisconsin Youth Risk Behavioral Survey, Wisconsin Department of Public Instruction, 2017

²Source: 2015 National Youth Risk Behavioral Surveillance System, Centers for Disease Control and Prevention, Division of Adolescent and School Health, 2017

III. Substance Abuse

Substance abuse has a major impact on the social, physical, and emotional health of individuals, families, and communities. Substance abuse disorder typically develops in adolescence and, for some individuals, progresses to a chronic illness that will require lifelong monitoring and care. The consequences of addiction can lead to other physical and emotional conditions including forms of violence and injury.

Marijuana (cannabis) is the most commonly used illicit substance. This drug impairs short-term memory and learning, the ability to focus, coordination, and can harm the lungs. Research suggests that when regular marijuana use begins in the teen years, addiction is more likely (1 in 6 users, compared to 1 in 9 among those who began using as adults). While reported use by youth of all illicit substances decreased over the past decade, rates of nonmedical use of prescription and over-the-counter medication remained high. This practice can lead to addiction, and in some cases, overdose (*Source: National Institute on Drug Abuse, National Institutes of Health*).

Table 21: Drug-related hospitalizations, North Shore ZIP Codes and Wisconsin, 2014

| Number of Drug-related Hospitalizations in North Shore ZIP Codes* | Drug-related Hospitalization rate (per 100,000) | |
|-------------------------------------------------------------------|-------------------------------------------------|-----------|
| | North Shore ZIP Codes* | Wisconsin |
| 84 | 60 | 62 |

*North Shore data includes all residents of 53209, 53211, 53217 and 53223, including some Milwaukee residents who share ZIP Codes 53209, 53211, and 53223.

Sources: North Shore Public Health Profiles, 2016; Wisconsin Public Health Profiles, 2016

Table 22: Youth Drug Use, High School Students, Wisconsin and USA, 2017 and 2015

| YRBS Measure | Wisconsin ¹ | USA ² |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Percentage of students who used marijuana one or more times during their life | 30% | 39% |
| Percentage of students who tried marijuana for the first time before age 13 years | 5% | 8% |
| Percentage of students who used marijuana one or more times during the past 30 days | 16% | 22% |
| Percentage of students who used any form of cocaine, including powder, crack, or freebase one or more times during their life | 4% | 5% |
| Percentage of students who sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life | 6% | 7% |
| Percentage of students who have taken a prescription drug (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription one or more times during their life | 11% | 17% |
| Percentage of students who were offered, sold, or given an illegal drug by someone on school property during the past 12 months | 18% | 22% |

¹Source: 2017 Wisconsin Youth Risk Behavioral Survey, Wisconsin Department of Public Instruction, 2017

²Source: 2015 National Youth Risk Behavioral Surveillance System, Centers for Disease Control and Prevention, Division of Adolescent and School Health, 2017

IV. Tobacco

Cigarette smoking remains the leading preventable cause of death in the US, accounting for nearly one in five deaths. Cigarette smoking harms nearly every organ of the body, causes many diseases, and reduces the health of smokers in general. Cigarette smoking increases risk for death from all causes in men and women. Smoking during pregnancy causes additional health problems, including premature birth, certain birth defects, and infant death. Electronic cigarettes (e-cigs) can contain harmful and potentially harmful substances, including nicotine, heavy metals like lead, volatile organic compounds, and cancer-causing agents, and therefore have similar health risks. Of adult North Shore residents surveyed in 2015, 4% reported using electronic cigarettes (e-cigs), compared to 6% in Milwaukee County (*Sources: North Shore Community Health Survey, 2015; Milwaukee County Community Health Survey, 2015*).

Table 23: Adult Tobacco Use, North Shore and Wisconsin, 2014 and 2015

| | North Shore | Wisconsin |
|---------------------------------------------------------------------------------------|------------------|------------------|
| Adult current cigarette smokers (past 30 days) | 13% ¹ | 17% ² |
| Adult current cigarette smokers who quit smoking at least one day in past year | 43% ¹ | 60% ² |
| Mothers who report using tobacco during pregnancy | 3% ³ | 12% ³ |

¹Source: North Shore Community Health Survey, 2015 data

²Source: Behavioral Risk Factor Surveillance System, 2016 data

³Source: Wisconsin Interactive Statistics on Health (WISH), 2015 data

Table 24: Youth Tobacco Use, High School Students, Wisconsin and USA, 2017 and 2015

| YRBS Measure | Wisconsin ¹ | USA ² |
|--------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Percentage of students who used ever tried cigarette smoking | 24% | 32% |
| Percentage of students who first tried cigarette smoking before age 13 years | 8% | 7% |
| Percentage of students who currently smoke cigarettes (on at least 1 day during 30 days before survey) | 8% | 11% |
| Percent of students who ever used electronic vapor products | No Data | 45% |
| Percent of students who currently use an electronic vapor product (e-cigarettes) | 12% | 24% |

¹Source: 2017 Wisconsin Youth Risk Behavioral Survey, Wisconsin Department of Public Instruction, 2017

²Source: 2015 National Youth Risk Behavioral Surveillance System, Centers for Disease Control and Prevention, Division of Adolescent and School Health, 2017

In the North Shore in 2017, **12%** of tobacco outlets (n=25) that were visited by an undercover teen attempting to purchase tobacco products illegally sold them tobacco. This is an increase from 2016, when 0% (n=26) sold tobacco illegally to teens. Statewide in 2017, 12% of tobacco outlets illegally sold to teens—a drop from 15% in 2016.

Source: Wisconsin Wins Campaign, 2016-17

V. Reproductive and Sexual Health

Early and regular prenatal care informs women about important steps they can take to protect their infant and ensure a healthy pregnancy. With regular prenatal care, women can reduce the risk of pregnancy complications and reduce the infant's risk for complications.

Table 25: Prenatal Care Measures, North Shore and Wisconsin, 2016

| | North Shore | Wisconsin |
|-------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|
| Percent of births where mother received prenatal care in first trimester | 87% | 76% |
| Percent of births where mother received adequate prenatal care (defined as beginning in first trimester; 9+ visits) | 79% | 73% |

Source: Wisconsin Interactive Statistics on Health (WISH), 2016

Table 26: Birth Statistics, North Shore and Wisconsin, 2014-15

| | North Shore | Wisconsin |
|------------------------------------------------------------------------------|-------------|-----------|
| 2014 General fertility rate (# live births per 1000 women aged 15-44) | 55 | 62 |
| 2015 Percentage of preterm births (<37 weeks gestational age) | 7% | 9% |
| 2015 Teen birth percentage (% of all births to mothers <20 years) | 1% | 5% |

Source: PHP, 2016; Wisconsin Interactive Statistics on Health (WISH), 2016

Intended pregnancy: Not all pregnancies are planned. Women who do not intend to become pregnant are less likely to seek out prenatal care and less likely to breastfeed. Women who do not intend to become pregnant are more likely to expose the fetus to alcohol, tobacco or other drugs during pregnancy.

In 2009-10 in Wisconsin, 38% of new mothers did not intend pregnancy. Of those, 46% reported doing nothing to prevent pregnancy (Source: *Pregnancy Risk Assessment Monitoring System, 2013*).

Table 27: Wisconsin High School Sexual Behavior, Wisconsin and USA, 2017 and 2015

| YRBS Measure | Wisconsin ¹ | USA ² |
|---------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Percentage of students who ever had sexual intercourse | 34% | 41% |
| Among students who had sexual intercourse in the past three months, percentage who used a condom during last sexual intercourse | 63% | 57% |

¹Source: 2017 Wisconsin Youth Risk Behavioral Survey, Wisconsin Department of Public Instruction, 2017

²Source: 2015 National Youth Risk Behavioral Surveillance System, Centers for Disease Control and Prevention, Division of Adolescent and School Health, 2017

Gender Identity and Sexual Orientation

Sexual minority youth—those who identify as gay, lesbian, bisexual or transgender—are at increased risk for certain negative health outcomes. For example, young gay and bisexual males have disproportionately high rates of HIV, syphilis, and other STIs, and adolescent lesbian and bisexual females are more likely to have ever been pregnant than their heterosexual peers.

Source: 2015 National Youth Risk Behavioral Surveillance System, Centers for Disease Control and Prevention, Division of Adolescent and School Health, 2017

Shorewood School District was recognized by the US Department of Education as one of approximately 25 districts nationwide at the forefront of emerging policies and practices for supporting transgender students. Shorewood's Policy prohibits all forms of discrimination, harassment and bullying against any transgender student or any student who does not conform to gender role stereotypes.

Source: US Department of Education, 2016

Table 28: High School Students Who Identify as Gay, Lesbian, or Bisexual, Wisconsin and USA, 2017 and 2015

| YRBS Measure | Wisconsin ¹ | USA ² |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Percent of high school students who identify as gay or lesbian | 10% | 2% |
| Percent of high school students who identify as bisexual | | 6% |
| Percent of high school students who are unsure of their sexual identity | 4% | 3% |
| <hr/> | | |
| Percent of gay, lesbian or bisexual students who did not go to school because they felt unsafe at school or on their way to and from school | 10% | 13% |
| Percent of gay, lesbian or bisexual students who were physically forced to have sexual intercourse (when they did not want to) | 16% | 18% |
| Percent of gay, lesbian or bisexual students who felt sad or hopeless almost every day for more than two weeks | 58% | 60% |
| Percent of gay, lesbian or bisexual students who attempted suicide | 20% | 29% |

¹Source: 2017 Wisconsin Youth Risk Behavioral Survey, Wisconsin Department of Public Instruction, 2017

²Source: 2015 National Youth Risk Behavioral Surveillance System, Centers for Disease Control and Prevention, Division of Adolescent and School Health, 2017

Clinical Care

Access to healthcare includes the ability to access regular primary care, specialty care, and other health services. Sufficient access to health care supports people's ability to reach their full potential and enhance their quality of life. At the community level, access to comprehensive, quality health care services fosters health equity and increases the quality of a healthy life for everyone. Access to health services is influenced by the ability to pay for services, accessible locations, and finding providers who instill trust and are sensitive to health literacy.

I. Insurance Coverage

Lack of insurance is a primary barrier to healthcare access. Other barriers include lack of comprehensive coverage, including of preventive services; few providers that accept the individual's insurance; no near geographic location of providers to patients; and not receiving services from a consistent provider.

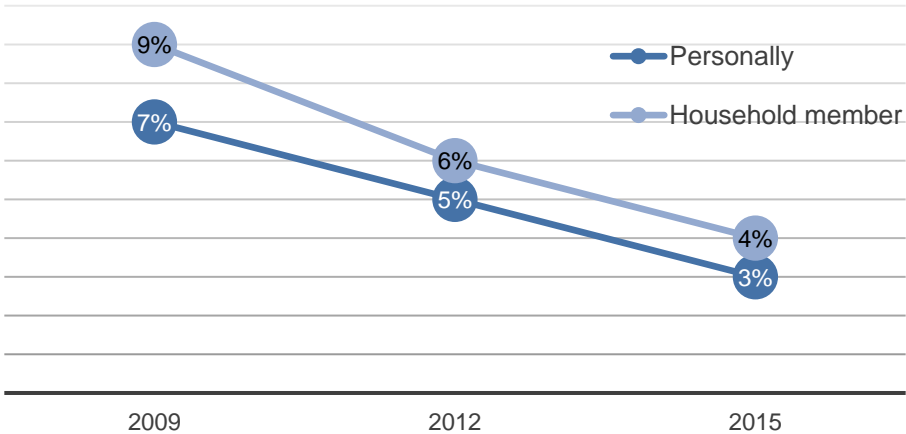
In general, North Shore residents are slightly more likely to have medical insurance. This measure does not address the adequacy of insurance, although the Affordable Care Act has established minimum coverage for all policies. Insurance coverage includes those residents who are covered by Medicare. The North Shore has a higher percent of the population over age 65 than in the rest of Wisconsin and as a result the percentage of the population covered by Medicare is expected to be higher than in areas with a lower population over age 65.

Table 29: Insurance Coverage, North Shore and Wisconsin, 2011-15

| | North Shore | Wisconsin |
|--------------------------------------------------------|-------------|-----------|
| Percent of population without medical insurance | 5% | 8% |

Source: United States Census Bureau, American Community Survey, 2011-15

Figure 9: Percent of Residents Self-Reporting No Health Care Coverage Within Last Year, North Shore, 2009-15



Source: North Shore Community Health Survey, 2015

II. Access to Providers

Having a usual and ongoing source of primary care is associated with greater patient trust in the provider, good patient-provider communication, and an increased likelihood that the patient will receive appropriate care. This results in better health outcomes, fewer hospitalizations, fewer disparities, and lower costs.

In 2015, in the North Shore, primary health services were obtained at:

- Doctor or nurse practitioner's office by **71%**, compared to 65% in Milwaukee County. This is a significant drop since 2006, when 91% of North Shore residents had primary health services in a doctor/nurse practitioner's office.
- Urgent Care by **10%**, compared to 12% in Milwaukee County
- Hospital Emergency Room by **4%**, compared to 11% in Milwaukee County

(Sources: North Shore Community Health Survey, 2015; Milwaukee County Community Health Survey, 2015)

In 2015, in the North Shore, **10%** of residents said they had no usual place for receiving primary health services compared to 2% in 2006.

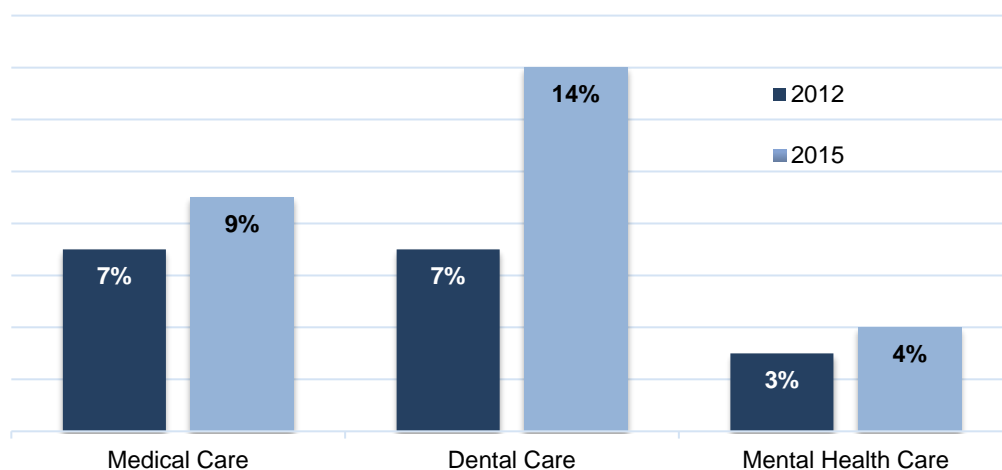
Source: North Shore Community Health Survey, 2015; Milwaukee County Community Health Survey, 2015

Table 30: Access to Providers, Milwaukee County and Wisconsin, 2016

| Health care provider type | Ratio of population to provider | |
|---------------------------|---------------------------------|-----------|
| | Milwaukee County | Wisconsin |
| Primary care physician | 1370:1 | 1220:1 |
| Dentist | 1380:1 | 1560:1 |
| Mental health provider | 410:1 | 600:1 |

Source: County Health Rankings, 2017

Figure 10: Percent of North Shore Adults with Unmet Clinical Care Needs in Past Year, 2012 and 2015



Source: North Shore Community Health Survey, 2015

III. Health Literacy

Health literacy is the ability to obtain, communicate, process and understand basic health information and services to make appropriate health care decisions. An individual's health literacy is influenced by their general literacy, but also by familiarity with the healthcare system and how the health information is presented. Speaking a primary language other than that which the provider uses impacts the ability to understand materials presented orally. This is particularly detrimental if written instructions are not available in a person's native language. An individual's highest grade level attained in school is not a reliable indicator of their reading skills or literacy status, because reading skills don't necessarily match the highest attained educational grade. However, lower educational attainment can indicate lower health literacy.

Examples of health literacy challenges include not understanding medical terms or how the body works; being scared or confused by a new health diagnosis; and difficulty interpreting health care numbers or risks needed to make a health care decision. Health literacy impacts adherence to medical treatments, including following directions on a prescription drug label or adhering to a childhood immunization schedule using a standard chart. Low health literacy affects people's ability to search for and use health information, adopt healthy behaviors, and act on important public health alerts. Not surprisingly, limited health literacy is associated with worse health outcomes and higher costs.

An inability to speak English well (ie: Limited English Proficiency of ages 5+) creates barriers to healthcare access, provider communications, and health literacy/education. The North Shore has a larger percentage of linguistically isolated households than the rest of the state.

Table 31: Health Literacy Measures, North Shore and Wisconsin, 2011-15

| | North Shore | Wisconsin |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|
| No High School diploma (or equivalency) | 4% | 9% |
| Percent of population aged 5 and older who speak a language other than English at home and speak English less than "very well." | 4% | 3% |

Source: United States Census Bureau, American Community Survey, 2011-15

Social & Economic Factors

The annual *County Health Rankings & Roadmaps* report, sponsored by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, highlights connections between social and economic factors, health behaviors, clinical care, and the physical environment. The Rankings study found that social and economic factors—education, employment, income; community safety; and family and social support—contributed the most toward health outcomes in any given county, ahead of health behaviors, clinical care access, or the physical environment (Figure 1).

Education

Education levels influence a variety of social and psychological health measures. Years of formal education are correlated strongly with better work and economic opportunities including higher income, better working conditions, access to health care (through work situation), and more stability during variations in the job market. In addition, education correlates to better housing, a greater sense of personal control, and access to more opportunities for healthier lifestyles. Reading is a critical predictor of high school success or failure. Poor readers are more likely to drop out of school.

All North Shore school districts showed a higher percentage of third graders scoring “proficient” or “advanced” on the Forward Reading/ELA Exam in 2016-17 than the Wisconsin Average of 42%. North Shore districts ranged from **43% to 67%**. For the 2015-16 school year, North Shore districts also had a higher 4-year graduation rate (ranging from **92% to 96%**) than Wisconsin (88%) in 2015-16. Average ACT Composite Scores in 2015-16 range from **19.3 to 25.6**, compared to the Wisconsin average of 20.3 (*Source: WISEdash, Wisconsin Department of Public Instruction, 2017*).

Education influences health multi-generationally. Children born to parents with lower education are at higher risk for decreased cognitive development, increased tobacco and drug use, and a higher risk of some chronic mental and physical diseases.

Table 32: Educational Attainment, North Shore and Wisconsin, 2011-15

| | Percent of Population 25 years or older | |
|-------------------------------------------|-----------------------------------------|-----------|
| | North Shore | Wisconsin |
| Associate’s level degree or higher | 66% | 38% |
| Bachelor’s degree or higher | 60% | 28% |

Source: United States Census Bureau, American Community Survey, 2011-15

The North Shore is, overall, a highly-educated population. The proximity to many institutions of higher education, including Cardinal Stritch University, Columbia College of Nursing, Concordia University, Marquette University, and the University of Wisconsin – Milwaukee, in addition to numerous other private and public colleges in Southeastern Wisconsin supports the ease to obtaining higher degrees.

27% of adults over the age of 25 in the North Shore hold graduate or professional degrees, compared to 9% in the State of Wisconsin.

Source: US Census Bureau American Community Survey, 2011-15

I. Employment and Income

Steady employment provides the income, benefits, and stability necessary for good health. Unemployment and underemployment (the “working poor”) have been linked to increase stress, depression, and unhealthy behaviors in addition to decreased access to basic resources including paid leave and quality child care. Those with lower wages are less likely to access preventive care services that insurance may cover, such as screenings for cancer, blood pressure and cholesterol. Poverty is considered a key driver of health status. Poverty creates barriers to access including health services, healthy food, and other necessities that contribute to poor health status. Families with low incomes often struggle to afford food, rent, childcare, and transportation.

In Milwaukee County in 2016, the annual unemployment rate was **5%**, compared to 4% in Wisconsin (Source: Bureau of Labor Statistics, 2016).

The median household income in the North Shore ranges from **\$55,239** in Brown Deer to **\$156,250** in River Hills. This compares to the Wisconsin household median income of \$55,357 (Source: United States Census Bureau, American Community Survey, 2011-15).

Table 33: Select Income Characteristics, North Shore and Wisconsin, 2011-15

| | North Shore | Wisconsin |
|---------------------------------------------------------------------------------------|-------------|-----------|
| Percent of population with income at or below 200% federal poverty level (FPL) | 17% | 30% |
| Percent of children (age 0-17) at or below 200% FPL | 15% | 39% |
| Per capita income | \$45,265 | \$28,339 |

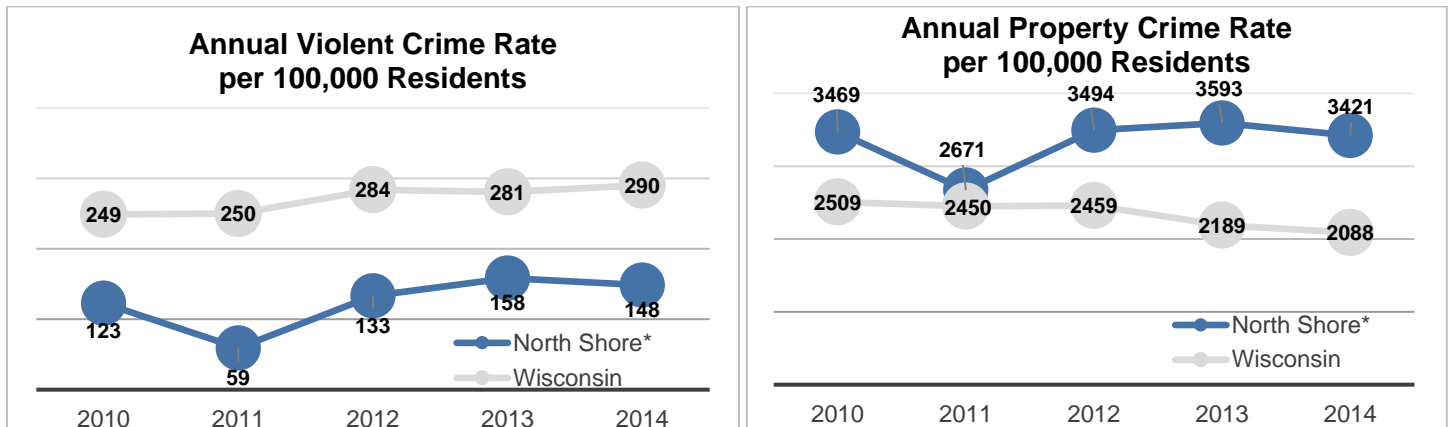
Source: US Census Bureau, American Community Survey, 2011-15

II. Community and Personal Safety

Community safety affects both physical and psychological well-being. Lack of safety or a perception of lack of safety instills anxiety and deters people from engaging in healthy behaviors such as exercise, outdoor play, and community building experiences.

The Uniform Crime Reporting (UCR) Program collects statistics on the number of offenses known to law enforcement. Eight offenses were chosen because they are serious crimes, they occur with regularity in all areas of the country, and they are likely to be reported to police. These crimes are categorized into violent crimes (murder and nonnegligent homicide, rape, robbery, and aggravated assault) and property crimes (burglary, motor vehicle theft, larceny-theft, and arson). Contributing local statistics to the UCR Program is voluntary, and four of the North Shore jurisdictions participate in it. For those four communities (Brown Deer, Glendale, Shorewood and Whitefish Bay), the total number of violent crimes in the five year period from 2010 to 2014 was 326, while the total number of property crimes in the same time period was 8725.

Figure 11: Rates of Violent and Property Crime, North Shore and Wisconsin, 2010-14



*Data from North Shore communities that contribute to UCR Program (Brown Deer, Glendale, Shorewood, Whitefish Bay)
 Source: Uniform Crime Reporting Program, 2017

Intimate Partner and Interpersonal Violence

In the North Shore in 2015, **4%** of adult survey respondents reported that in the last year someone made them afraid for their personal safety (6% in Milwaukee County); **4%** reported being pushed, kicked, slapped or hit (3% in Milwaukee County); and **7%** of respondents reported one or both (8% in Milwaukee County). This represents a statistically significant decrease in fear for personal safety since 2003, when 11% of respondents reported one or both (Source: North Shore Community Health Survey, 2015).

In Wisconsin in 2017, **24%** of high school students surveyed reported being bullied on school property, and **18%** reported being cyber-bullied in the previous year. In addition, **7%** of those surveyed reported being physically forced to take part in a sexual activity, and of the youth who had dated or went out with someone in the past 12 months, **10%** reported being forced by someone to do sexual things that they did not want to do (Source: 2017 Wisconsin Youth Risk Behavioral Survey, 2017).

III. Social Support

Family and social support includes the quality of relationships among family members, friends, colleagues, and acquaintances as well as involvement in community life. There is a strong association between social isolation and poor health outcomes. Social isolation causes stress, which has been linked to cardiovascular disease, unhealthy behaviors in adults, and obesity in children and adolescents. Stronger social supports are associated with better mental health and can be a buffer against stressful life events. Negative aspects of social support are associated with poorer mental and physical health over the lifespan.

Older adults (ages 65+) living alone may be at risk for social isolation, limited access to support, or inadequate assistance in emergency situations. While living alone should not be equated with being lonely or isolated, many older people who live alone are vulnerable due to social isolation, poverty, disabilities, lack of access to care, or inadequate housing. Lack of social support increases their risk of institutionalization or losing their independent lifestyle.

In 2017, Shorewood was recognized by the American Association of Retired Persons (AARP) as the first age-friendly community in Wisconsin.

Both adults and children in **single-parent households** are at higher risk for illness, mental health morbidity and mortality, and engagement in unhealthy behaviors. Self-reported health among single parents (both male and female) were found to be worse than for parents living as couples, even after controlling for socioeconomic characteristics.

Table 34: Measures of Social Support, North Shore and Wisconsin, 2011-15

| | North Shore | Wisconsin |
|---------------------------------------------------------------------------|-------------|-----------|
| Percent of older adults (Age 65+) living alone | 31% | 29% |
| Percent of children (age 0-18) living in a single-parent household | 17% | 29% |

Source: United States Census Bureau, American Community Survey, 2012-16

Physical Environment

I. Built Environment

The built environment includes human-made resources and infrastructure such as buildings, roads, parks, restaurants, and grocery stores. A community's built environment is important because where people live, learn, work, and play has a significant impact on a person's health.

Transportation choices that communities and individuals make have important impacts on health through items such as active living, air quality, and traffic crashes. Choices for commuting to work can include walking, biking, taking public transit, carpooling, or individuals driving alone—the last of which is the most damaging to the health of communities. Better pedestrian and transportation options help create healthier communities.

Table 35: Commuter Measures of Health, Milwaukee County and Wisconsin, 2016

| | Milwaukee County | Wisconsin |
|----------------------------------------------------------------------------|------------------|-----------|
| Percent of residents who commute to work by driving alone | 76% | 81% |
| Percent of residents who commute more than 30 minutes alone to work | 25% | 26% |

Source: County Health Rankings, 2017

Older housing and infrastructure increase the chance of exposure to substances that can cause adverse health effects, including childhood lead poisoning and asthma. The Public Service Commission of Wisconsin (PSC) is an independent agency responsible for regulating Wisconsin public utilities. The Wisconsin Electric, Gas, and Sewer Annual Reporting System (WEGS) is an electronic system by which public utilities file annual reports to PSC. According to WEGS, three North Shore communities report having lead lateral water lines, and all have decreased the percentage of lead laterals as they replace them with laterals made of plastic or other metals (Source: Wisconsin Public Service Commission, 2017). Bayside residents either connect to the Mequon Water Utility (all Bayside municipal lateral connections are plastic, not lead), or have private wells. River Hills residents have private wells, which are not included in public utility reports.

Table 36: Housing Stock Age, North Shore and Wisconsin, 2011-15

| | North Shore | Wisconsin |
|------------------------------------------------|-------------|-----------|
| Percentage of homes built prior to 1950 | 35% | 26% |
| Percentage of homes prior to 1960 | 59% | 37% |

Source: United States Census Bureau, American Community Survey, 2011-15

Table 37: Percent of Lead Service Laterals* in Municipal Water Supplies, North Shore Communities, 2015-16

| Village | % Lead Laterals in 2015 | % Lead Laterals in 2016 |
|---------------|-------------------------|-------------------------|
| Brown Deer | 0% | 0% |
| Fox Point | 5% | 5% |
| Glendale | 0% | 0% |
| Shorewood | 90% | 88% |
| Whitefish Bay | 64% | 59% |

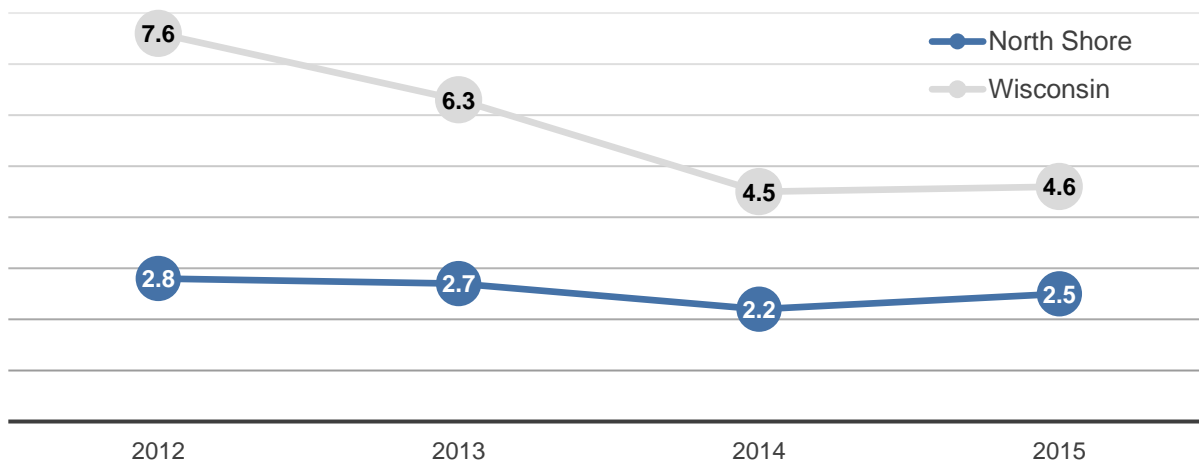
*The utility's service lateral is the pipe from the main to and through the curb stop, but not including the property owner's section from curb to house.

Source: Wisconsin Electric, Gas, and Sewer, Wisconsin Public Service Commission, 2017

Lead

Lead exposure can affect nearly every system in the body. Because lead exposure often occurs with no obvious symptoms, it frequently goes unrecognized. Young children are particularly vulnerable to the toxic effects of lead and can suffer profound and permanent adverse health effects, chiefly affecting the development of the brain and nervous system. Between 2012 and 2015, **90 children** in the North Shore who were tested had blood lead levels higher than 5µg/dL.

Figure 12: Percent of Lead Poisoned Children* Under Age 6, North Shore and Wisconsin, 2012-15



*Number of children under age 6 with blood lead levels 5µg/dL or higher divided by the number of children under age 6 tested

Source: Wisconsin Department of Health Services, Division of Public Health, 2017

II. Natural Environment

The natural environment includes a variety of factors, but air quality has a great impact on the very young, the old, and those with chronic health conditions. Because the majority of Milwaukee County is densely populated, and jurisdictional boundaries do not prevent movement of air, Milwaukee County values are valid descriptors of measures for the North Shore.

Air pollution can aggravate chronic bronchitis, asthma, and other lung diseases. Studies have shown an association between fine particle exposure and premature death from heart or lung disease, as well as aggravated respiratory conditions such as asthma and airway irritation. Most air pollution comes from the burning of fossil fuels. These pollutants can come directly from a smokestack or tailpipe, or they may be the result of a chemical reaction between these emissions and sunlight. Other pollutants are naturally part of the atmosphere, such as carbon dioxide or ozone, although human activities may release them in higher than normal quantities.

PM2.5: Particulate matter is classified according to diameter, with PM2.5 representing fine particles ($\leq 2.5 \mu\text{m}$). While all particle pollution poses a health risk, according to the United States Environmental Protection Agency (EPA), PM2.5 poses the greatest risk because of its ability to penetrate deep into the respiratory tract. Very small particles may also eventually spread to the bloodstream.

Environmental exposures impact densely-populated urban areas more heavily than rural areas with scattered populations. Measuring “person-days” takes into account both the number of days when EPA standards are exceeded and the population affected.

In 2011, Milwaukee County PM2.5 measures exceeded the EPA standard **951,566 person-days**, compared to 37,670 in Wisconsin.

In 2011, Milwaukee County Ozone measures exceeded the EPA standard **1,903,132 person-days**, compared to 102,969 in Wisconsin.

Source: Environmental Public Health Tracking Program, Wisconsin Department of Health Services, 2011

Table 38: PM 2.5 Measures, Milwaukee County and Wisconsin, 2011-13

| | Milwaukee County | Wisconsin |
|---------------------------------------------------------------------------------------------------|-------------------|------------------|
| Average daily level ($\mu\text{g}/\text{m}^3$), 2012 | 10.7 ¹ | 9.3 ¹ |
| Annual % of days above EPA 24 hour standard ($35 \mu\text{g}/\text{m}^3$), 2013 | 0.30 | 0.03 |
| Average annual concentration ($\mu\text{g}/\text{m}^3$), 2011 | 11.0 | 9.4 |

Sources: ¹County Health Rankings, 2017; Environmental Public Health Tracking Program, Wisconsin Department of Health Services, 2011 & 2013

Ozone can cause muscles in the airways to constrict, making it harder to breathe. Long term ozone exposure can aggravate asthma or emphysema, make lungs more susceptible to infection, and cause chronic obstructive pulmonary disease (COPD). In 2011, Milwaukee County had **two days** where ozone levels exceeded the EPA standards. The average in Wisconsin was 0.67 days (*Source: Environmental Public Health Tracking Program, Wisconsin Department of Health Services, 2011*).

Radon is a colorless, odorless, radioactive gas that has been implicated as the second leading cause of lung cancer, after smoking. Radon is produced from the decay of uranium-containing rocks and dirt. Radon can enter homes through cracks in floors or walls, near service pipes or construction joints, and open spaces inside walls. The level of radon in a building depends on the characteristics of the rock and soil in the area. As a result, radon levels vary greatly in different parts of the United States, sometimes even within neighborhoods. A radon level in excess of 4 pCi/L should follow up with long term testing, while levels above 20 pCi/L need immediate remediation. The NSHD sells short term radon test kits and tracks levels measured by residents using those tests. Between 2015 and 2017, 187 North Shore households tested radon levels with kits from the health department, and **36%** of home tested measured in excess of 4 pCi/L (*Source: Internal Health Department data, 2015-17*). Statewide, it is estimated that 1 in 10 homes has high radon levels (*Source: Wisconsin Department of Health Services, 2017*).

Next Steps

The North Shore Community Health Assessment is a comprehensive assessment of the health and quality of life for people living in the seven communities in the North Shore. All elements of our health assessment, including the Data Assessment, the Priorities Assessment, and the Stakeholder Assessment, serve as a starting point for improving health and increasing quality of life for all residents in our region.

As outlined in the Take Action Cycle for Community Health Improvement Planning, the next phase in this cycle is to “focus on what’s important.” Without focusing on several key priorities, all health areas seem important to address but our impact in any one area will be limited. As we move forward, the CHA provides us with information against which we can determine:

- Which health areas have the largest community impact?
- Which health areas have sufficient support and interest from the community and partners to address them?
- Which health areas have effective programs, policies and strategies available that we can implement to make a difference?

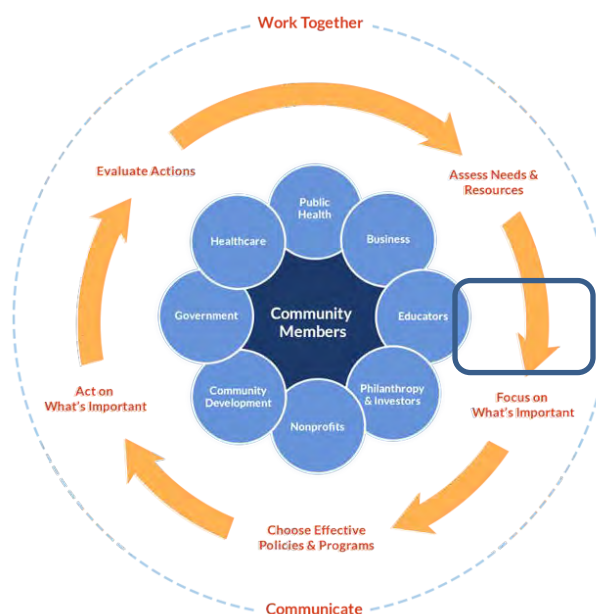
These criteria will be used to determine which health areas will be included in our Community Health Improvement Plan (CHIP).

To set community health priorities, the NSHD will be presenting the data and hosting a series of priority-setting workshops with residents and stakeholders in Spring and Summer of 2018. Our goal is to identify priority areas by Fall, 2018 and begin working on the North Shore Community Health Improvement Plan in late 2018.

The full Community Health Assessment, including the three reports (CHA-DA, CHA-PA, CHA-SA), is available on our website (www.nshealthdept.org/CHA). An abbreviated summary of all three reports is also available on the website and has been printed and distributed throughout the North Shore. We will continue to examine public health data to identify changes and new focus areas, as we see both CHA and the CHIP as dynamic processes rather than one-time reports.

While the overall health of North Shore residents is very good and in some cases, excellent, there are still many opportunities for improvement in health behaviors, our physical environmental, access to quality clinic care, and the social and economic conditions that drive health outcomes and our quality of life. We look forward to the challenge of working with the community to identify those priorities, choosing and implementing effective programs and policies, and evaluating our efforts to demonstrate our collective impact.

Community Health Improvement Take Action Cycle



Source: County Health Rankings and Roadmaps, 2013

Appendix A: Measures Used in North Shore 2017-2021 Community Health Data Assessment

Abbreviations:

ACS: Census Bureau, American Community Survey <https://www.census.gov/programs-surveys/acs/>

BRFS: Behavioral Risk Factor Survey <https://www.dhs.wisconsin.gov/stats/brfs.htm> (or <https://www.cdc.gov/brfss/index.html>)

CHR: County Health Rankings <http://www.countyhealthrankings.org/>

CHS: Community Health Survey <https://ahc.aurorahealthcare.org/aboutus/community-benefits/community-health-research/index.asp>

DHS: Department of Health Services <https://www.dhs.wisconsin.gov/>

DOT: Department of Transportation

EPHT: Environmental Public Health Tracking <https://www.dhs.wisconsin.gov/epht/index.htm>

NS: North Shore

NSHD: North Shore Health Department

PHP: Public Health Profiles <https://www.dhs.wisconsin.gov/stats/pubhealth-profiles.htm>

PRAMS: Pregnancy Risk Assessment Monitoring System <https://www.cdc.gov/prams/index.htm>

UCR: The Federal Bureau of Investigation (FBI) Uniform Crime Reporting Program <https://ucr.fbi.gov/>

WEDSS: Wisconsin Electronic Disease Surveillance System <https://www.dhs.wisconsin.gov/wiphin/wedss.htm>

WEGS: Public Service Commission of Wisconsin's Water, Electric, Gas and Sewer Annual Reports <http://apps.psc.wi.gov/vs2015/annualReports/content/listingWEGS.aspx>

WI: Wisconsin

WIR: Wisconsin Immunization Registry <https://www.dhs.wisconsin.gov/immunization/wir.htm>

WISEdash/DPI: Wisconsin Information System for Education/Department of Public Instruction <http://wisedash.dpi.wi.gov/Dashboard/portalHome.jsp>

WISH: Wisconsin Interactive Statistics on Health <https://www.dhs.wisconsin.gov/wish/index.htm>

YRBS: Youth Risk Behavior Survey <https://www.cdc.gov/healthyyouth/data/yrbs/data.htm>

Measures Used in North Shore Health Departments
2017-2021 Community Health Assessment

| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used | |
|--------------------------|-------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------|------------------|------------------|-----------------|------------------|
| Demographics | Foreign-born | % of population foreign-born (immigrants and naturalized citizens) | ACS 2011-2015 | North Shore | 9.50% | 4.80% | 2011-15 | |
| | Population Change | % of change in population 2010-2015 | 2010 US Census 2015 ACS mid-year estimate | North Shore | +0.4% | +1.8% | 2010 & 2015 | |
| | Population Density | % of population living in a rural area | 2010 US Census | County | 0.02% | 29.85% | 2010 | |
| | Population Density | Population density per square mile | ACS 2011-2015 | North Shore | 2687 | 106 | 2011-15 | |
| | Population Estimates | Population numbers by age group and gender | 2010 US Census | North Shore | p. 11 | - | 2010 | |
| | 65 and Older | % of population aged 65 years and older | ACS 2011-2015 | North Shore | 17% | 15% | 2011-15 | |
| | Race/Ethnicity | % of population that is African American, Asian, American Indian or Alaskan Native, or Hispanic | ACS 2011-2015 | North Shore | p. 12 | p. 12 | 2011-15 | |
| | Primary Language Spoken | % of population that speaks English, Spanish, Russian or German | ACS 2011-2015 | North Shore | p. 12 | p. 12 | 2011-15 | |
| | Mortality | Death Rate | Death rates per 100,000 for top causes of death | North Shore & Wisconsin Public Health Profiles, 2016 | North Shore | p. 13 | p. 13 | 2014 |
| | | Fall-Related Deaths | Fall-related death rate per 100,000, grouped by ages 65+ | WISH | Milwaukee County | p. 14 | p. 14 | 2015 |
| Drug-related Death Rates | | Drug overdose death rates | WI DHS data | North Shore | 17.0 per 100,000 | 14.8 per 100,000 | 2013-15 | |
| Deaths by Suicide | | Suicide/self-inflicted death rate per 100,000 by age group | WISH | Milwaukee County | p. 5 | p. 5 | 2015 | |
| Infant Mortality | | Rate per 1,000 live births | DHS WISH system | North Shore | 2.1 per 1,000 | 5.9 per 1,000 | 2011-2015 | |
| Morbidity | | Poor or Fair Health | % of adults self-reporting poor or fair health | NS Community Health Survey 2015; BRFS 2018 | North Shore | 11% | 16% | 2015 NS; 2016 WI |
| | Low Birth Weight | % of birth weights <2,500 grams | Public Health Profile 2016 | North Shore | 6% | 7% | 2015 | |
| | Mental Health Condition | % of adults reporting having a mental health condition in the past 3 years | NS & Milwaukee County Community Health Survey, 2015 | North Shore | 14.0% | - | 2015 | |

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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used |
|----------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------|------------------|-----------|--------|-----------------|
| Chronic Disease | Cancer | Incidence per 100,000 population by cancer site | Public Health Profile 2016 | North Shore | p. 17 | p. 17 | 2013 |
| | Cardiovascular/coronary Heart Disease Hospitalizations | Cardiovascular/heart disease hospitalization rate per 100,000 population | Public Health Profile 2016 | North Shore ZIPs | 232 | 281 | 2014 |
| | High Blood Pressure | % of residents reporting being told they have high blood pressure | NS Community Health Survey 2015; BRFSS 2015 | North Shore | 24.0% | 29.6% | 2015 |
| | Cerebrovascular Disease Hospitalizations | Cerebrovascular disease hospitalization rate per 100,000 population | Public Health Profile 2016 | North Shore ZIPs | 280 | 246 | 2014 |
| | Diabetes | Self-reported prevalence of Diabetes | NS Community Health Survey 2015 | North Shore | 11% | - | |
| | Diabetes Hospitalizations | Diabetes hospitalization rate per 100,000 population | Public Health Profile 2016 | North Shore ZIPs | 161 | 132 | 2014 |
| | Asthma | Self-reported prevalence of asthma | NS Community Health Survey 2015 | North Shore | 9% | - | |
| | Asthma Hospitalizations | Asthma hospitalization rate per 100,000 population | Public Health Profile 2016 | North Shore ZIPs | 180 | 90 | 2014 |
| | Total Hospitalizations | Total hospitalization rate per 1,000,000 | Public Health Profile 2016 | North Shore ZIPs | 11,338 | 10,415 | 2014 |
| | Cervical Cancer Screening | % of women 18+ who had a pap test in last 3 years | BRFSS, 2012, 2014, 2016 | North Shore ZIPs | 92% | 85% | 2012, 14, 16 |
| Chronic Disease Management | Mammogram | % of women 50+ who have had mammogram within past 3 years | NS Community Health Survey 2015 | North Shore | 89% | 82% | NS 2015 WI 2012 |
| | Colorectal Cancer Screening | % of 50+ population who ever had a sigmoidoscopy or colonoscopy | BRFSS, 2012, 2014, 2016 | North Shore ZIPs | 76% | 75% | 2012, 14, 16 |
| | Cholesterol Screening | % of adults had cholesterol checked within 5 years | BRFSS 2013, 2015 | North Shore ZIPs | 80% | 77% | 2013 & 2015 |
| | Breastfeeding at Hospital Discharge | Percentage of mothers who were breastfeeding upon discharge from the hospital | DHS WISH 2018 | North Shore | 93% | 82% | 2016 |

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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used |
|----------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------|-----------|----------|-----------------|
| Communicable Disease | Communicable Disease | Rate per 100,000 population of total number of confirmed cases of communicable disease in the North Shore | WEDSS 2017 | North Shore | pp. 20-21 | pp.20-21 | 2014-16 |
| | Influenza Hospitalizations | Rate per 100,000 population of total number of hospitalizations for influenza infection in the North Shore | WEDSS 2017 | North Shore | 70 | 47 | 2014-16 |
| | Sexually Transmitted Infections | Cases of STIs per 100,000 population; by disease and by age group | WEDSS, 2017; WI DHS STD Control, 2016 | North Shore | p. 22 | p. 22 | 2014-16 |
| | HIV Testing | % of adults (19-64) ever tested for HIV | BRFSS, 2014-16 | North Shore ZIPs | 57% | 34% | 2014-16 |
| | Influenza Immunization 65+ | % of population age 65 and older who received flu shots 7/1/16-6/30/17 | WI Immunization Registry (WIR) 2017 | North Shore | 58.6% | 56.6% | 2016-17 season |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of DTaP | WI Immunization Registry (WIR) 2017 | North Shore | 81% | 78% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of polio | WI Immunization Registry (WIR) 2017 | North Shore | 91% | 87% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of MMR | WI Immunization Registry (WIR) 2017 | North Shore | 92% | 86% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of Hib | WI Immunization Registry (WIR) 2017 | North Shore | 92% | 87% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of Hep B | WI Immunization Registry (WIR) 2017 | North Shore | 88% | 86% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of varicella | WI Immunization Registry (WIR) 2017 | North Shore | 90% | 84% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of PCV | WI Immunization Registry (WIR) 2017 | North Shore | 88% | 84% | 2016 |
| | Childhood Immunizations | % of children aged 19 to 35 months (as of Jan 1 2017) who received the recommended doses of the 4:3:1:3:3:1:4 Series | WI Immunization Registry (WIR) 2017 | North Shore | 76% | 73% | 2016 |

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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used |
|---------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------|-----------|-------|-----------------|
| Injury and Violence | Injury ER visits | Injury-related ER visits rate per 100,000 | WISH 2017 | Milwaukee County | p. 23 | p. 23 | 2014 |
| | Injury Hospitalizations | Injury-related hospitalization rate per 100,000 | WISH 2017 | Milwaukee County | p. 23 | p. 23 | 2014 |
| | Motor Vehicle Injuries | Motor vehicle crashes per municipality and crashes per roadway miles | WI DOT, 2017 | North Shore Communities | p. 24 | - | 2016 |
| | Alcohol and speed-related crashes | Number of alcohol-related or speed-related crashes | WI DOT, 2017 | North Shore Communities | p. 24 | - | 2011-16 |
| | Pedestrian and Bicycle Crashes | Number of pedestrian or bicycle crashes | WI DOT, 2017 | North Shore Communities | p. 24 | - | 2011-16 |
| | Self-Inflicted Injuries | Rate of self-inflicted ER visits and hospitalizations | WI Hospital ER and Inpatient Data Systems, 2016; WISH, 2017 | North Shore ZIPs | p. 25 | p. 25 | 2010-14 |
| Health Behaviors | | | | | | | |
| Physical Activity and Nutrition | Access to Exercise Opportunities | Percentage of individuals in county who live reasonably close to a location for physical activity (e.g., parks and recreational facilities) | County Health Rankings, 2017 | County | 99% | 81% | 2014 |
| | Overweight Adults | % adults self-reporting BMI \geq 25.0 | NS Community Health Survey 2015 BRFS, 2016 | North Shore | 55% | 60% | 2015, 2016 |
| | Physical Activity/Inactivity | % adults self-reporting meeting recommended moderate (5 times/30 min) or vigorous (3 times/20 min) weekly physical activity | NS Community Health Survey 2015 | North Shore | 56% | - | 2015 |
| | Adult Dietary Behavior | Percentage of adults (18+) who ate fruits 2+ times a day | NS Community Health Survey 2015 | North Shore | 68% | - | 2015 |
| | Adult Dietary Behavior | Percentage of adults (18+) who ate vegetables 3+ times a day | NS Community Health Survey 2015 | North Shore | 36% | - | 2015 |
| | Youth Dietary Behavior | Percentage of children (aged 5-17) who ate fruits 2+ times a day: | NS Community Health Survey 2015 | North Shore | 90% | - | 2015 |
| | Youth Dietary Behavior | Percentage of children (aged 5-17) who ate vegetables 3+ times a day | NS Community Health Survey 2015 | North Shore | 36% | - | 2015 |
| | Excessive Drinking | % of the adult population that reports binge drinking, defined as consuming more than 4 (women) or 5 (men) alcoholic beverages on a single occasion in the past 30 days | NS Community Health Survey 2015 BRFS, 2016 | North Shore | 24% | 24% | 2015 |
| Alcohol | Alcohol related hospitalizations | Alcohol-related hospitalization rate per 100,000 | Public Health Profiles, 2016 | North Shore ZIPs | 161 | 182 | 2014 |
| | Youth Alcohol Use | Multiple measures of self-reported youth alcohol use | YRBS 2015, 2017 | State | - | p. 28 | 2017 |

Measures Used in North Shore Health Departments
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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used |
|--------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------|-----------|----------|------------------|
| Substance Abuse | Drug related hospitalizations | Drug-related hospitalization rate per 100,000 | Public Health Profiles, 2016 | North Shore ZIPs | 60 | 62 | 2014 |
| | Youth Drug Use | Multiple measures of self-reported youth drug use | YRBS 2015, 2017 | State | - | p. 29 | 2017 |
| Tobacco | Adult E-cigarette use | % of persons aged ≥18 years who reported currently using e-cigarettes in the past month | NS Community Health Survey 2015 | North Shore | 4% | - | 2015 |
| | Adult Smoking | % adults self-reporting smoking in the past month | NS Community Health Survey 2015, BRFS 2016 | North Shore | 13% | 17% | NS 2015; WI 2016 |
| | Adult Smoking | % adult current smokers who tried to quit at least one day in last year | NS Community Health Survey 2015, BRFS 2016 | North Shore | 43% | 60% | NS 2015; WI 2016 |
| | Smoking During Pregnancy | % of mothers who report smoking during pregnancy | DHS WISH Prenatal Care Module | North Shore | 3% | 12% | 2015 |
| | Youth Tobacco Use | Multiple measures of self-reported youth tobacco use | YRBS 2015, 2017 | State | - | p. 30 | 2017 |
| | Tobacco Sales to Minors | % of illegal tobacco sales to minors | Wisconsin Wins | North Shore | 12% | 12% | 2017 |
| | Prenatal Care | Adequacy of prenatal care % received first-trimester prenatal care | WISH, 2016 | North Shore | 87% | 76% | 2016 |
| | Prenatal Care | Adequacy of prenatal care per Kessner index % received adequate care (begin in first trimester, 9+ visits) | WISH | North Shore | 79% | 73% | 2016 |
| | General fertility rate | number of live births per 1000 women aged 15-44 (general fertility rate) | Public Health Profile 2016 | North Shore | 55 | 62 | 2014 |
| | Preterm births | % of births < 37 weeks gestation | WISH | North Shore | 7% | 9% | 2015 |
| Reproductive and Sexual Health | Teen Birth Proportion | Percent of all births that were to teen mothers (under 20) | WISH | North Shore | 1% | 5% | 2015 |
| | Unintended Pregnancy | % of pregnancies where women were not trying to get pregnant; did not attempt to prevent pregnancy | PRAMS 2013 | WI | - | 38%; 46% | 2009-10 |
| | Youth Sexual Behavior | % of students who have ever had sexual intercourse | YRBS 2017 | WI | - | 34% | 2017 |
| | Youth Sexual Behavior | Among students who had sexual intercourse during the past three months, the percentage who used a condom during last sexual intercourse | YRBS 2017 | WI | - | 63% | 2017 |
| | Youth Gender Identity and Sexual Orientation | Multiple measures of self-reported youth gender identity and sexual orientation | YRBS 2017 | WI | - | p. 32 | 2017 |

Measures Used in North Shore Health Departments
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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used |
|---------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------|---------------------------------|-----------------|-----------|---------|-----------------|
| Clinical Health Care & Public Health Systems | | | | | | | |
| Access to Care | Uninsured | % total population that has no health insurance coverage | ACS 2011-2015 | North Shore | 5.0% | 7.9% | 2011-15 |
| | Uninsured | % of residents reporting no health care coverage (household member) within last year | NSCHS 2015 | North Shore | 4.0% | - | 2009-15 |
| | Uninsured | % of residents reporting no health care coverage (self) within last year | NSCHS 2015 | North Shore | 3.0% | - | 2009-15 |
| | Primary care physicians | Ratio of population to primary care physicians | County Health Rankings 2017 | County | 1,370:1 | 1,220:1 | 2016 |
| | Dentists | Ratio of population to dentists | County Health Rankings 2017 | County | 1,380:1 | 1,590:1 | 2016 |
| | Mental health providers | Ratio of population to mental health providers | County Health Rankings 2017 | County | 410:1 | 600:1 | 2016 |
| | Unmet Care | % of population self reporting having unmet medical care in the past 12 months | NS Community Health Survey 2015 | North Shore | 9% | - | 2015 |
| | Unmet Care | % of population self reporting having unmet dental care in the past 12 months | NS Community Health Survey 2015 | North Shore | 14% | - | 2015 |
| | Unmet Care | % of population self reporting having unmet mental health care in the past 12 months | NS Community Health Survey 2015 | North Shore | 4% | - | 2015 |
| | High School Diploma | % of the population age 25 and older that lacks a HS diploma or equivalent | US Census ACS 2011-15 | North Shore | 3.7% | 9.0% | 2011-15 |
| Health Literacy | English Proficiency | % of population 5+ that speaks English less than "very well" | US Census ACS 2011-15 | North Shore | 4.3% | 3.2% | 2011-15 |
| Social & Economic Factors | | | | | | | |
| Education | Reading Proficiency | % of third grade students proficient or advanced in English and Language Arts on the Forward Exam | WISEdash/DPI | School District | 43-67% | 42% | 2016-17 |
| | High School Graduation | 4-year High School Graduation Rate | WISEdash/DPI | School District | 92-96% | 88% | 2015-16 |
| | Average ACT Score | ACT scores for 2015-16 graduating class | WISEdash/DPI | School District | 19.3-25.6 | 20.3 | 2015-16 |
| | Educational Attainment | % of adults age 25 and older with an Associate's degree or higher | ACS 2011-2015 | North Shore | 65.9% | 37.9% | 2011-15 |
| | Educational Attainment | % of adults age 25 and older with a Bachelor's degree or higher | ACS 2011-2015 | North Shore | 60.2% | 27.8% | 2011-15 |
| | Educational Attainment | % of adults age 25 and older with a graduate or professional degree | ACS 2011-2015 | North Shore | 26.5% | 9.4% | 2011-15 |

Measures Used in North Shore Health Departments
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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used | |
|------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------|------------------|------------------|------|
| Employment & Adequate Income | Employment | Unemployment rate | BLS, 2016 | Milwaukee | 5.1% | 4.1% | 2016 | |
| | Median Household Income | Median household income (all residents of a household over age 18) | ACS 2011-2015 | North Shore | \$55,239-156,250 | \$55,357 | 2011-15 | |
| | Poverty, All Ages | % of population living below 200% of the Federal Poverty Line (FPL) | ACS 2011-2015 | North Shore | 16.6% | 30.4% | 2011-15 | |
| | Poverty, Children | % of children under 18 living below 200% of the Federal Poverty Line (FPL) | ACS 2011-2015 | North Shore | 15.4% | 38.8% | 2011-15 | |
| | Per capita Income | Income per capita | ACS 2011-2015 | North Shore | \$45,265 | \$28,339 | 2011-15 | |
| | Community & Personal Safety | Crime | Violent crime rate per 100,000 population (includes offenses that involve face-to-face confrontation between the victim and the perpetrator, including homicide, rape, robbery, and aggravated assault) | FBI's UCR Program, 2017 | BD, GL, SH, & WB | 148 per 100,000 | 290 per 100,000 | 2014 |
| | | Crime | Property crime rate per 100,000 population (includes burglary, motor vehicle theft, larceny-theft, and arson) | FBI's UCR Program, 2017 | BD, GL, SH, WB | 3421 per 100,000 | 2088 per 100,000 | 2014 |
| | | Personal Safety | Afraid for their personal safety in past year | NS Community Health Survey 2015 | North Shore | 4% | - | 2015 |
| | | Personal Safety | Pushed, Kicked, Slapped, or Hit in past year | NS Community Health Survey 2015 | North Shore | 4% | - | 2015 |
| | | Personal Safety | Either/or afraid for safety or physically hit in past year | NS Community Health Survey 2015 | North Shore | 7% | - | 2015 |
| Youth Violence | Youth Violence | % of students who have been bullied on school property during the past 12 months | YRBS 2017 | State | - | 24.2% | 2017 | |
| | Youth Violence | % of students who have ever been physically forced to take part in a sexual activity | YRBS 2017 | State | - | 7.2% | 2017 | |
| | Youth Violence | % of students who had dated/went out with someone in the past year and reported being forced to do sexual things they did not want to do | YRBS 2017 | State | - | 10.2% | 2017 | |
| | Youth Violence | % 65 years and older who live alone | ACS 2012-2016 | North Shore | 31.0% | 29.0% | 2012-16 | |
| Social Support | Single-parent Households | % of children that live in a household headed by a single parent | ACS 2011-2015 | North Shore | 17.00% | 29.49% | 2012-16 | |

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| Topic Area | Title | Measure | Source | Local Level | Statistic | WI | Years data used |
|-----------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------|-----------|---------|-----------------|
| Physical Environment | | | | | | | |
| Built Environment | Daily Commute | Percent of residents who drive alone to work | County Health Rankings 2017 | County | 76% | 81% | 2016 |
| | Daily Commute | Percent of residents who commute more than 30 minutes alone to work | County Health Rankings 2017 | County | 25% | 26% | 2016 |
| | Year Structure Built | % of housing units built prior to 1960 | ACS 2011-2015 | North Shore | 34.50% | 26.00% | 2011-15 |
| | Year Structure Built | % of housing units built prior to 1960 | ACS 2011-2015 | North Shore | 59.30% | 37.30% | 2011-15 |
| | Lead Laterals | % lead laterals by municipality | WEGS 2017 | North Shore | p. 41 | - | 2015-16 |
| | Lead Poisoned Children | Prevalence of elevated blood lead levels ($\geq 5\mu\text{g}/\text{dL}$) among children under age six | Wisconsin DHS, Division of Public Health | North Shore | 2.5% | 4.6% | 2015 |
| | Air Pollution -- Particulate Matter | Annual person-days over the EPA standard | WI Env. PH Tracking | County | 951,566 | 37,670 | 2011 |
| Natural Environment | High Ozone Days | The annual person-days with maximum 8-hour average ozone concentration above the National Ambient Air Quality Standard | Environmental Public Health Tracking Tool 2011 | County | 1,903,132 | 102,969 | 2011 |
| | Air Pollution -- Particulate Matter | The average daily measure of fine particulate matter in micrograms per cubic meter (PM _{2.5}) in a county | County Health Rankings 2017 | County | 10.7 | 9.3 | 2012 |
| | Air Pollution -- Particulate Matter | Percent of days above EPA 24 hour standard of 35 $\mu\text{g}/\text{m}^3$ annually | WI Env. PH Tracking | County | 0.30% | 0.03% | 2013 |
| | Air Pollution -- Particulate Matter | Average annual concentration of PM 2.5 in $\mu\text{g}/\text{m}^3$ | WI Env. PH Tracking | County | 11.00 | 9.39 | 2011 |
| | High Ozone Days | Annual days where ozone levels are above the EPA standard | Environmental Public Health Tracking Tool 2011 | County | 2.00 | 0.67 | 2011 |
| | Radon | Percentage of radon tests through North Shore Health Department measuring levels $\geq 4\text{pCi}/\text{L}$ | Internal Health Department Data | North Shore | 36% | - | 2015-17 |

Appendix B: North Shore Community Health Survey Report Methods

Survey data specific to the North Shore was commissioned by Aurora Health Care, Children's Hospital of Wisconsin, Columbia St. Mary's Health System, Froedtert Health, and Wheaton Franciscan Healthcare, in partnership with the North Shore Health Department and the Center for Urban Population Health. The report was prepared by JKV Research, LLC. For technical information about survey methodology, contact Janet Kempf Vande Hey, M.S. at (920) 439-1399 or janet.vandehey@jkvresearch.com. Reports for the North Shore Health Department and other Health Departments in Eastern Wisconsin can be found at: <https://ahc.aurorahealthcare.org/aboutus/community-benefits/community-health-research/>

The Methodology used in this survey, in brief, includes:

Data Collection Respondents were scientifically selected so the survey would be representative of all adults 18 years old and older in the service area. The sampling strategy was two-fold. 1) A random-digit-dial landline sample of telephone numbers which included listed and unlisted numbers. The respondent within each household was randomly selected by computer and based on the number of adults in the household (n=300). 2) A cell phone only sample where the person answering the phone was selected as the respondent (n=100). At least 8 attempts were made to contact a respondent in both samples. Screener questions verifying location were included. Data collection was conducted by Management Decisions Incorporated. A total of 400 telephone interviews were completed between March 16 and May 14, 2015.

Weighting of Data For the landline sample, weighting was based on the number of adults in the household and the number of residential phone numbers, excluding fax and computer lines, to take into account the probability of selection. For the cell-phone only sample, it was assumed the respondent, if an adult, was the primary cell phone user. Combined, post-stratification was conducted by sex and age to reflect the 2010 census proportion of these characteristics in the area.

Margin of Error With a sample size of 400, we can be 95% sure that the sample percentage reported would not vary by more than ± 5 percent from what would have been obtained by interviewing all persons 18 years old and older with telephones in the service area. This margin of error provides us with confidence in the data; 95 times out of 100, the true value will likely be somewhere between the lower and upper bound. The margin of error for smaller subgroups will be larger than ± 5 percent, since fewer respondents are in that category (e.g., adults 65 years old or older who were asked if they ever received a pneumonia vaccination). In 2013, the Census Bureau estimated 50,452 adult residents in the health department's service area. Thus, in this report, one percentage point equals approximately 500 adults. So, when 11% of respondents reported their health was fair or poor, this roughly equals 5,500 residents $\pm 2,500$ individuals. Therefore, from 3,000 to 8,000 residents likely have fair or poor health. Because the margin of error is $\pm 5\%$, events or health risks that are small will include zero. In 2013, the Census Bureau estimated 27,539 occupied housing units in North Shore. In certain questions of the Community Health Survey, respondents were asked to report information about their household. Using the 2013 household estimate, each percentage point for household-level data represents approximately 280 households.

More specifics on the measures, data interpretation, and statistical significance may be found within the report at: <https://ahc.aurorahealthcare.org/aboutus/community-benefits/community-health-research/art/north-shore-community-health-survey-report-2015.pdf>

Appendix C: North Shore ZIP Codes by Population

The North Shore Health Department jurisdictions include five ZIP Codes, four of which are shared with residents in the City of Milwaukee. When ZIP Code level data is the smallest available measure, data from ZIP Codes 53209, 53211, 53217, and 53223 are used. All residents of 53217 reside in North Shore communities. As seen below, 75% of 53209, 41% of 53211, and 60% of 53223 are Milwaukee residents. Because only 2% of 53212 residents are from the North Shore, that ZIP Code is not included in North Shore ZIP Code-based calculations.

| Municipality | Associated ZIP Code | Percent of ZIP Code population in the jurisdiction | Percent of jurisdictional population in the ZIP Code |
|---------------|---------------------|----------------------------------------------------|------------------------------------------------------|
| Brown Deer | 53209 | 5.8% | 18.8% |
| Glendale | | 19.3% | 79.1% |
| Milwaukee | | 74.9% | 4.4% |
| North Shore | | 25.1% | 18.1% |
| Shorewood | 53211 | 55.5% | 100.0% |
| Whitefish Bay | | 3.3% | 13.6% |
| Milwaukee | | 41.2% | 4.1% |
| North Shore | | 58.8% | 32.1% |
| Glendale | 53212 | 1.9% | 1.8% |
| Milwaukee | | 98.1% | 5.4% |
| North Shore | | 1.9% | 0.9% |
| Whitefish Bay | 53217 | 24.3% | 86.4% |
| Fox Point | | 22.3% | 100.0% |
| Bayside | | 16.4% | 100.0% |
| River Hills | | 12.8% | 100.0% |
| Glendale | | 22.7% | 19.1% |
| Milwaukee | | 1.1% | 0.1% |
| North Shore | | 98.5% | 44.3% |
| Brown Deer | 53223 | 40.3% | 81.2% |
| Milwaukee | | 59.7% | 3.4% |
| North Shore | | 40.3% | 18.3% |

Source: Melissa Global, ZIP Code Lookup, 2010 Census data

Appendix D: Determination of diseases included in Communicable Disease Case Categories

Communicable disease cases came from the Wisconsin Electronic Disease Surveillance System (WEDDS) and marked as either “confirmed” or “probable.” Diseases were then categorized as follows:

| VACCINE PREVENTABLE DISEASES |
|--------------------------------------------------------------|
| HEPATITIS A & B |
| HEPATITIS A |
| HEPATITIS B, ACUTE |
| HEPATITIS B, CHRONIC |
| HEPATITIS B, PERINATAL |
| HEPATITIS B, UNSPECIFIED |
| INFLUENZA-ASSOCIATED HOSPITALIZATION |
| MENINGITIS, ASEPTIC (VIRAL) |
| MENINGITIS, BACTERIAL |
| N. MENINGITIDIS (MENINGOCOCCAL DISEASE) |
| MENINGITIS, BACTERIAL OTHER |
| PERTUSSIS (WHOOPIING COUGH) |
| VARICELLA (CHICKENPOX) |
| MUMPS |
| OTHER VACCINE PREVENTABLE DISEASES |
| DIPHThERIA |
| TETANUS |
| HAEMOPHILUS INFLUENZAE, INVASIVE DISEASE |
| MEASLES (RUBEOLA) |
| VECTOR-BORNE DISEASES |
| VECTOR, MOSQUITO (+ INSECTS) |
| ARBOVIRAL ILLNESS, CALIFORNIA, NEUROINVASIVE |
| ARBOVIRAL ILLNESS, CALIFORNIA, NON-NEUROINVASIVE |
| ARBOVIRAL ILLNESS, CHIKUNGUNYA |
| ARBOVIRAL ILLNESS, DENGUE |
| ARBOVIRAL ILLNESS, FLAVIVIRUS |
| ARBOVIRAL ILLNESS, JAMESTOWN CANYON, NEUROINVASIVE |
| ARBOVIRAL ILLNESS, JAMESTOWN CANYON, NON-NEUROINVASIVE |
| ARBOVIRAL ILLNESS, LA CROSSE ENCEPHALITIS, NEUROINVASIVE |
| ARBOVIRAL ILLNESS, LA CROSSE ENCEPHALITIS, NON-NEUROINVASIVE |
| ARBOVIRAL ILLNESS, OTHER |
| ARBOVIRAL ILLNESS, POWASSAN, NEUROINVASIVE |
| ARBOVIRAL ILLNESS, POWASSAN, NON-NEUROINVASIVE |
| ARBOVIRAL ILLNESS, WEST NILE VIRUS, NEUROINVASIVE |
| ARBOVIRAL ILLNESS, WEST NILE VIRUS, NON-NEUROINVASIVE |
| ARBOVIRAL ILLNESS, ZIKA VIRUS DISEASE |
| ARBOVIRAL ILLNESS, ZIKA VIRUS INFECTION |
| CHAGAS DISEASE |
| MALARIA |
| VECTOR, TICK |
| BABESIOSIS |
| BORRELIOSIS, BORRELIA MIYAMOTOI |
| EHRlichIOSIS, E. CHAFFEENSIS |
| EHRlichIOSIS, E. EWINGII |
| EHRlichIOSIS/ANAPLASMOSIS, A. PHAGOCYTOPHILUM |
| EHRlichIOSIS/ANAPLASMOSIS, UNDETERMINED |
| LYME DISEASE (B.BURGDORFERI) |
| LYME DISEASE (B.MAYONII) |
| LYME LABORATORY REPORT |
| ROCKY MOUNTAIN SPOTTED FEVER |
| TULAREMIA |

| FOODBORNE/WATERBORNE DISEASES |
|----------------------------------------------------------------------|
| CAMPYLOBACTERIOSIS |
| CRYPTOSPORIDIOSIS |
| E-COLI |
| E-COLI, ENTEROINVASIVE (EIEC) |
| E-COLI, ENTEROPATHOGENIC (EPEC) |
| E-COLI, ENTEROTOXIGENIC (ETEC) |
| E-COLI, SHIGA TOXIN-PRODUCING (STEC) |
| GIARDIASIS |
| SALMONELLOSIS |
| SHIGELLOSIS |
| OTHER WATER/FOOD BORNE DISEASES |
| AMEBIASIS |
| BOTULISM-INFANT |
| BRUCELLOSIS |
| CYCLOSPORIASIS |
| ENTERIC-NOT REPORTABLE |
| FOODBORNE DISEASE OUTBREAK (2 OR MORE CASES FROM COMMON FOOD SOURCE) |
| LEGIONELLOSIS |
| LEPTOSPIROSIS |
| LISTERIOSIS |
| NOROVIRUS INFECTION (NORWALK/NORWALK-LIKE) |
| PLESIOMONAS INFECTION |
| TOXOPLASMOSIS |
| TRICHINELLOSIS |
| TYPHOID FEVER |
| VIBRIOSIS, NON CHOLERA |
| YERSINIOSIS |
| OTHER COMMUNICABLE DISEASES |
| HEPATITIS C + NON-VACCINE PREVENTABLE |
| HEPATITIS C |
| HEPATITIS C, ACUTE |
| HEPATITIS C, CHRONIC |
| HEPATITIS D, ACUTE |
| HEPATITIS E, ACUTE |
| STREPTOCOCCAL |
| RHEUMATIC FEVER |
| STREPTOCOCCAL DISEASE, INVASIVE, GROUP A |
| STREPTOCOCCAL DISEASE, INVASIVE, GROUP B |
| STREPTOCOCCAL INFECTION, OTHER INVASIVE |
| STREPTOCOCCUS PNEUMONIAE, INVASIVE DISEASE |
| TUBERCULOSIS |
| TUBERCULOSIS, LATENT INFECTION (LTBI) |
| MYCOBACTERIAL DISEASE (NON-TUBERCULOUS) |
| AFB SMEAR |
| TUBERCULOSIS, CLASS A OR B |
| PARAPERTUSSIS |
| COMMUNICABLE DISEASE, RARE-OTHER |
| ACUTE FLACCID MYELITIS |
| CAT SCRATCH DISEASE |
| HANTAVIRUS INFECTION |
| HANTAVIRUS INFECTION, OLD WORLD |
| LYMPHOCYTIC CHORIOMENINGITIS |
| METHICILLIN- OR OXICILLIN RESISTANT S. AUREUS (MRSA/ORSA) |
| METHICILLIN-RESISTANT S. AUREUS, FATAL COMMUNITY ASSOCIATED |
| METHICILLIN-RESISTANT S. AUREUS, ISOLATED |
| RESPIRATORY DISEASE OUTBREAK |

| OTHER COMMUNICABLE DISEASES, CON'T |
|-----------------------------------------------|
| TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHY (TSE) |
| UNUSUAL DISEASE |
| BORDETELLA HOLMESII |
| HANSEN'S DISEASE (LEPROSY) |
| Q FEVER, ACUTE |
| Q FEVER, CHRONIC |
| TOXIC SHOCK SYNDROME, STAPHYLOCOCCAL |
| TOXIC SHOCK SYNDROME, STREPTOCOCCAL |
| TOXIC SHOCK SYNDROME, UNSPECIFIED |
| VANCOMYCIN-INTERMEDIATE S. AUREUS (VISA) |
| VANCOMYCIN-RESISTANT ENTEROCOCCI (VRE) |
| VANCOMYCIN-RESISTANT S. AUREUS (VRSA) |
| BLASTOMYCOSIS |
| COCCIDIOIDOMYCOSIS |
| HISTOPLASMOSIS |
| ELIZABETHKINGEMIA |
| INFLUENZA |
| INFLUENZA-ASSOCIATED PEDIATRIC MORTALITY |
| INFLUENZA-NOVEL INFLUENZA A |

| SEXUALLY TRANSMITTED DISEASES |
|-----------------------------------------------------|
| SYPHILIS |
| SYPHILIS REACTOR |
| SYPHILIS, CONGENITAL |
| SYPHILIS, EARLY LATENT |
| SYPHILIS, LATE LATENT |
| SYPHILIS, LATE WITH CLINICAL MANIFESTATIONS |
| SYPHILIS, PRIMARY |
| SYPHILIS, SECONDARY |
| HERPES, GENITAL (1ST EPISODE) |
| PELVIC INFLAMMATORY DISEASE (NON GC, NON CT) |
| CHLAMYDIA TRACHOMATIS INFECTION |
| GONORRHEA |

Note: Four WEDSS categories were not included in these counts (Hemolytic Uremic Syndrome, Kawasaki Disease, Methemoglobinemia, and Not Reportable)