Pierce County Community Health Needs Assessment

2022

Virginia Mason Franciscan Health™

MultiCare

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We thank the many community organizations that supported community workshops and key leader interviews.

Centro Latino

Clover Park School District/Lakes High School

Degrees of Change

Emergency Food Network

First 5 Fundamentals

Franklin Pierce School District

Graduate Tacoma

Greater Tacoma Community Foundation

Mary Bridge Children's

Oasis Youth Center

Pierce College

Pierce Transit

TACID

Tacoma Community College

Tacoma Housing Authority

Tacoma Pierce County Coalition to End Homelessness

Tacoma Public Schools

Pierce Transit

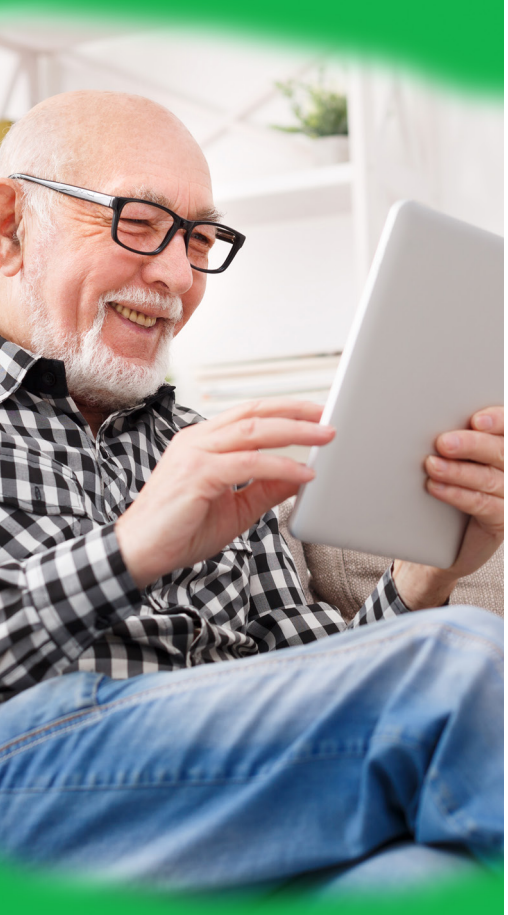
Rainbow Center

HOSPITALS REPRESENTED IN THIS REPORT:

MultiCare Health System
Allenmore Hospital
Good Samaritan Hospital
Tacoma General Hospital

Virginia Mason Franciscan Health
St. Anthony Hospital
St. Clare Hospital
St. Joseph Medical Center
Virginia Mason Franciscan Health Rehabilitation Hospital

MultiCare and Virginia Mason Franciscan Health
Wellfound Behavioral Health Hospital



Executive Summary

MultiCare Health System (MHS) and Virginia Mason Franciscan Health (VMFH) in partnership with the Tacoma-Pierce County Health Department (TPCHD) have conducted a Pierce County Community Health Needs Assessment (CHNA) to identify current health issues facing residents. This CHNA includes the results of a comprehensive review of select health indicator data along with stakeholder input.

As a partnership, we recognize the importance of monitoring community health indicators along with ongoing community priorities and needs during and after the pandemic to support the longevity, health, and well-being of our diverse communities. While this report does not focus on the impacts of COVID-19, it is nearly impossible to assess community needs without factoring in the impacts of such a major event.

The CHNA report presents data on indicators prior to the onset of the pandemic, and highlights areas in which community members were most vulnerable and may continue to be disproportionately burdened. Data are presented for the most recent years we have available — in most cases, from 2018 or before. Indicators were selected jointly and based on mutual programmatic and other interests.

Stakeholder input is described in detail as a part of the Community Engagement section.

Taken together, these data can help understand the needs of Pierce County.

This CHNA fulfills Section 9007 of the Affordable Care Act, as well as Washington state CHNA requirements. This report includes data on:

- Demographics of the community
- Life expectancy and leading causes of death
- Chronic illnesses

The CHNA process included asking community members for their perspectives, concerns, thoughts and ideas. For this report, CHNA partners made a deliberate decision to speak with individuals with either direct lived experience or who work with those who do. This information is intended to inform how both MHS and VMFH direct resources, plan programs and make decisions for the future in a way that considers the thoughts and opinions of their stakeholders.

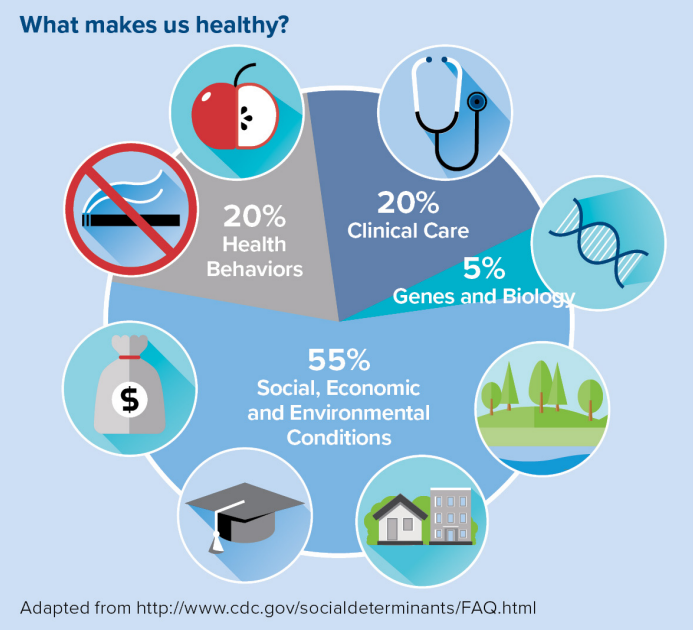
These community engagement activities included three community workshops with residents, and ten interviews with local organizational leaders. MultiCare Health System, Virginia Mason Franciscan Health and TPCHD pledge to continue to engage community stakeholders throughout the CHNA process not simply as sources of input but as equal partners with shared accountability and investment in addressing health concerns.

Executive Summary

Continued

COMMITMENT TO HEALTH EQUITY

Throughout the CHNA process, social determinants of health provided the framework for both the community engagement process and to focus attention on the importance of neighborhood and community conditions. Income, education, housing and transportation create opportunities and barriers to health. As well, health should not be determined by race, zip code, income, gender identity or any other factor.



PRIORITY HEALTH NEEDS

Priority health needs were selected using the methodology outlined in the Supplement ("Selection of Priority Health Needs"). A copy of the scoring rubric is located at the end of the document. Using this methodology and rubric, the following health needs were identified as priorities for MultiCare Health System and Virginia Mason Franciscan Health to address both individually and jointly:

- **Behavioral Health**
  - Drug related deaths
  - Anxiety and depression (youth)
  - Marijuana use (youth)
- **Chronic Disease**
  - Hypertension
  - Obesity
- **Access to Care**
  - Insurance coverage
  - Routine dental check-ups (youth)
- **Maternal Child Health**
  - Low birth weight
- **Violence**
  - Child abuse and neglect (youth)
  - Exposure to violence (youth)
  - Intentional injury hospitalizations

Executive Summary

Continued

Each of these topics provides for broad opportunity for collaboration, programmatic and investment expansion.

Three topics (domains) were identified as a part of the community engagement process and provide an important context for understanding priority health needs and concerns. These concerns were mentioned by the community members who participated in focus groups and stakeholder interviews as both specific and broad themes that impact the daily lives of Pierce County residents. These concerns include:

1. **Barriers to accessing healthcare.**
2. **Institutional and structural racism.**
3. **Challenges residents have meeting basic needs.**

As part of this assessment, both MHS and VMFH are committed to finding ways to align efforts across organizations, learn about best practices to support these areas, and encourage organizations to collectively invest in data, programs, and policies to promote health among Pierce County residents. Collaboration and partnerships between public health, health systems, behavioral health systems, and community organizations will continue to be important in developing effective implementation strategies to address Pierce County in these areas.

Introduction

Pierce County, Washington Community Health Needs Assessment 2022

Virginia Mason Franciscan Health (VMFH) and MultiCare Health System (MHS) contracted with the Tacoma-Pierce County Health Department to conduct a comprehensive Community Health Needs Assessment (CHNA). The process included quantitative analyses and qualitative interviews and focus groups with community leaders and residents of Pierce County representing several key population groups disproportionately affected by health disparities.

Together, VMFH and MHS operate nine hospitals in Pierce County. Virginia Mason Franciscan Health has four hospitals – St. Anthony Hospital, St. Clare Hospital, St. Joseph Medical Center, and Virginia Mason Franciscan Health Rehabilitation Hospital. MultiCare Health System also has four hospitals in the county – Tacoma General Hospital, Good Samaritan Hospital, Mary Bridge Children's Hospital, and Allenmore Hospital. Mary Bridge Children's Hospital has a separate needs assessment due to their focus on youth and wider service area. This report also represents Wellfound Behavioral Health Hospital, which is jointly operated by both VMFH and MHS.

PURPOSE

The purpose of this report is to describe health issues, what impacts those issues have on the community and how these concerns may be addressed. In addition, this report is intended to share the emerging health needs of Pierce County, including:

- What residents have to say about important issues facing Pierce County
- Health behaviors and health outcomes of residents
- Priority health needs

This report contains information that can be used to respond to an evolving community and new challenges.

Introduction

Continued

METHODS

To develop this report, TPCHD collected and analyzed an array of data sources to describe the health of the community. These data sources include:

- Community workshops
- Key informant interviews
- Selected health indicator data

The report summarizes:

1. Community characteristics
2. Life expectancy
3. Leading causes of death
4. Leading causes of hospitalizations
5. Levels of chronic illness
6. Access to healthcare, use of preventive services and oral health
7. Maternal and child health
8. Injury and violence prevention
9. Behavioral health

Select resources available to the community are at the end of each section. More details about the methods used to develop this report are in the Supplement.

HEALTH EQUITY AND SOCIAL VULNERABILITY

The conditions in which we live have a big impact on our health and well-being. For example, people who live in wealthier neighborhoods tend to be healthier than those who live in poorer neighborhoods. Likewise, people targeted by racism and others forms of discrimination tend to get sick more often than those who are not targeted. According to the U.S. Centers for Disease Control and Prevention (CDC), health equity is achieved when every person has the opportunity to "attain his or her full health potential" and no one is "disadvantaged from achieving this potential because of social position or other socially determined circumstances." Achieving health equity requires creating an even playing field, focused and ongoing societal efforts to address historical and contemporary injustices; overcoming economic, social, and other obstacles to health and healthcare; and eliminating preventable health disparities.

There are different ways to measure the level of social and economic advantage within a community or population, something experts often refer to as socioeconomic position (SEP). One option involves creating a summary index that can be used to measure and compare the level of social vulnerability between groups. CDC defines social vulnerability as

Introduction

Continued

"a community's resilience when faced with external stressors".[1] As a group, people who are more socially vulnerable are less resilient, and vice versa. This means they are less able to avoid or protect themselves from things that might threaten their health. Differences in social vulnerability can increase risk for disease, shorten lifespans, and contribute to health inequities. Reducing social vulnerability can decrease human suffering and lead to stronger, healthier communities.

Traditionally, we have measured social vulnerability based on individual factors (household income, educational achievement, race/ethnicity, and access to transportation). VMFH and MultiCare chose to look beyond these individual factors and use social vulnerability to better understand existing disparities within a geographical area (community). The Social Vulnerability Index (SVI) combines 15 individual measures (including the four just mentioned) into one summary indicator, and then calculates a score or percentile ranking. Scores are calculated at the census-tract level, using data routinely collected from the U.S. Census Bureau. A lower SVI score corresponds to a lower level of social vulnerability (or more resilience), and vice versa.

According to the US Climate Resilience Toolkit, *"Social vulnerability is a term describing how resilient a community is when confronted by external stresses on human health. These stresses can range from natural or human-caused disasters to disease outbreaks. By reducing social vulnerability, we can decrease both human suffering and economic losses."* Looking at SVI allows us to identify disparities that may not be seen otherwise and is another way to highlight disparities that exist throughout Pierce County. **This identifies areas that may benefit from targeted interventions in the future.** For more information about SVI, please visit the CDC website.[2]

Note: It is important to remember that social vulnerability is not a measure of individual health or how strong or weak individuals are within a community. Instead, it reflects the conditions in which individuals within a community live, and how easy or difficult it is for the entire community to be happy, healthy and prosperous. SVI measures how a community can respond to stressors.

Within this report, we sorted Pierce County census tracts (n=172) by SVI score. We then divided this list into four equally sized groups (or tiers), based on the range of the SVI scores in all 172 tracts. Finally, we compared rates of disease between people (in aggregate) who live in each tier.

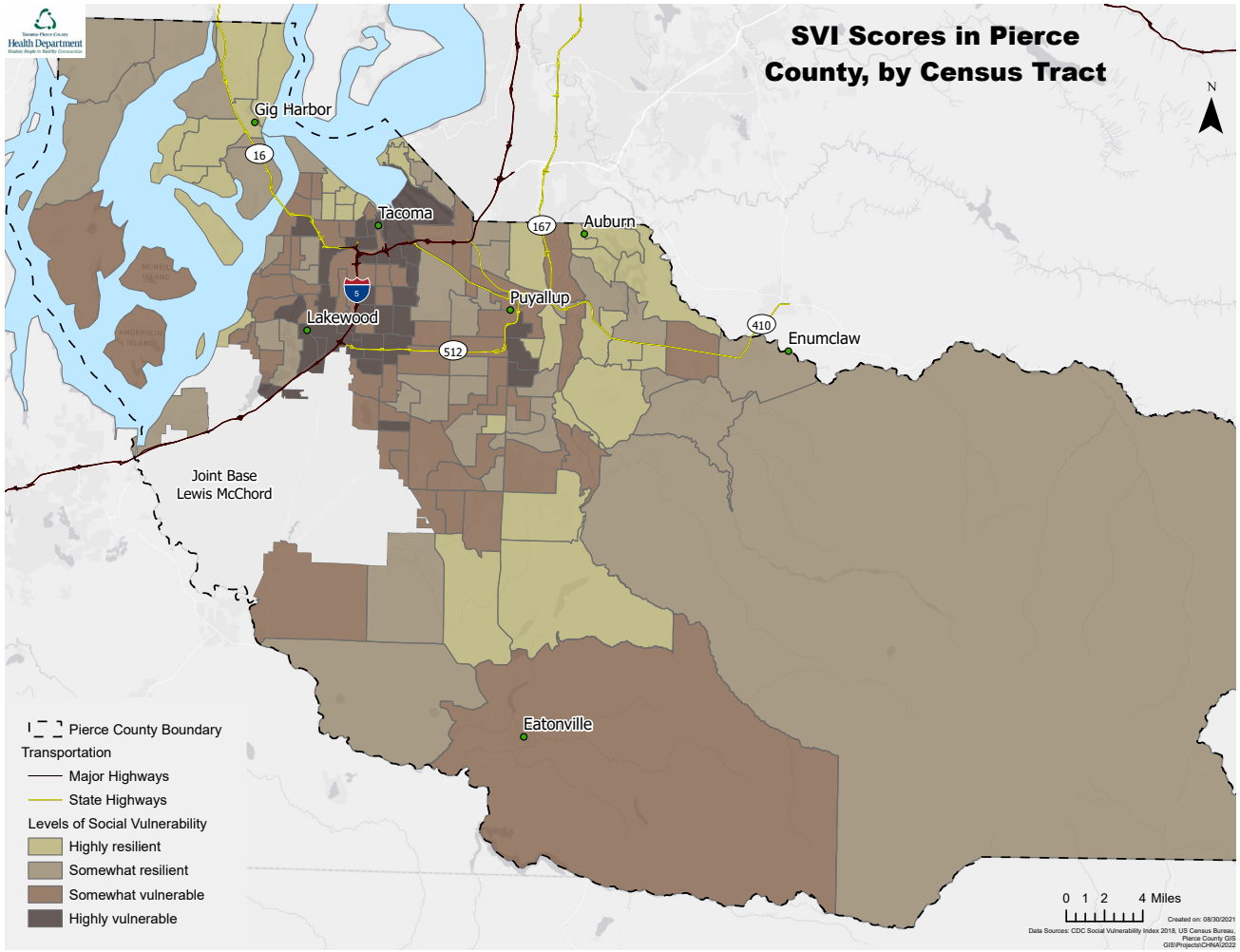
[1] https://www.atsdr.cdc.gov/placeandhealth/svi/index.html
[2] https://www.atsdr.cdc.gov/placeandhealth/svi/index.html

Table 1.
Groups of Census Tracts Based on SVI Score

Group Label	SVI Score
Highly resilient	0.0 – 5.8
Somewhat resilient	5.8 – 7.5
Somewhat vulnerable	7.5 – 9.0
Highly vulnerable	9.0 or greater

Due to data availability at the census-tract level, we were not able to use SVI for every indicator in this report. SVI was used for the following seven indicators: disability, percent insured, inadequate prenatal care, low birth weight, and lung, colorectal and breast cancer.

Map 1.
SVI Scores in Pierce County, by Census Tract



Community Engagement

Ongoing and meaningful community engagement can significantly improve hospital/healthcare system efforts to address community health and social outcomes. The community engagement portion of this needs assessment is intended to provide the important context to the quantitative data presented and to enhance a generalized understanding of Pierce County residents' needs. It's important to note that assessment collaborators recognize the need to elevate the of Black, Indigenous and persons of color (BIPOC) voices and designed the community engagement part of this assessment to do just that.

Key themes that emerged from the two methods used are described below.

METHODS

Two methods to hear from Pierce County residents were used – community workshops (focus groups) and stakeholder interviews. These methods are described in detail in the following sections.

Throughout the qualitative data collection process, we were committed to using participatory practices as possible. Individuals were invited to become a part of a process to improve the health of their community by sharing their experience, knowledge and suggestions and by helping shape the process. Both focus group and stakeholder interview participants received the questions ahead of time and were asked for input (i.e. did the questions make sense to them? Would they suggest re-wording the questions?). Participants received notes immediately following interviews and were encouraged to provide corrections, clarifications, etc.

Our objective was to listen to those with lived experience in Pierce County. Results of the assessment will be shared with participants for ongoing involvement.

Community Workshops (focus groups)

The purpose of the community workshops was to hear directly from residents in small group settings. Three focus groups were held, comprising Pierce County residents and based on gaps identified by MultiCare Health System and Virginia Mason Franciscan Health. The populations of interest were selected based on gaps identified in previous assessments, the need for trust building and recognized health disparities. Focus groups were held with the following:

- LGBTQ adults
- Youth (ages 14 – 17)
- People experiencing homelessness

All three focus groups included people representing diverse race, ethnicity, gender, and sexual orientations. This diversity allowed for discussions and interviews to assess intersectionality whenever this organically came up. Recruitment for focus groups occurred through word of mouth invitations.

Community Engagement

Continued

These marginalized populations often experience significantly greater barriers to accessing healthcare and can also experience worse health outcomes due to a wide variety of factors (i.e. sexual identity, racism, etc.). Those who attended the workshops were promised confidentiality and consented to participate by attending the workshop.

Due to COVID-19 safety precautions, the LGBTQ focus group was held online. The youth focus group was held in person (high ventilation and masks required) and parental consent was obtained for all participants. The focus group comprising residents living unhoused was held in person (outdoors and masks required).

All participants were given a $30 gift card to compensate them for their time. In addition, participants received transcripts from their focus group or interview allowing them an opportunity to see the notes and make corrections before the notes were analyzed.

Data analysis of workshop notes was performed simultaneously by the workshop group facilitator and a TPCHD analyst using coding to identify emergent themes. Health Department staff used Atlasti.com qualitative data analysis software to code the transcripts. Focus group transcripts were first analyzed for content and then to see if the participant was describing something that happened in an organization, in the community, in a public policy, or in an interpersonal interaction.

Analysts used inductive coding to look for patterns across content of the interviews and the space the participants were describing (such as in the community, in an organization, in an interpersonal relationship, etc.). Patterns were then reviewed to see if participants were describing a problem or a solution.

Key informant interviews

We conducted ten interviews with Pierce County organizational leaders across seven sectors. Interviews were approximately 60 minutes in length, and all were held online due to COVID-19 safety precautions. MultiCare and Virginia Mason Franciscan provided the Health Department with more than 30 names of suggested local leaders. Ten participants were selected based on the following criteria:

1. Individual is either a person of color or represents/works on behalf of marginalized populations.
2. Represents key sectors of business, non-profit, education, transportation, health and human services, local government, and law enforcement/first responders.
3. Was not interviewed for the previous 2018-2019 CHNA (to avoid redundancy in data and to promote diversity).
4. Available within the project timeline.

Community Engagement

Continued

Interviewees were promised confidentiality and consented to participate.

Data analysis of workshop notes was performed simultaneously by the workshop group facilitator and a TPCHD analyst using coding to identify emergent themes. Health Department staff used Atlasti.com qualitative data analysis software to code and analyze the notes.

Analysts used inductive coding to look for patterns across content of the interviews and the space the interviewees were describing (such as in the community, in an organization, in an interpersonal relationship, etc.). Patterns were then reviewed to see if the informants were describing a problem or a solution.

QUESTIONS

MultiCare Health System and Virginia Mason Franciscan Health collaborated with the Health Department staff on questions for both key stakeholders and community workshops. The objective was to ask the same open-ended questions to both audiences to understand perspectives and root causes of population health issues from individual viewpoints. Additionally, by asking "what do you think healthcare can do?" participants were given the chance to share their thoughts on potential solutions to problems that were identified by themselves or others.

1. *What are the most important issues and concerns you (or your customers/constituents) are currently facing?*
   - *What do you think healthcare can do to help?*
2. *How and where are you currently seeing evidence of racism in Pierce County?*
   - *What do you think needs to change?*
   - *What do you think healthcare can do to help?*

Themes (from combined key informant interviews and focus groups)

Because both audiences were asked the same set of questions, themes were identified from combined results. The themes that were identified indicate that Pierce County residents are experiencing, and leaders are observing similar issues. In other words, there were no noteworthy differences between what was heard from workshop participants and key stakeholders. Participants identified both problems and solutions at institutional, community and interpersonal levels.

Community Engagement Results

Continued

Barriers to healthcare.

Both community members and organizational leaders referred to the systemic barriers to healthcare for many members of the Pierce County community.

Examples of barriers included lack of provider diversity (preventing some from feeling welcome and comfortable seeking care), lack of insurance, cost of healthcare (even if insured), and provider shortage (resulting in difficulty getting care. Several groups mentioned the need for cultural competence, specifically related to the need for healthcare institutions to be prepared to serve all people, regardless of race, ethnicity, class, gender, sexual orientation, religion, etc. One significant barrier that was mentioned by multiple community members was the lack of mental health providers.

Selected participant quotes:

"Help providers get what they need to serve diversity."
– Focus group participant (community member)

"In general, with racism, I see it even more so with Black women and trans Black women seeing the healthcare they need and downplaying the things they [are] trying to seek help for. Also not being heard. Not being taken seriously. Everyone's pain should be taken seriously."
– Focus group participant (community member)

"I see racism in the healthcare system. Clearly. If there was not racism within policies, structures, there wouldn't be these gaps in metrics that we see. Shouldn't matter if folks have insurance."
– Focus group participant (community member)

"Mental health support. Not enough therapists who take insurance and are affordable and accessible."
– Focus group participant (community member)

Community Engagement Results

Continued

Institutional and structural racism.

Participants – particularly those in organizational leadership positions – talked about systemic problems within local, state, and federal programs and institutions. We heard references to issues related to trust, lack of opportunities for leadership and civic engagement (civic power) as well as hiring practices.

Some participants mentioned a disconnect between those in positions of decision making and those affected by decisions. In other words, decision makers are perceived to be out of touch with how their decisions impact constituents or customers.

Lastly, both focus group and key stakeholders spoke extensively about the pervasiveness of racism. Participants mentioned evidence and impacts of racism in community, institutional and interpersonal settings, including everything from race related skirmishes in public, microaggressions, and the disproportionate impacts racism plays on individual health.

Selected participant quotes:

"Everywhere you see a discrepancy based on race, there's something else going on. It's because of a system or structure. Education, housing, policing, health system – we must dig to understand the system impacting it. Anywhere there's a discrepancy in the data, it's about race."
– Key informant (community leader)

"Advice for leadership: Don't be afraid to get it wrong. You will offend. You will polarize. That is the job of leadership. Especially in healthcare. Lead with systemic racism. You will find better opportunities…Inclusionary practices. Rub some people wrong. Hold steady.... OK to fail. Be confident. Weather the storm."
- Key informant (community leader)

"I see evidence of racism in everything that's systematic. Education. Access to healthcare. Rental assistance."
– Focus group participant (community leader)

"Systemic racism is a long-standing problem. Often, it's not even known by the agencies that keep it in place; that keep us in the endless cycle."
– Focus group participant (community member)

"Conversations don't center BIPOC populations. BIPOC populations aren't on boards. We have to make sure we are signaling this out. Hear the voices and responding. There may be members of groups. People may feel uncomfortable. There has been civil unrest for centuries. Change relies on accountability."
– Key informant (community member)

Community Engagement Results

Continued

Challenges meeting basic needs.

Many participants – community members and organizational leaders alike – spoke of the challenges residents face meeting their basic needs. Housing, transportation, healthy food, childcare, healthcare, access to banking services (credit), etc. COVID-19 exacerbated all these pre-existing challenges.

The impacts of social determinants of health have become deeper and more profound, affecting the most vulnerable. Availability and cost of childcare, transportation, access to healthy food, education, stable housing, basic needs, etc. all impact marginalized populations to a greater degree.

Selected participant quotes:

"Food and shelter are the basic issues all people have a right to and are now not able to get."
- Focus group participant (community member)

"What are health impacts to lack of food and shelter? Delaying medical care."
- Focus group participant (community member)

"Long term disability. COVID 19 has a resulting long-term disability on many people."
- Focus group participant (community member)

"Alcohol and drug abuse. Students maybe abuse products that impact their bodies and minds due to trauma. How to cope and escape. COVID has made this worse. Alternative options are available."
- Focus group participant (community member)

"People who have never tried to access services are now needing to access and services are not available."
- Focus group participant (community member)

Community Engagement

Continued

Building on strengths and resources.

The following opportunities for improvement were mentioned by interview and focus group participants as a way for healthcare systems to use their existing strengths and resources to meet community needs.

- **Greater transparency about availability of patient's financial assistance and how it is disbursed.**
- **Increase funding for prevention programs to help avoid use of the emergency department.**
- **Healthcare can serve as models for providing onsite childcare and/or childcare stipends for employees.**
- **Increase training and resources for culturally relevant healthcare.**
- **Healthcare and other institutions should partner with farmers markets to increase local access to fresh food.**
- **Advocate for policy change so that K-12 students are automatically opted in to receive free and reduced price lunch (vs. having to opt out).**

Community Engagement

Continued

Additional qualitative data: COVID-19 Health Equity Assessment

Tacoma-Pierce County Health Department (Health Department) completed this assessment to inform COVID-19 response and recovery efforts. The full report can be found here.

This assessment found that adverse social, economic, and environmental conditions make individuals and communities more susceptible to negative effects of the COVID-19 pandemic. Structural racism is a key driver of the disproportionate effects of COVID-19 among those who are Black, Indigenous, and a Person of Color. We analyzed surveillance data to determine risk groups and where cases are most concentrated. We measured the association between rates of COVID-19 infection and the prevalence of social and economic conditions that can affect health, such as race, income, and educational achievement. Most importantly, we hosted listening sessions with those who are most at-risk to understand the effect the pandemic has had on them and their families, and how well they have found support during these challenging times.

Overall, we found an abundance of evidence suggesting the effect of COVID-19 on our community has been substantial, disproportionate, and preventable. For example, people of color experience higher rates of infection compared to white residents. Also, we found that people residing in areas with comparatively poor social and economic conditions (e.g., lower income or limited English) were much more likely to become infected.

Because of the timely nature of this assessment, the themes identified in this assessment are listed below and included in this report.

Community Engagement

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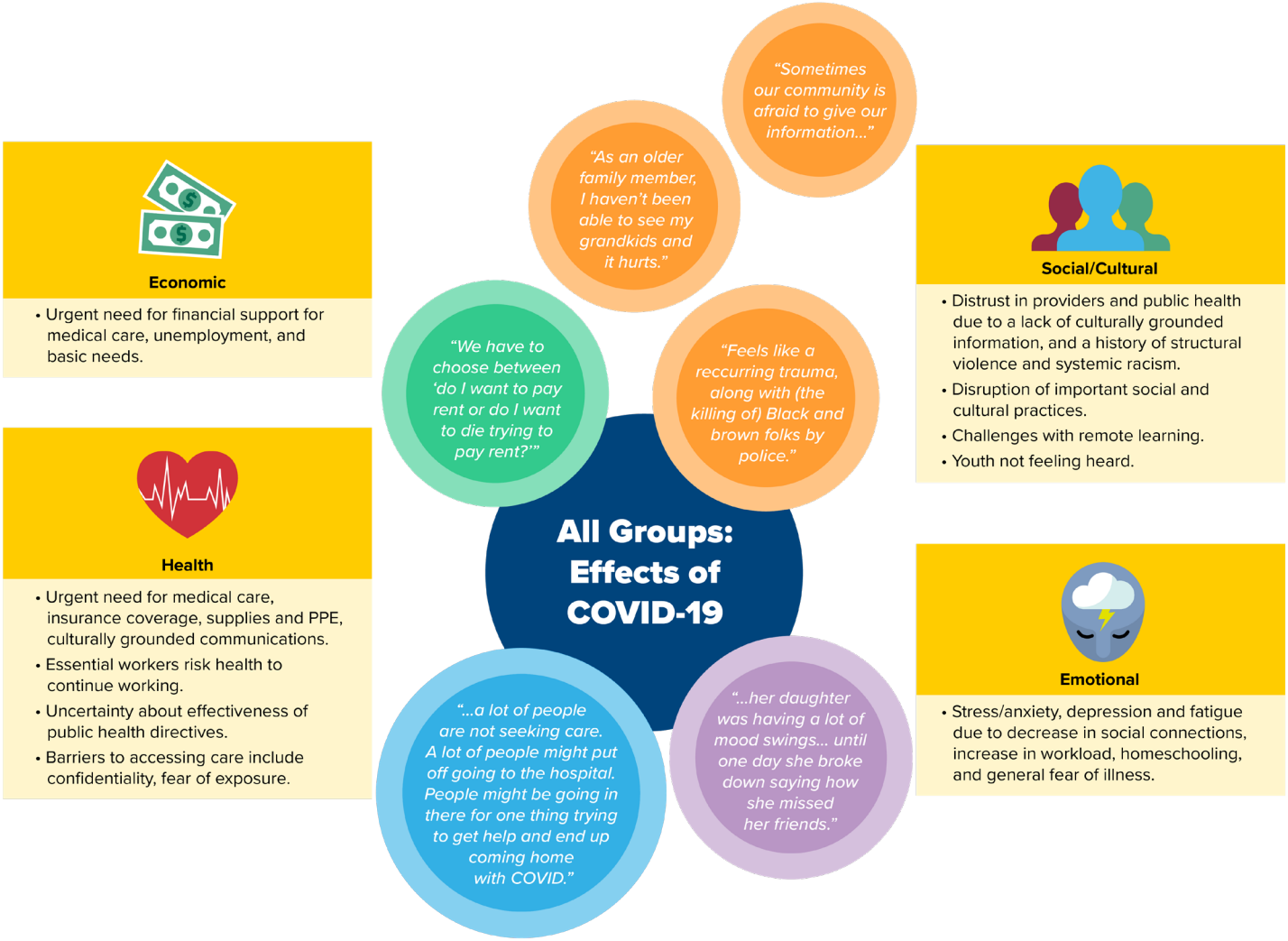


Limitations of Qualitative Data

For this report, community engagement data come from focus groups and interviews. Focus group and interview results are not entirely generalizable, and limitations to the strength of the conclusions exist. Strengths and assets were not evaluated due to limitations from the COVID-19 pandemic.

Some voices are missing from this report. A focus group composed of people representing the Pierce County American Indian community was held as a part of this assessment, however, due to personal concerns raised by a participant, the results of this discussion were not included in the analysis.

Description of the Community

DEMOGRAPHIC CHARACTERISTICS

The characteristics of a community inform what health behaviors and outcomes may be future concerns and can help us understand existing population health issues.

Race and Ethnicity

The county is primarily comprised of non-Hispanic white residents. The Hispanic population represented 11% of the population, while the next largest racial group was people identifying as non-Hispanic Black.

Age and Sex

The proportion of adults 55 years and higher continues to increase. Since 2010, the proportion of individuals aged 55-64 years has relatively increased by 12.7% (from almost 11.5% in 2010 to 13.0% in 2020). Similarly, the proportion of individuals aged 65-74 years has relatively increased by 57.2% (from 6.2% in 2010 to 9.7% in 2020). As of 2020, the ratio of male to female is about 1:1.

Demographics (%)

Pierce County 2020

Race and Ethnicity	Count	Percent
White	583955	64.8%
Black	65024	7.2%
AIAN	9941	1.1%
Asian	65809	7.3%
NHOPI	14551	1.6%
Multiracial	60603	6.7%
Hispanic as Race	100817	11.2%

Sex	Count	Percent
Male	442065	49.1%
Female	458635	50.9%

Age (years)	Count	Percent
Under 1	12001	1.3%
1-4	48030	5.3%
5-14	124181	13.8%
15-24	110344	12.3%
25-34	122187	13.6%
35-44	116552	12.9%
45-54	111208	12.3%
55-64	116733	13.0%
65-74	87099	9.7%
75-84	38099	4.2%
85+	14266	1.6%

Source: Washington State Office of Fiscal Management, Forecasting Division

Description of the Community

Continued

Disability Prevalence

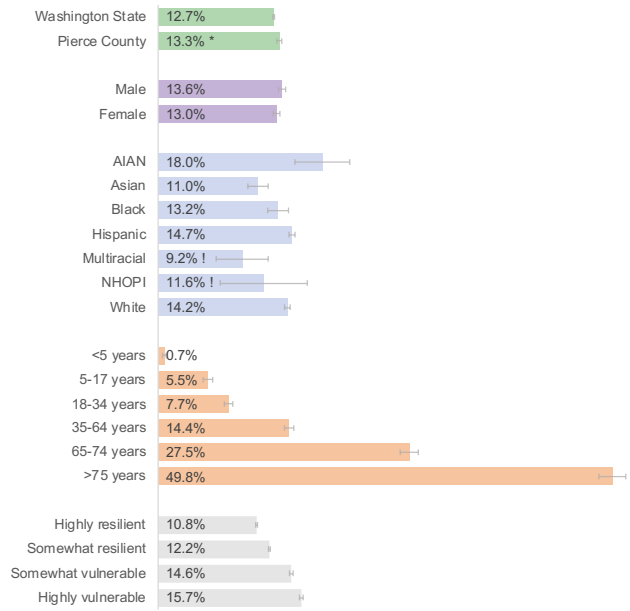
Disabilities can involve or relate to any of six functions: hearing, vision, cognition, ambulatory, self-care and independence.[3]

The prevalence of disability was significantly higher in Pierce County compared to the state. Within the county, no significant differences were seen among the different gender groups. The prevalence of disability was significantly higher among American Indian and Alaska Natives compared to Asians, those of multiple races, and Blacks. It was lowest among individuals identifying with more than one race. Disability significantly increased with increasing age categories.

When we looked at social vulnerability across the census tracts in Pierce County, the prevalence of disability increased with increasing levels of social vulnerability.[4]

Disability Prevalence (%)

Pierce County, 2015-2019



(*) value significantly different from WA state

Source: U.S. Census Bureau, American Community Survey (ACS) 5-year estimates, 2015-2019

[3] United States Census Bureau. "How Disability Data are Collected from The American Community Survey". Updated 08 Oct 2021. Retrieved from: https://www.census.gov/topics/health/disability/guidance/data-collection-acs.html

[4] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Description of the Community

Continued

SOCIOECONOMIC CHARACTERISTICS

The social and economic characteristics of a community viewed through a population lens provide a foundation for public health stakeholders to understand available resources. On-time graduation percentages, the percent of students eligible for free and reduced-lunches, and limited language proficiencies are some examples of socioeconomic characteristics that must be considered as we attempt to improve the health of our population.

Educational Attainment

The graduation rate helps describe the educational well-being of a community. A higher educational attainment empowers individuals to take advantage of employment opportunities and earn higher incomes, which helps to diminish the burden of poverty on a community. The four-year average percentage of adults aged 25 years or older who earned at least a bachelor's degree was lower in Pierce County (27.2%) compared to the state average (36.0%). Native Hawaiian and other Pacific Islanders were least likely to have obtained a bachelor's degree (10.7%), while Asians were the most likely (31.2%).

Individuals with an income at or above the poverty line (19.1%) were more likely to have obtained a bachelor's degree compared to those below the poverty line (13.3%).

Free and Reduced-Price Lunch

A free and reduced-price meal program is a federal program for students whose household income is less than or equal to 130% of the federal poverty limit (free) or between 130% and 185% of the federal poverty limit (reduced-price). This program helps to ensure that children have access to food with adequate nutritional value. During the 2019-2020 school year, 43.8% of students in Pierce County were eligible for free or reduced-price lunch. This was slightly higher than the state (43.3%).

Limited English Proficiency

While many individuals are bilingual or multilingual (speak one or more languages other than English), some report that they either do not speak English or speak English "less than very well". Among all individuals five years and older, Pierce County had a lower proportion of primary speakers of different languages who spoke English 'less than very well' compared to the state (5.5% of Pierce County, 7.6% statewide).

The table below shows that among primary speakers of different languages (five years and older), the proportion who spoke English 'less than very well' was highest among those who primarily spoke an Asian or Other Pacific Islander language, and lowest among those who spoke non-Indo-European and non-Asian or Other Pacific Islander (category "Other Languages").

Description of the Community

Continued

Speaks English "less than very well" by primary language spoken (%)
Pierce County, 2015-2019

Language	Estimate	95% CI
Spanish	34.2%	(31.7% - 36.7%)
Other Indo-European Language	32.0%	(28.8% - 35.1%)
Asian or Other Pacific Islander Language	46.2%	(43.8% - 48.5%)
Other Language	30.2%	(23.5% - 36.8%)

Includes individuals aged 5 years and older
Data Source: U.S. Census Bureau, American Community Survey (ACS) 5-year estimates, 2015-2019

Life Expectancy, Death and Hospitalizations

Life expectancy - the average number of years a person at birth can expect to live, given current death rates - is a widely used measure of the overall health of a population. It is partially determined by environment and human behavior (both risky and health-promoting).

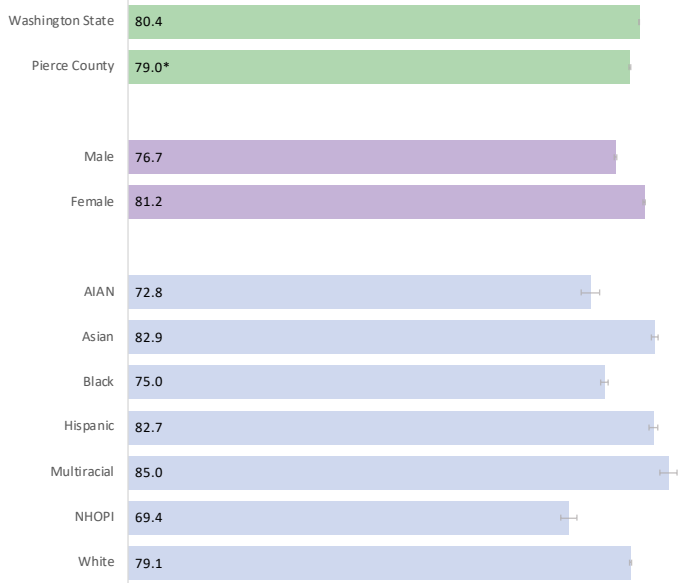
Factors that directly influence life expectancy include the leading causes of deaths and hospitalizations. As a result, these indicators provide actionable information for future public health interventions.

LIFE EXPECTANCY

As mentioned above, life expectancy is the average number of years a person at birth can expect to live, given current age-specific death rates. It can be used to evaluate mortality trends over time, the relative increase/decrease of a population, and for future planning purposes.

Life expectancy within Pierce County was significantly lower compared to the state. Within the County, women tended to live significantly longer compared to men. Individuals identifying with more than one race had the longest life expectancy (85.0 years), while Native Hawaiian or Other Pacific Islanders had the shortest life expectancy (69.4 years).

Life expectancy (years)
Pierce County, 2015-2019



Data Source: Washington State Department of Health, Center for Health Statistics, 1990-2016, Community Health Assessment Tool (CHAT), April 2021.

Medicaid Profile

Medicaid is a federally funded program that started in 1965. It provides health insurance for low-income individuals who meet certain criteria: those with disabilities (or have a family member with disabilities), who are 65+ years or older, are pregnant, or who are legally responsible for a child under 18 years of age.

In Washington, Medicaid is referred to as Washington Apple Health/Apple Health. MHS and VMFH chose to include this in the report to highlight who is on Medicaid. It is estimated that the majority (>95%) of individuals on Medicaid are on a fee-for-service plan (as opposed to managed care). As such, this report focuses solely on those on a fee-for-service plan. Briefly, fee-for-service involves Medicaid directly paying each provider. As eligibility can change throughout the year or between different years, members were classified as fee- for-service if they did not have any record of a managed care plan.

Medicaid claims data (submitted by providers for reimbursement purposes) can offer a glimpse into the top reasons why individuals may appear in the emergency department. Additionally, it can be used to track the level of follow-up care (defined by the number of individuals with a primary care visit within one year of visiting the emergency department). This information is useful because it can help hospitals improve their level of care, and it highlights different needs/disparities in a unique population.

Medicaid Profile

Continued

Demographic Characteristics

From 2015 – 2017, there were 404,000 Medicaid beneficiaries in Pierce County (on fee-for-service and managed care). Of those on a fee-for-service plan (n=395641, 98.0%), most members were white. There were slightly more female beneficiaries compared to male. Most beneficiaries were under 70 years of age. The table below shows demographics for those on a fee-for-service plan.

Medicaid Demographic Characteristics (fee-for-service)

Fee-for-Service, Pierce County, 2015-2017

Group	Number of Members	Percent
PC	395641	100.0%

Gender	Count	Percent
Male	182610	46.2%
Female	211363	53.4%
Unknown	1668	0.4%

Age of Beneficiary	Count	Percent
<65 years	91320	23.5%
65-69 years	106479	26.9%
70-74 years	75662	19.0%
75-79 years	49948	12.5%
80+ years	72232	18.1%

Race/Ethnicity	Count	Percent
AIAN	3596	0.9%
Asian	17898	4.5%
Black	23933	6.0%
NHOPI	536	0.1%
Other	12398	3.1%
White	331172	83.7%
Missing	6108	1.5%
Hispanic	3282	0.8%

Source: Washington State Office of Fiscal Management, Medicaid Claims Database, 2015-2017.

**Race is self-reported and is assigned to a member if it was reported at any point during the enrollment period. If 2 or more races are reported, the less common race was preferred. Race/ethnicities by plan type may not equal total race/ethnicity.*

Medicaid Profile

Continued

Leading Causes of Emergency Department (ED) visits by number of visits (individuals on Medicaid)

Information about what drives individuals to the emergency room can be used to better understand the needs of the community, potential barriers that exist, and what areas can be targeted for preventive care to avoid using the emergency department unnecessarily.

For the purposes of this report, causes are determined by the primary diagnoses field. As a result, numbers are likely an undercount, as similar diagnoses can appear in later diagnoses fields. The following table lists the top causes by the number of visits (instead of the number of individuals), to better understand the most frequent reasons people visit the emergency department.

Leading Causes of Emergency Department (ED) visits by number of visits (individuals on Medicaid)

Pierce County, 2020

OVERALL	Number of Visits
Abdominal Pain	4819
Other Upper Respiratory Infections	4795
Skin and Subcutaneous Tissue Infections	4052
Other Complications of Pregnancy	3890
Superficial Injury: Contusion	3519
Nonspecific Chest Pain	3331
Sprains and Strains	3174
Other Injuries and Conditions Due to External Causes	2631
Urinary Tract Infections	2606
Open Wounds of Extremities	2260

Source: Washington State Health Care Authority, 2020.

Leading Causes of Emergency Department (ED) visits by number of visits (by gender)

Upper respiratory infections were among the top five causes for an individual (regardless of gender) to visit the emergency department. Males visited the emergency department for head/neck wounds more than females, while females had more back-problem related ED visits compared to males.

Leading Causes of Emergency Department (ED) visits by number of visits (by gender)

Pierce County, 2020

Male	Number of Visits
Skin and Subcutaneous Tissue Infections	2201
Other Upper Respiratory Infections	2121
Superficial Injury: Contusion	1711
Abdominal Pain	1561
Nonspecific Chest Pain	1424
Open Wounds of Extremities	1368
Other Injuries and Conditions Due to External Causes	1360
Sprains and Strains	1351
Open Wounds of Head: Neck; and Trunk	1079
Fracture of Upper Limb	863

Female	Number of Visits
Other Complications of Pregnancy	3890
Abdominal Pain	3258
Other Upper Respiratory Infections	2674
Urinary Tract Infections	2283
Superficial Injury: Contusion	1907
Nonspecific Chest Pain	1851
Skin and Subcutaneous Tissue Infections	1823
Sprains and Strains	1808
Other Injuries and Conditions Due to External Causes	1311
Spondylosis: Intervertebral Disc Disorders: Other Back Problems	1271

Source: Washington State Health Care Authority, 2020.

Leading Causes of Emergency Department (ED) visits by number of visits (by race)

For visits by an individual with a known race, abdominal pain and contusions were among the top causes to visit the ED. Non-white individuals visited the ED more frequently for viral infections (including upper respiratory infections) compared to white residents, while white residents visited more for sprains/strains and open wounds compared to minorities.

Leading Causes of Emergency Department (ED) visits by number of visits (by race)

Pierce County, 2020

Non-Hispanic White	Number of Visits
Abdominal Pain	2612
Skin and Subcutaneous Tissue Infections	2593
Superficial Injury: Contusion	1848
Other Upper Respiratory Infections	1839
Sprains and Strains	1735
Nonspecific Chest Pain	1735
Other Complications of Pregnancy	1668
Urinary Tract Infections	1384
Other Injuries and Conditions Due to External Causes	1285
Open Wounds of Extremities	1221

Non-White	Number of Visits
Other Upper Respiratory Infections	2585
Other Complications of Pregnancy	2148
Abdominal Pain	2066
Superficial Injury: Contusion	1522
Nonspecific Chest Pain	1509
Skin and Subcutaneous Tissue Infections	1389
Sprains and Strains	1369
Other Injuries and Conditions Due to External Causes	1182
Urinary Tract Infections	1135
Viral Infection	1025

Unknown Race	Number of Visits
Other Upper Respiratory Infections	371
Other Injuries and Conditions Due to External Causes	164
Fever of Unknown Origin	158
Viral Infection	157
Superficial Injury: Contusion	149
Abdominal Pain	141
Other Gastrointestinal Disorders	132
Nausea and Vomiting	119
Open Wounds of Head: Neck: and Trunk	109
Otitis Media and Related Conditions	100

Source: Washington State Health Care Authority, 2020.

Medicaid Profile

Continued

Medicaid Beneficiaries with an Emergency Department Visit in the Last Year with a Primary Care Visit

The emergency department (ED) is an essential part of any hospital, treating patients requiring immediate care. Most patients visit the emergency department infrequently (less than three times a year), but a few individuals require multiple ED visits. Studies vary on what percentage of patients require multiple ED visits, but usually range from 2.5% to 8% of patients.[12,13] This represents a problem because these visits use valuable resources that could have gone to more immediate care patients.

Common reasons that an individual may visit the ED more than once are no primary care provider (or barriers around accessing their provider due to hours/lack of transportation), no long-term care plan, or a lack of education surrounding what conditions require immediate attention.

For the purposes of this report, only members who were continually enrolled in Medicaid from 2016-2017 were counted. We used self-reported racial data, and preferentially assigned a beneficiary to multiple race if two or more races were reported. Our analysis used a narrow definition of primary care by only including providers who traditionally perform roles contained with the strict definitions of primary care.[14]

The percentage shown in the graphs below reflect the percentage of Medicare beneficiaries who had a primary care visit 365 days (or less) after their ED visit out of all Medicare beneficiaries who had an ED visit.

Of those on a fee-for-service plan, women were more likely to have a primary care follow up compared to men. The percentage of individuals who had a follow up primary care appointment after visiting the ED increased with increasing age.

Asians on a fee-for-service plan were the most likely to have a follow up primary care appointment after visiting the ED, whereas Blacks were the least likely.

[12] Vinton DT, Capp R, Rooks SP, et. al. Frequent users of US emergency departments: characteristics and opportunities for intervention. BMJ Journals: Emergency Medicine Journal. 2014; 31:526-532. Doi: 10.1136/emermed-2013-202407

[13] Hunt KA, Weber EJ, Showstak JA, et. al. Characteristics of frequent users of emergency departments. Ann Emerg Med. 2006; 48(1):1-8. Doi: 10.1016/j.annemergmed.2005.12.030.

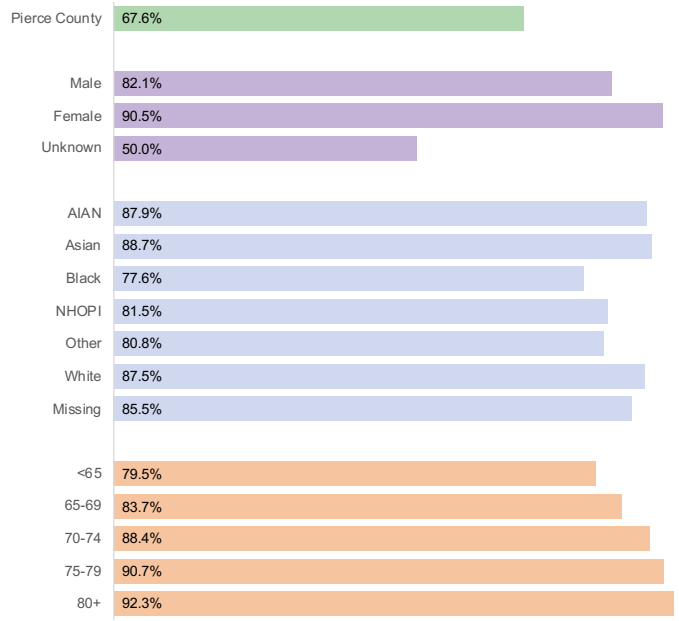
[14] Office of Financial Management. Primary Care Expenditures: Summary of current primary care expenditures and investment in Washington. 2019. https://ofm.wa.gov/sites/default/files/public/publications/PrimaryCareExpendituresReport.pdf

Medicaid Profile

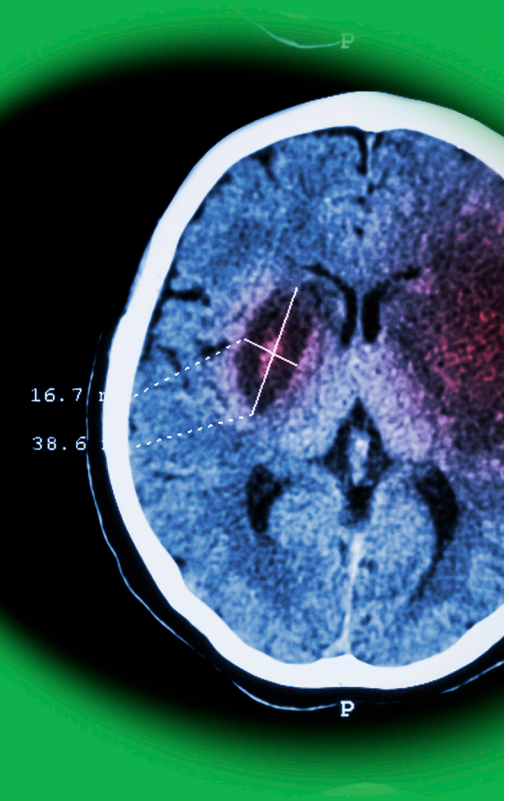
Continued

Medical Beneficiaries with an Emergency Department Visit in the Last Year with a Primary Care Visit (fee-for-service)

Pierce County, 2016-2017



Leading Causes of Death



As people continue to live longer due to significant improvements on all fronts in healthcare, the leading causes of death are increasingly chronic health conditions (heart disease, cancer and chronic lower respiratory disease).

Women had lower age-adjusted rates compared to men for almost all diseases (except for Alzheimer's).

Native Hawaiian/Other Pacific Islanders had the highest age-adjusted rates for the top five diseases (heart disease, diabetes, cancer, cerebrovascular disease, and unintentional injury).

Top 10 Leading Causes of Death

Pierce County, 2015-2019

OVERALL	Rate*	WA Rate*
Heart Disease	157.9	135.6
Cancer	157.6	148.1
Unintentional injury	44.6	42.8
Cerebrovascular Disease	44.3	35.0
Chronic Lower Respiratory	40.3	36.4
Alzheimer's	35.9	43.9
Diabetes	21.0	21.0
Suicide and Intentional Self-Harm	19.5	16.0
Drug-Related	19.4	17.0
Chronic Liver Disease	12.4	11.7

**Age-adjusted death rate per 100,000 people, standardized to the U.S. 2000 standard population*

Source: Washington State Department of Health, Center for Health Statistics, 1990-2019.

Top 10 Causes of Death in Pierce County (by gender)

Pierce County, 2015-2019

MALE	Rate*
Heart Disease	202.6
Cancer	184.4
Unintentional injury	58.1
Cerebrovascular Disease	45.1
Chronic Lower Respiratory	43.4
Alzheimer's	29.6
Suicide and Intentional Self-Harm	29.6
Diabetes	27.0
Drug-Related	22.9
Firearm-Related	22.1

FEMALE	Rate*
Cancer	137.5
Heart Disease	120.6
Cerebrovascular Disease	42.9
Alzheimer's	39.9
Chronic Lower Respiratory	38.1
Unintentional injury	31.7
Diabetes	20.1
Drug-Related	15.0
Influenza Pneumonia	11.4
Suicide and Intentional Self-Harm	10.1

**Age-adjusted death rate per 100,000 people, standardized to the U.S. 2000 standard population*

Source: Washington State Department of Health, Center for Health Statistics, 1990-2019.

Leading Causes of Death

Continued

Top 10 Causes of Death (by race and ethnicity)

Pierce County, 2015-2019

White (Age-Adjusted Rate per 100,000)	**Black** (Age-Adjusted Rate per 100,000)	**American Indian or Alaskan Native** (Age-Adjusted Rate per 100,000)	**Asian** (Age-Adjusted Rate per 100,000)	**Native Hawaiian or Pacific Islander** (Age-Adjusted Rate per 100,000)	**Hispanic/Latino as Race** (Age-Adjusted Rate per 100,000)	**Multiracial** (Age-Adjusted Rate per 100,000)
Cancer (160.2)	Heart Disease (203.3)	Heart Disease (257.3)	Cancer (122.4)	Heart Disease (372.4)	Cancer (111.4)	Heart Disease (115.0)
Heart Disease (158.8)	Cancer (185.2)	Cancer (154.9)	Heart Disease (95.8)	Cancer (201.4)	Heart Disease (103.8)	Cancer (111.1)
Unintentional injury (45.3)	Cerebrovascular Disease (67.7)	Unintentional injury (112.3)	Cerebrovascular Disease (55.3)	Cerebrovascular Disease (139.2)	Cerebrovascular Disease (40.9)	Cerebrovascular Disease (36.6)
Chronic Lower Respiratory (43.2)	Diabetes (54.2)	Diabetes (57.8)	Alzheimer's (33.7)	Diabetes (122.5)	Unintentional injury (34.9)	Chronic Lower Respiratory (35.5)
Cerebrovascular Disease (41.5)	Unintentional injury (48.5)	Chronic Lower Respiratory (54.5)	Diabetes (30.4)	Unintentional injury (64.7)	Alzheimer's (27.6)	Unintentional injury (32.6)
Alzheimer's (36.7)	Alzheimer's (44.7)	Drug-Related (53.1)	Unintentional injury (28.3)	Chronic Lower Respiratory (29.3)	Diabetes (20.7)	Diabetes (32.3)
Suicide and Intentional Self-Harm (21.3)	Chronic Lower Respiratory (36.5)	Cerebrovascular Disease (44.5)	Chronic Lower Respiratory (17.6)	Influenza Pneumonia (26.3)	Chronic Liver Disease (14.2)	Drug-Related (21.0)
Drug-Related (20.6)	Essential Hypertension (26.6)	Alzheimer's (33.9)	Influenza Pneumonia (9.6)	Alzheimer's (^)	Suicide and Intentional Self-Harm (13.1)	Suicide and Intentional Self-Harm (16.0)
Diabetes (20.1)	Firearm-Related (23.0)	Suicide and Intentional Self-Harm (33.1)	Suicide and Intentional Self-Harm (8.6)	Suicide and Intentional Self-Harm (21.7)	Chronic Lower Respiratory (12.7)	Firearm-Related (11.6)
Chronic Liver Disease (13.0)	Drug-Related (22.2)	Opioid-Related (31.6)	Pneumonitis (7.7)	Essential Hypertension (^)	Drug-Related (10.0)	Opioid-Related (11.0)

^ Rates are suppressed due to a count lower than 5
**Age-adjusted death rate per 100,000 people, standardized to the U.S. 2000 standard population*
Source: Washington State Department of Health, Center for Health Statistics, 1990-2019

Leading Causes of Death

Continued

Accidental Deaths

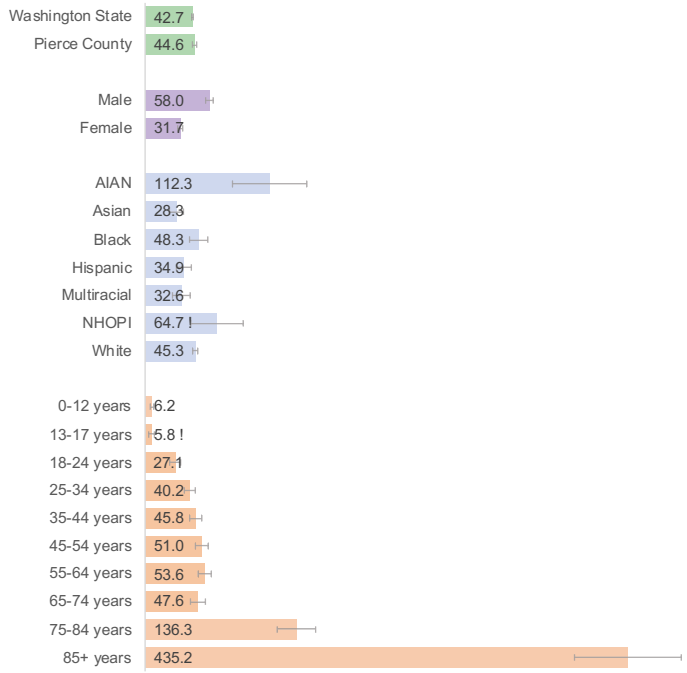
Accidental or unintentional deaths are caused by unnatural means: examples include motor vehicle accidents, unintentional poisonings, or unintentional falls. The rate of accidental deaths is the number of deaths resulting from unintentional injuries per 100,000 people.

There was no significant difference between the rate of unintentional injury deaths in Pierce County compared to the state. Within the county, men were more likely to die due to unintentional injuries than women. American Indian and Alaskan Natives were more likely to die due to unintentional injuries compared to other races.

The rate of unintentional injury deaths increased with increasing age, with the rates of individuals aged 75-84 and 85+ years significantly higher compared to the other age groups. This is likely due to unintentional falls.

Accidental deaths per 100,000 people

Pierce County, 2015-2019



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Rates for age are age-specific

Source: Washington State Department of Health, Center for Health Statistics (CHS), Community Health Assessment Tool (CHAT), January 2021.

Leading Causes of Death

Continued

Drug-Related Deaths

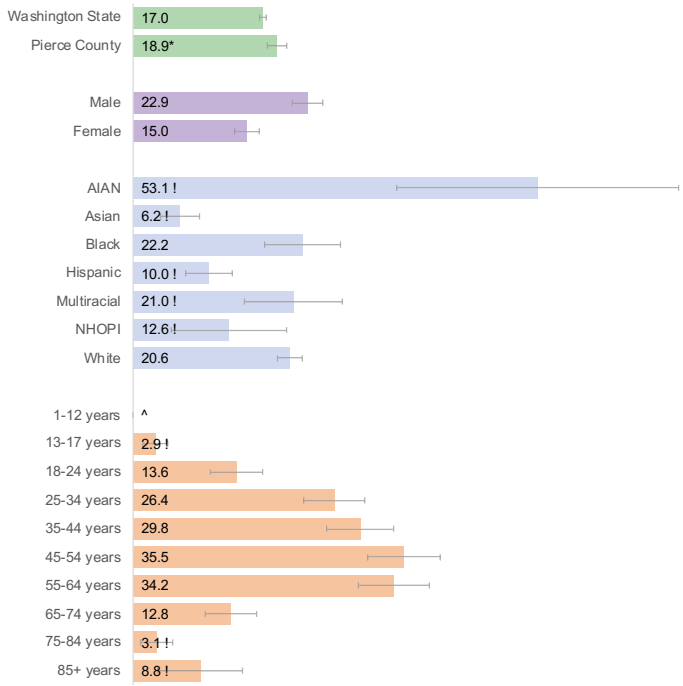
Using drugs or other illicit substances places an individual at personal and financial risk. It can lead to other health issues (dental problems, certain types of cancers and chronic illnesses) and death.

The rate of drug-related deaths in Pierce County was significantly higher compared to the state. Men were significantly more likely to die due to drug-related causes than women. American Indian and Alaska Natives were significantly more likely to die due to drug related reasons compared to other races.

Individuals aged 45-54 years had the highest rate of drug-related deaths. Generally, individuals aged 25-64 years were the most likely to die from drug-related causes compared to other age groups.

Drug-Related Deaths per 100,000

Pierce County 2015-2019



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Washington State Department of Health, Center for Health Statistics (CHS), 1990–2019.

Leading Causes of Death

Continued

LEADING CAUSES OF HOSPITALIZATIONS

Hospitalizations occur due to a wide array of health concerns. Understanding these hospitalizations is crucial to prioritizing how we allocate resources, what types of interventions are undertaken and where these interventions should be focused.

Septicemia (or blood poisoning through bacterial infection) (non-childbirth related) was the top cause of hospitalizations for both men and women. Men were more likely to be hospitalized due to circulatory system diseases compared to women.

Most of the leading causes of hospitalizations among women were pregnancy related. Excluding these, many hospitalizations were cardiovascular related.

Top 10 Leading Causes of Hospitalization

Pierce County, 2016-2019

OVERALL	Rate*
Non-labor Septicemia (blood poisoning)	764.7
Hypertension with complications and secondary hypertension	289.0
Osteoarthritis	266.2
Other complications of birth; puerperium affecting management of mother	255.3
Respiratory failure; insufficiency; arrest (adult)	168.1
Acute cerebrovascular disease (stroke)	164.2
Complication of device: implant or graft	156.9
Diabetes mellitus with complications	144.3
Cardiac dysrhythmias (Improper beating of the heart)	136.5
Nonspecific chest pain	36.7

**Age-adjusted rate per 100,000 people, standardized to the U.S. 2000 standard population*

Source: Washington Hospital Discharge Data, Comprehensive Hospitalization Abstract Reporting System (CHARS), 2016-2019

Leading Causes of Death

Continued

Top 10 Leading Causes of Hospitalization (by gender)

Pierce County, 2016-2019

Male	Rate*
Septicemia (except in labor) (blood poisoning)	794.9
Hypertension with complications and secondary hypertension (high blood pressure)	331.4
Osteoarthritis	231.7
Acute myocardial infarction (heart attack)	201.6
Acute cerebrovascular disease (stroke)	186.4
Complication of device; implant or graft	182.4
Diabetes mellitus with complications	171.2
Respiratory failure; insufficiency; arrest (adult)	156.0
Cardiac dysrhythmias (Improper beating of the heart)	151.8
Skin and subcutaneous tissue infections	142.0

**Age-adjusted rate per 100,000 people, standardized to the U.S. 2000 standard population*

Source: Washington Hospital Discharge Data, Comprehensive Hospitalization Abstract Reporting System (CHARS), 2016-2019

Female	Rate*
Septicemia (except in labor)	742.8
Other complications of birth; puerperium affecting management of mother	505.6
Polyhydramnios and other problems of amniotic cavity	296.7
Osteoarthritis	295.9
Previous C-section	266.5
Prolonged pregnancy	251.9
Hypertension with complications and secondary hypertension	250.5
Hypertension complicating pregnancy; childbirth and the puerperium	231.3
Other complications of pregnancy	185.0
Respiratory Failure: insufficiency: arrest (adult)	179.5

Female (non-pregnancy related)	Rate*
Septicemia (except in labor)	742.8
Osteoarthritis	295.9
Hypertension with complications and secondary hypertension	250.5
Respiratory failure; insufficiency; arrest (adult)	179.5
Acute cerebrovascular disease (stroke)	144.3
Complication of device; implant or graft	137.2
Cardiac dysrhythmias	121.0
Diabetes mellitus with complications	120.1
Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	110.9
Acute myocardial infarction (heart attack)	100.6

Leading Causes of Death

Continued

CHRONIC DISEASE

Chronic diseases and conditions – such as diabetes, heart disease, asthma and cancer – encompass many of the most common, costly and preventable health concerns in our communities.

Diabetes – Adults

The prevalence of diabetes diagnosed among adults is self-reported as part of the Behavioral Risk Factor Surveillance System.

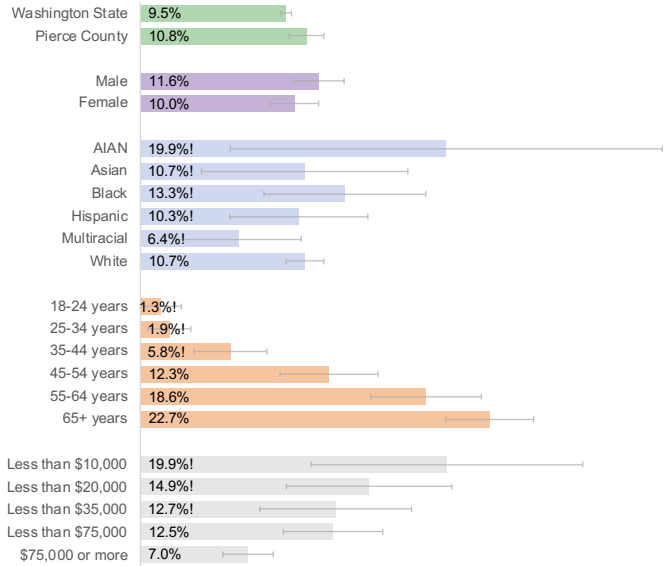
The prevalence of diabetes in Pierce County has slowly increased in the last several years (from 9.2% in 2012-2016, 10.3% in 2015-2019, and 10.8% in 2016-2020). From 2016-2020, the prevalence of diabetes in Pierce County was not significantly higher compared to the state. Males have a higher prevalence of diabetes than females, but the difference is not significant. Individuals aged 45+ years have a significantly higher prevalence of diabetes compared to those under age 45.

American Indian or Alaskan Natives have the highest prevalence of diabetes, while individuals identifying with more than one race have the lowest prevalence.

The prevalence of diabetes decreased by increasing self-reported income.

Adults who have diabetes (%)

Pierce County, 2016-2020



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Behavioral Risk Factor Surveillance System

Leading Causes of Death

Continued

Hypertension - Adults

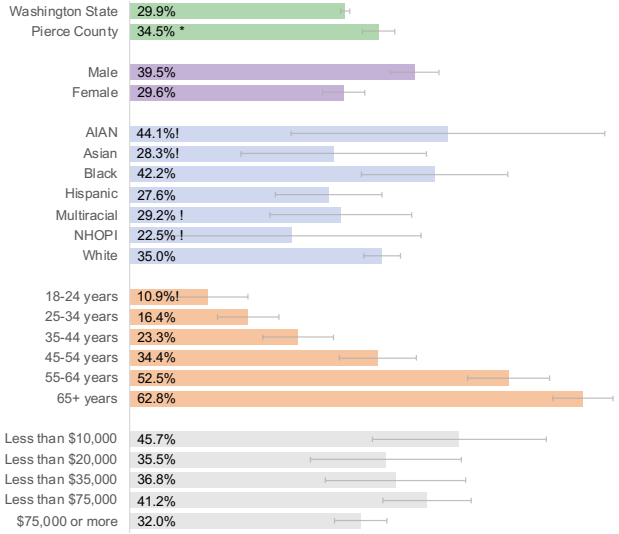
The prevalence of hypertension, or high blood pressure, is self-reported as part of the Behavioral Risk Factor Surveillance System.

The prevalence of hypertension is significantly higher in Pierce County compared to the state (34.5% vs. 29.9% respectively). Men were more likely to have hypertension compared to women. No significant differences were seen among racial/ethnic groups or among different self-reported income levels.

The risk of hypertension increases with increasing age.

Adults who have hypertension (%)

Pierce County, 2016-2020



(*) value significantly different from WA state
(!) relative standard error greater than 30%
Source: Behavioral Risk Factor Surveillance System

Cardiovascular Disease - Adults

The prevalence of cardiovascular disease, or heart disease, is self-reported as part of the Behavioral Risk Factor Surveillance System.

The prevalence of heart disease is significantly higher in Pierce County compared to the state (6.9% vs. 5.7% respectively). Men were more likely to have heart disease compared to women. American Indian and Alaska Native residents were significantly more likely to have heart disease compared to Black, Hispanic, white residents and those identifying with more than one race. Asian residents were slightly more likely to have heart disease compared to Black, Hispanic, white residents, but the difference was not statistically significant. Hispanic residents were significantly less likely to have heart disease compared to white or American Indian/Alaska Native residents.

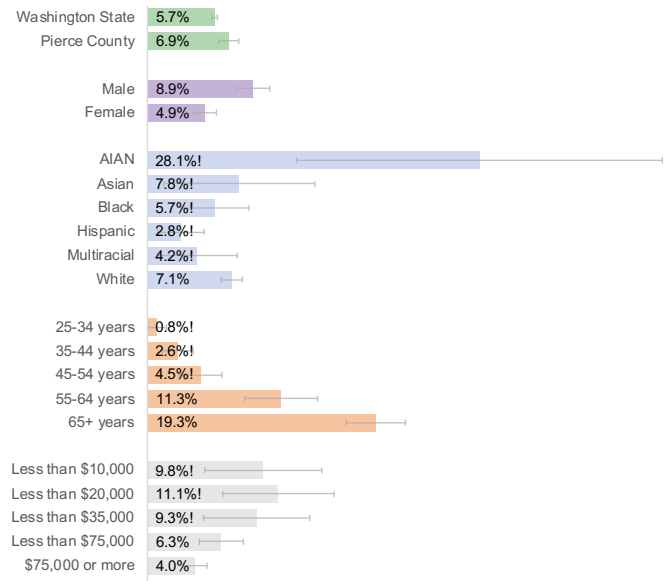
The risk of heart disease increases with increasing age. Generally, the risk of heart disease decreases with increasing self-reported income. However, due to only having prevalence data, it is unclear if this is a correlation (those with heart disease may already have lower income) rather than a causation.

Leading Causes of Death

Continued

Adults who have heart disease (%)

Pierce County, 2016-2020



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Behavioral Risk Factor Surveillance System

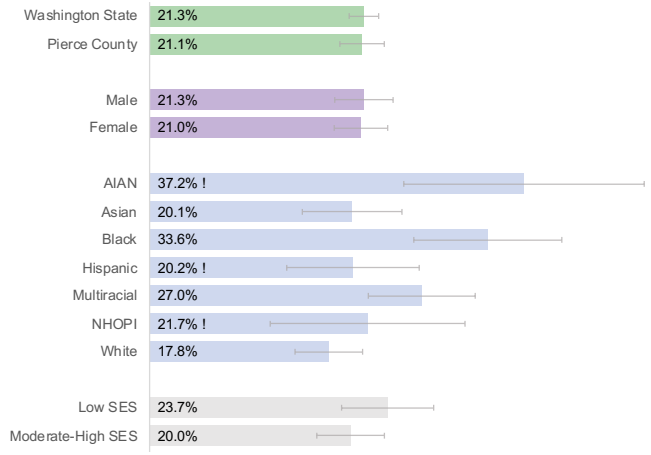
Asthma – Youth

Asthma affects people of all ages, but most often starts in childhood. Asthma prevalence among children in Washington is estimated using the Healthy Youth Survey, where students report if a doctor had ever diagnosed them with asthma

American Indian/Alaskan Native and Black youth were significantly more likely to have asthma compared to Asian and white youth. Youth who identified with more than one race were significantly more likely to have asthma compared to white youth.

Asthma Prevalence-Youth (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for socioeconomic status (SES). Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

Leading Causes of Death

Continued

CANCER

In the simplest terms, cancer is uncontrolled cell growth,[5] that often leads to tumors. It can result from many factors – age, harmful environment, inborn errors, and other unknown reasons. As shown in the leading causes of death section above, it is frequently one of the top reasons people die (regardless of age or gender). The number of new cases, or incidence, of several types of cancer is available through the state cancer registry (WSCR).

The following sections discuss the incidence of a few major cancers – lung, colorectal, and breast.

Lung Cancer

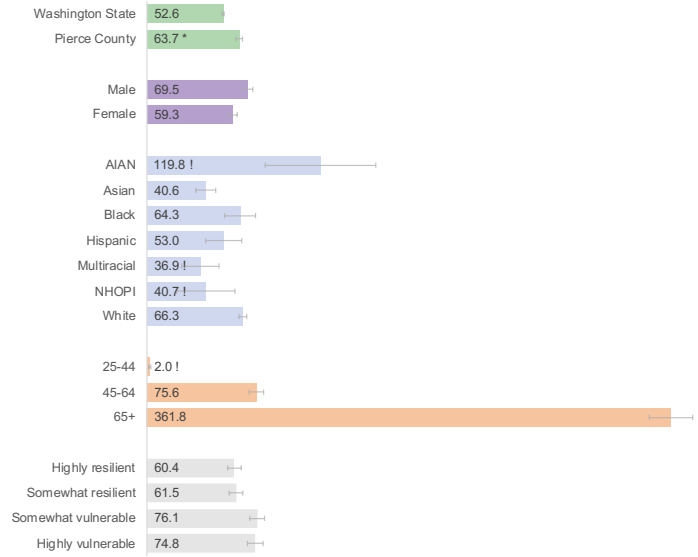
Lung cancer (often referred to as lung and bronchus) is the leading cause of cancer death in the United States. Individuals aged 75 – 84 years of age, white and Black/ African-Americans experience the highest incidence rate of lung and bronchus cancer at the national level.[6]

The incidence of lung cancer was significantly higher in Pierce County compared to the state. Men had a higher incidence rate compared to women, and the incidence significantly increased with increasing age. American Indian and Alaskan Natives had the highest incidence rate of lung cancer, while individuals identifying with more than one race had the lowest rate.

When we looked at SVI across the census tracts in Pierce County, resilient tracts (both highly and somewhat resilient) had a significantly lower incidence of lung cancer than in vulnerable (both highly and somewhat) tracts.[7]

Lung Cancer Incidence

Pierce County, 2014-2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Cancer cases excludes in-situ cancers.

Rate: New cancer cases per 100,000 residents. Rates that are not age-specific are age-adjusted to the US 2000 standard population. Rates for age groups are age-specific rates.

Source: Washington State Cancer Registry, 2014-2018

[5] National Cancer Institute. "What is Cancer?". Updated: 5 May 2021. Retrieved from: https://www.cancer.gov/about-cancer/understanding/what-is-cancer.

[6] American Lung Association. "Lung Cancer Fact Sheet". Updated: 27 May 2020. Retrieved from: https://www.lung.org/lung-health-diseases/lung-disease-lookup/lung-cancer/resource-library/lung-cancer-fact-sheet.

[7] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Leading Causes of Death

Continued

Colorectal Cancer

Cancer of the colon or rectum, located at the digestive tracts lower end, is a common cancer that, when detected early, can often be treated successfully.

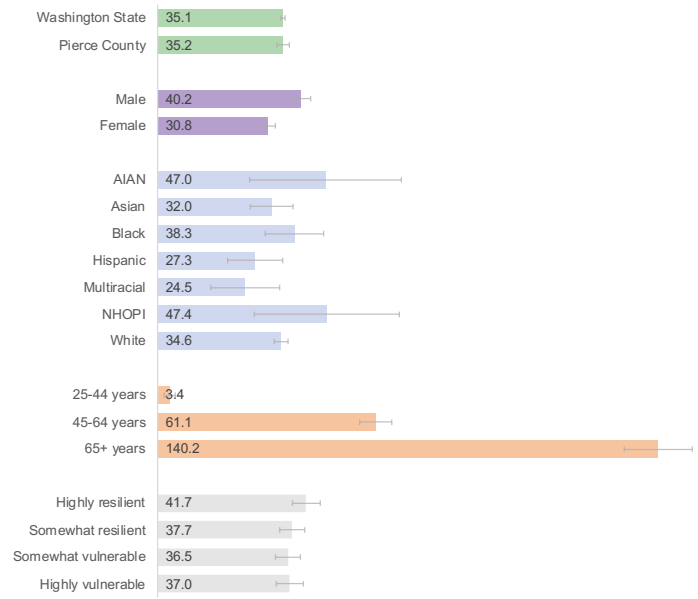
The incidence of colorectal cancer within Pierce County did not differ significantly from the state. Within the county, men were more likely to be diagnosed with colorectal cancer compared to women.

When we looked at SVI across the census tracts in Pierce County, there were no significant differences seen for the incidence of colorectal cancer.[8]

[8] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Colorectal Cancer Incidence

Pierce County, 2014-2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Cancer cases excludes in-situ cancers.

Rate: New cancer cases per 100,000 residents. Rates that are not age-specific are age-adjusted to the US 2000 standard population. Rates for age groups are age-specific rates.

Source: Washington State Cancer Registry, 2014-2018

Leading Causes of Death

Continued

Breast Cancer

Cancer of the breast is a common cancer among females. Regular screening can detect this early and increase the chances of successful treatment.

The risk of breast cancer was not significantly different among Pierce County residents compared to the state. Native Hawaiian and other Pacific Islanders had a slightly higher rate of breast cancer, while Asians had a slightly lower rate, but none of the differences were significant. The risk of breast cancer increased with age.

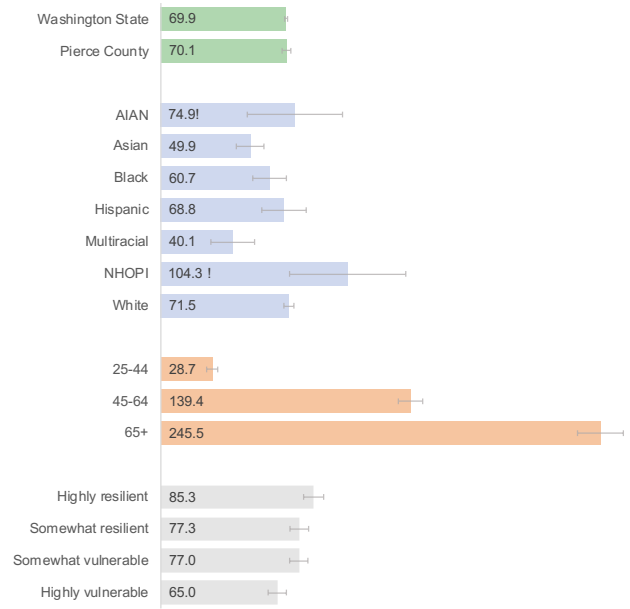
When we looked at SVI across the census tracts in Pierce County, the incidence of breast cancer was significantly lower among individuals living in highly vulnerable census tracts. It is unclear if this is due to individuals in highly vulnerable tracts being screened less often compared to those in more resilient tracts.[9]

There were no significant differences between the other groups.

[9] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Breast Cancer Incidence

Pierce County, 2014 - 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Cancer cases excludes in-situ cancers.

Rate: New cancer cases per 100,000 residents. Rates that are not age-specific are age-adjusted to the US 2000 standard population. Rates for age groups are age-specific rates.

Source: Washington State Cancer Registry, 2014-2018

Health Behaviors

A healthy and active lifestyle has been shown to have a profound impact on reducing the burden of chronic illness described in the previous section. A healthy diet and regular physical activity are protective factors promoting our health & well-being, while tobacco use and a multitude of environmental exposures (lead, tobacco smoke, various pesticides and insecticides) are some factors that may lead to negative health outcomes.

OBESITY, PHYSICAL ACTIVITY AND NUTRITION

Many chronic diseases discussed in the previous section share the same root causes, such as high-calorie diets with low nutritional value and a lack of physical activity. As our society becomes more sedentary and reliant on technology and quick/easy food options, the prevalence of several chronic diseases is likely to increase.

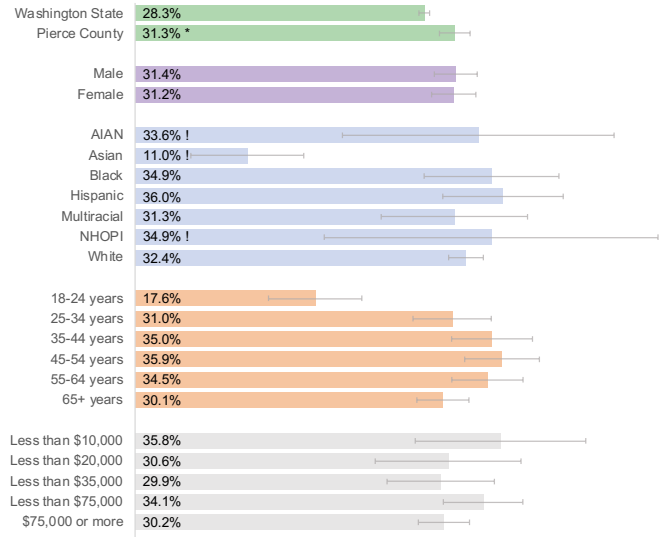
Obesity – Adults

Adults are classified as obese when their BMI is greater than or equal to 30. Individuals whose BMI is in this category are at a significantly greater risk for heart disease and a host of other chronic diseases.

Obesity among adults was significantly higher among Pierce County residents compared to the state. Within the county, Asians and 18-24-year olds were less likely to be obese compared to other races or age groups. No significant differences were seen among individuals with different incomes.

Adult Obesity (%)

Pierce County, 2016-2020



(*) value significantly different from WA state
(!) relative standard error greater than 30%
Groups excluded due to sample size limitations
Source: Behavioral Risk Factor Surveillance System

Health Behaviors

Continued

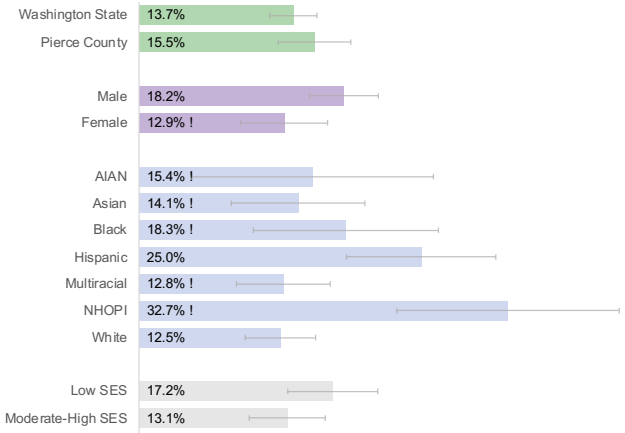
Obesity – Youth

Youth are classified as obese when they are in the top 5% for body mass index by age and gender based on growth charts developed by the CDC.

There were no significant differences between Pierce County youth and the state. Within the county, youth who identified as Native Hawaiian or other Pacific Islander or Hispanic residents were significantly more likely to be obese compared to white residents.

Youth Obesity (%)

Pierce County, 2018



(*) value significantly different from WA state
(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

[10] U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, D.C.: U.S. Department of Health and Human Services, 2018.

Physical Activity – Adults

Meeting recommended physical activity (PA) guidelines for aerobic and strength conditioning helps reduce the burden of chronic disease related to fitness. The U.S. Department of Health and Human Services recommends that adults be active for at least 150 minutes per week (including two days of muscle strengthening activities).[10]

The percentage of adults who meet the recommended physical activity guidelines is measured through the Behavioral Risk Factor Surveillance Survey (BRFSS). In odd years, this survey asks adults about aerobic and strength conditioning.

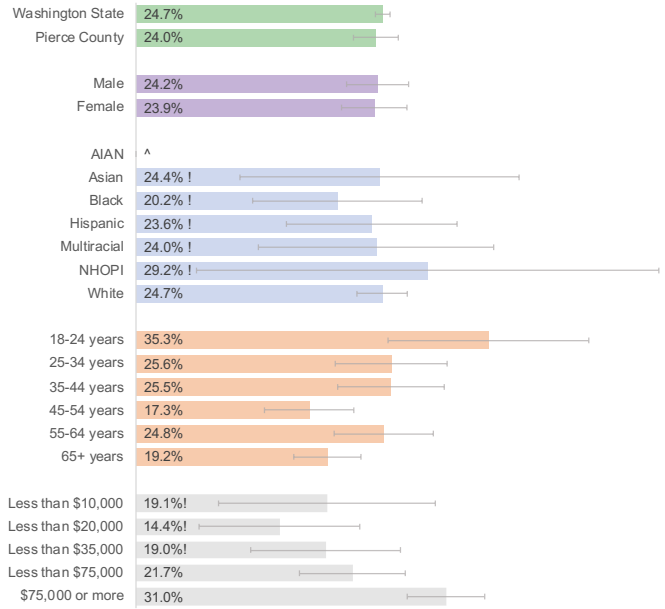
Meeting Full Physical Activity Recommendations – Adult (%)

The percentage of adults meeting physical activity recommendations within Pierce County was not significantly different from the state.

Adults 45-54 years old were least likely to have the recommended physical activity level compared to the other age groups within Pierce County. Adults earning $75,000 or more were more likely to meet the physical activity recommendations compared to other income levels. There were no significant differences by race/ethnicity or gender.

Meeting Full Physical Activity Recommendations – Adult (%)

Pierce County 2016-2020 (odd years)



(*) value significantly different from WA state

(^) data suppressed due to low sample size

(!) relative standard error greater than 30%

Source: Behavioral Risk Factor Surveillance System

Physical Activity – Youth

Engaging in physical activity in youth is important for developing a healthy lifestyle as an adult. The U.S. Department of Health and Human Services recommends that children and adolescents be active for at least 60 minutes every day (including three days of muscle strengthening activities).[11]

Meeting Full Physical Activity Recommendations – Youth (%)

The percentage of Pierce County youth meeting the physical activity recommendations was not significantly different from the state. Boys were significantly more likely to meet the physical activity recommendation compared to girls. Youth who were Alaskan Native or American Indian were the most likely to meet physical activity recommendations, but no differences were significantly meaningful.

Youth who had moderate/high socioeconomic status were more likely to meet physical activity recommendations compared to lower socioeconomic youth, but the difference was not significantly meaningful.

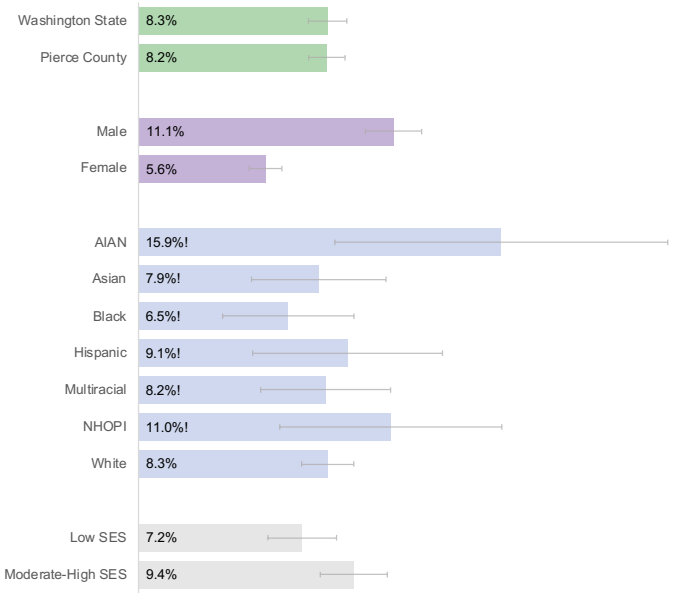
[11] U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, D.C.: U.S. Department of Health and Human Services, 2018.

Health Behaviors

Continued

Meeting Full Physical Activity Recommendations - Youth (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

As many organized youth activities were put on hold at the beginning of the COVID-19 pandemic, it is likely that the percentage of youth engaging in 60 minutes of physical activity everyday has changed since 2020.

TOBACCO

Tobacco use remains one of the most prevalent risky behaviors in communities across the United States, despite a robust body of evidence that tobacco use increases the risk of heart disease, cancer and many other negative health outcomes. Despite a general trend of decreasing tobacco use nationwide, an increase in electronic cigarette availability, attempts to replace traditional cigarettes with electronic cigarettes and vaping product popularity among youth continues to be a concern.

Current Cigarette Use – Adult

Current cigarette use among adults is estimated using responses from the Behavioral Risk Factor Surveillance System.

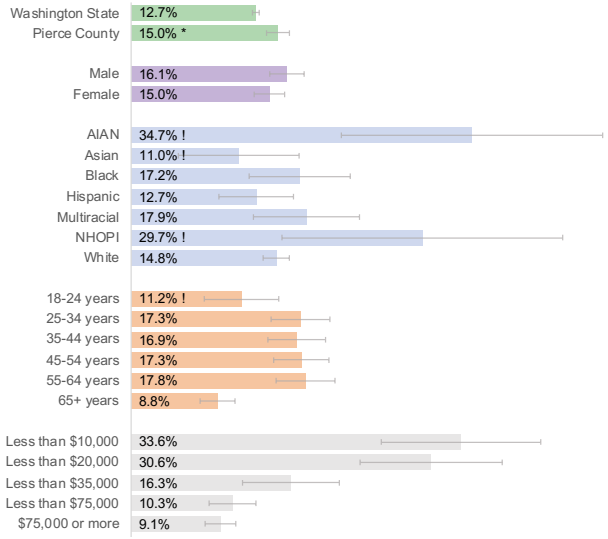
Adults living in Pierce County were more likely to be currently smoking compared to the state. American Indian and Alaskan Natives were more likely to be current smokers compared to other races, although the difference was not significant. No significant difference was seen among age groups. The percent of current smokers decreased with the increasing income levels.

Health Behaviors

Continued

Current Cigarette Use – Adults (%)

Pierce County, 2016-2020



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Behavioral Risk Factor Surveillance System

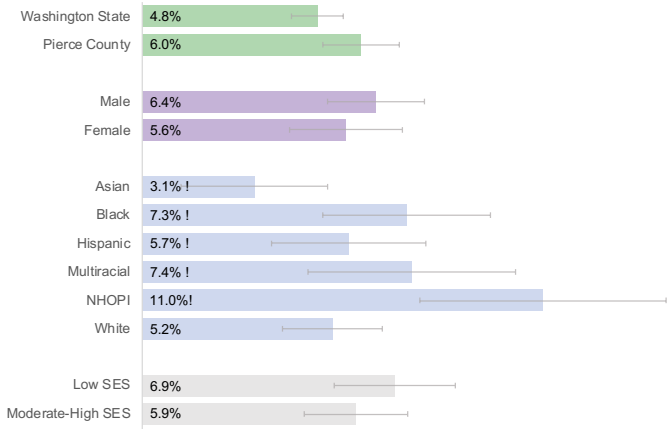
Current Cigarette Use – Youth

While the rate of tobacco use initiation has been declining nationwide, the issues of tobacco use among youth remains a concern. Preventing youth from forming a smoking habit reduces the risk of that individual smoking into adulthood.

The percentage of Pierce County youth who smoked cigarettes in the past 30 days was not significantly different compared to the state. Within the county, boys were more likely to report having smoked a cigarette compared to girls, and Native Hawaiian or other Pacific Islanders were significantly more likely to report having smoked a cigarette compared to white youth.

Youth Cigarette use, past 30 days (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

Health Behaviors

Continued

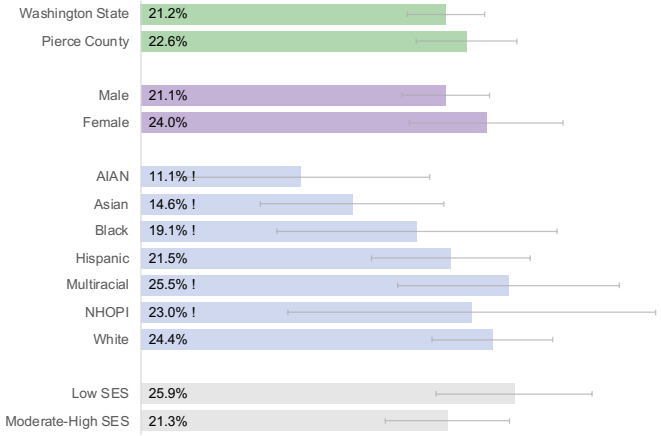
Current E-Cigarette Use – Youth

Although cigarette use has declined nationwide, a new public health concern is the increasing prevalence of electronic cigarette (e-cigarette) use among youth. Long-term effects of e-cigarette use are unknown.

The percentage of Pierce County youth who used an e-cigarette in the past 30 days was not significantly different compared to the state. Within the county, no significant differences were seen by sex, race/ethnicity or socioeconomic status.

Youth E-Cigarette use, past 30 days (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

COVID-19 has introduced many stressors that directly affect youth – disruption of social life, changing school schedules, and potential family issues with finances/ living arrangements. These stressors have the potential to drive some students to try cigarettes/tobacco that otherwise would not have tried them. It is likely that the percentage of students trying cigarettes or e-cigarettes has changed since 2020.

Health Behaviors

Continued

SOCIAL CONNECTIONS

One-third of the U.S. population reports they are socially isolated (having two or less people they can count on in times of need). Your risk of dying increases by 91% unless you have at least three strong connections.

Loneliness reduces life span. The impact of loneliness is equivalent to smoking 15 cigarettes daily and greater than the effect of obesity. Neighborhoods with stronger belonging and trust have lower obesity, hypertension and diabetes rates.

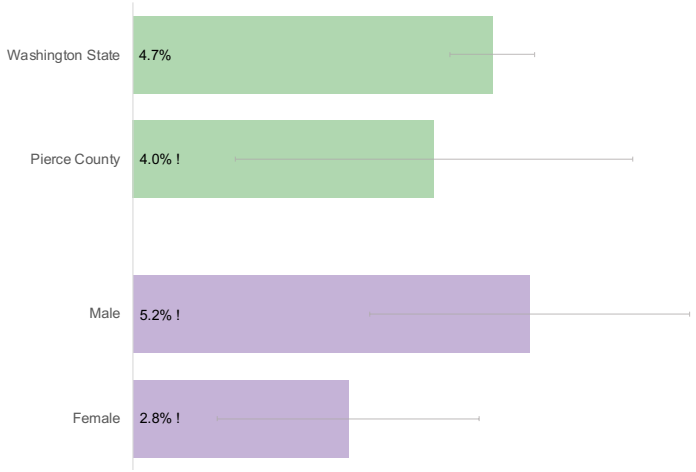
Social Support

Adults were asked about how many people they could count on to come help them if they asked for practical help, such as grocery shopping or caring for a family member.

Pierce County had a non-statistically significant lower percentage of adults who had no social support compared to the state. Men were more likely to report having no social support compared to women, though the difference was not significant.

No social support (%)

Pierce County, 2016-2020



(!) relative standard error greater than 30%
(*) value significantly different from WA state
Interpret results with caution due to sample size limitations
Source: Behavioral Risk Factor Surveillance System

Community Resources – Health Behaviors

American Cancer Society of Washington provides information on recommended screening guidelines, reducing cancer risk by making healthy choices like eating right, staying active and not smoking.

MultiCare Tobacco Cessation Program offers a free, self-guided program to help with tobacco cessation

Metro Parks Tacoma offers parks and programs, including scholarships for youth and adults.

Ready Set Go! 5210 - is a community-based initiative in Pierce County to promote healthy lifestyle choices for children, youth and families.

The Women Infant and Children Supplemental Nutrition program helps pregnant women, new mothers and young children eat well, learn about nutrition and stay healthy.

SNAP-Ed (Supplemental Nutrition Assistance Program Education) – A federal grant program also referred to as Basic Foods or Food Stamps.

Food banks, Farmer's Markets and other feeding programs, sponsored by faith-based organizations, are working to provide healthier options to their customers.

Virginia Mason Franciscan Outpatient Nutrition Education Center – Times and locations of diabetes support groups vary. See the website for details.

Virginia Mason Franciscan Health Talks – Activities intended to care for the mind, body and spirit.

YMCA of Pierce and Kitsap Counties:

- Diabetes Prevention Program
- ACT! Actively Changing Together

Access to Care, Use of Clinical Preventive Services and Oral Health

Access to comprehensive, high-quality health care services is vital for building healthier communities. Factors limiting access to health care make it more difficult to reach our full health & well-being potential. These barriers include inadequate insurance coverage, high costs of care and gaps in service availability. Addressing these barriers increases the likelihood we continue to have a healthy and vibrant community.

ACCESS TO CARE

The availability of insurance coverage can be the difference between receiving adequate prenatal care or postponing that care despite being a high-risk pregnancy, or regular visits with a primary care provider to screen for health conditions early and identify cancer early to increase the chances for successful treatment. Insurance coverage also allows individuals to engage the health care system before conditions develop and reduce the cost of neglected health. Unfortunately, segments of our population continue to be uninsured and experience difficulty accessing care.

Insurance Coverage

The lack of health care access can be particularly burdensome for individuals who don't have adequate health insurance. Following the implementation of the Patient Protection & Affordable Care Act, the proportion of residents reporting no insurance decreased significantly. Still, persistent insurance coverage gaps persist.

The percentage of the population that are covered by insurance was not significantly different between Pierce County and the state. Men were significantly less likely to be insured compared to women. Hispanics were significantly less likely to be insured compared to white. Insurance coverage was lowest among early/middle-aged individuals (18-44 years).

When we looked at SVI across the census tracts in Pierce County, the percentage of the population with health insurance decreased with increasing social vulnerability. Individuals living in highly vulnerable census tracts were significantly less likely to have health insurance compared to individuals in other social vulnerability groups.[15]

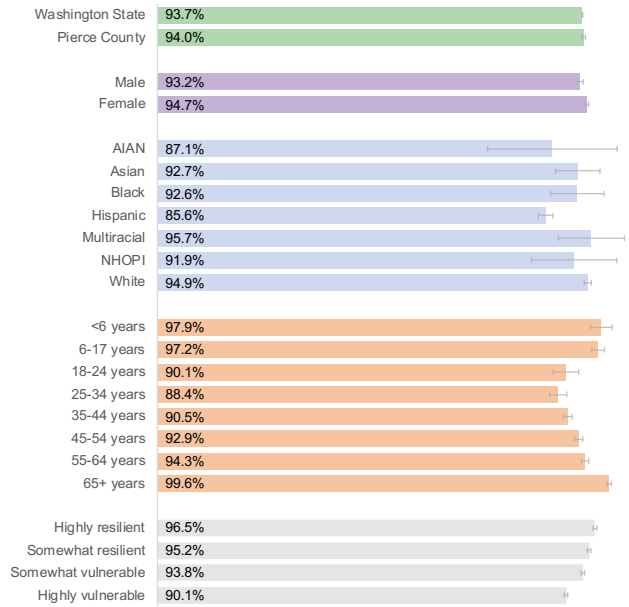
[15] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

Insurance Coverage (%)

Pierce County, 2015-2019



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: U.S. Census Bureau, American Community Survey (ACS) 5-year estimates, 2015-2019

Cost & Health Care Access

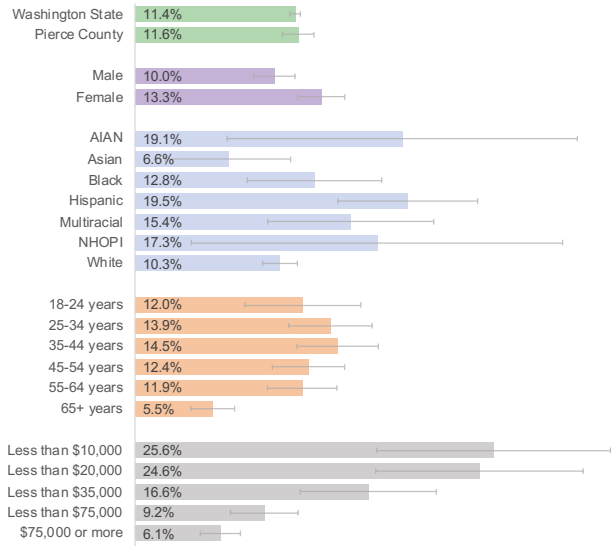
The ability to receive adequate healthcare partially depends on an individual's ability to pay. The Behavioral Risk Factor Surveillance Survey asks adults if they needed to see a doctor but were unable to due to financial reasons.

The percentage of adults who did not see a doctor due to cost was not significantly different between Pierce County and the state. Within the county, women were significantly more likely to not see a doctor due to cost compared to men. Hispanics were significantly more likely to not see a doctor due to the cost compared to white and Asian residents. Individuals 65+ years of age were significantly less likely to have an unmet healthcare need due to cost compared to the other age groups.

The percentage of individuals who did not see a doctor due to the cost increased with decreasing income.

Did not see a doctor due to cost (%)

Pierce County, 2016-2020



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Behavioral Risk Factor Surveillance System

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

ORAL HEALTH

Oral health is an oft-overlooked component of a robust public health system. Regular dental checkups have a crucial role in preventing childhood caries (cavities), as well as reducing the risk of chronic diseases.

Dental Checkups – Regular dental checkups help to promote proper oral hygiene practices and address acute and chronic oral health conditions.

Routine Dental Checkup – Adults

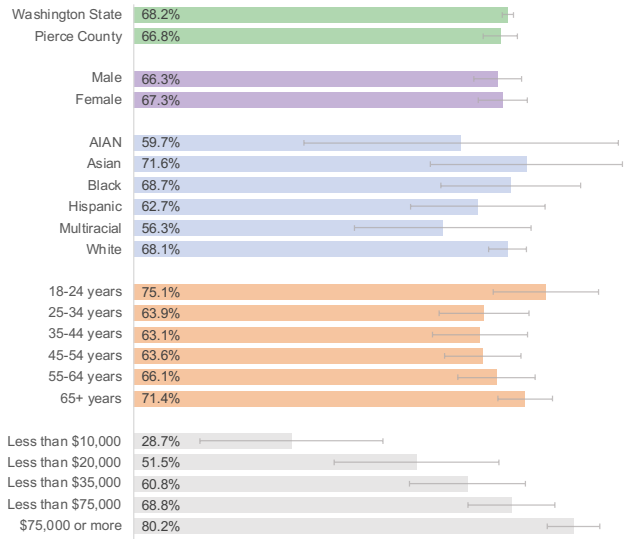
To prevent cavities and promote healthy dental hygiene practices, it is important to be routinely screened by a dental professional.

The percentage of adults living in Pierce County who had a routine dental checkup in the past year was not significantly different compared to the state. No significant differences were seen by gender, race/ethnicity, or age.

The percentage of individuals with a routine dental checkup in the past year increased with increased income.

Routine dental checkup, past year (%)

Pierce County, 2016-2020



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Behavioral Risk Factor Surveillance System

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

Routine Dental Checkup – Youth

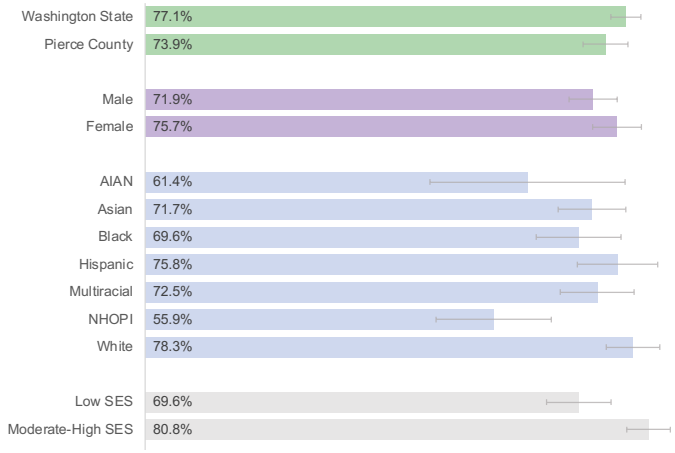
To prevent cavities and promote healthy dental hygiene practices, it is important to be routinely screened by a dental professional.

The percentage of Pierce County youth with a routine dental checkup in the past year was not significantly different compared to the state. No significant differences were seen by gender. Native Hawaiian and other Pacific Islander youth were significantly less likely to have had a dental checkup in the past year compared to their white counterparts.

The percentage of youth with a routine dental checkup in the past year significantly increased with increasing socioeconomic status.

Routine dental checkup, past year (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

CLINICAL PREVENTIVE SERVICES

Clinical services focused on disease prevention and detection - including colorectal, breast and prostate cancer screening - make important contributions to reducing the prevalence of disease. One of the greatest public health successes of clinical preventive services - immunizations - has reduced the burden of infectious disease worldwide and continues to do so. Understanding clinical preventive services in our community is key to maintaining a healthy community.

Vaccinations – The Advisory Committee on Immunization Practices (ACIP) provides advice and guidance on effective control of vaccine-preventable diseases in the U.S. civilian population. In this report, vaccination rates are estimated using data from the Washington State Immunization Information System (WAIIS) for 19-35 months of age.

Colorectal Cancer Screening – 2016 guidelines established by the US Preventative Task Force recommended that adults ages 50 to 75 years begin regular screening at age 50 and continue until age 75. Adults over 75 years were advised to consult with their doctor on continued screening. These guidelines were modified in 2021, to include adults aged 45 to 50 years.[16]

The data in the report is from 2018 (when the older guidelines were being followed), so the report uses the older age cutoffs.

Vaccinations (19-35 months)

Obtaining the recommended vaccinations early in childhood, particularly for children between 19 and 35 months old, have been successful in reducing the burden of infectious disease among youth. One commonly used measure for vaccinations is the percentage of children who have received the 4313314 HEDIS series (4 diphtheria, tetanus, acellular pertussis, 3 polio, 1 measles, mumps, rubella, 3 hepatitis B, 3 Hemophilus influenza type B, one chicken pox, and 4 pneumococcal conjugate vaccine) (4313314 HEDIS series).[17]

[16] U.S. Preventative Services Task Force. "Colorectal Cancer Screening". 18 May 2021. Retrieved from: https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/colorectal-cancer-screening

[17] Washington State Department of Health. "Public Health Measures: Public Health Immunization Measures by County". Retrieved from: https://doh.wa.gov/data-statistical-reports/washington-tracking-network-wtn/immunization-data/county-public-health-measures-dashboard

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

The percentage of Pierce County children between 19 and 35 months old who had their recommended vaccinations was significantly lower compared to the state.

Recommended early childhood vaccines completed (%)

19-35 months, 4313314 HEDIS series

Source: Washington State Immunization Information System, 2021

Colorectal Cancer Screening

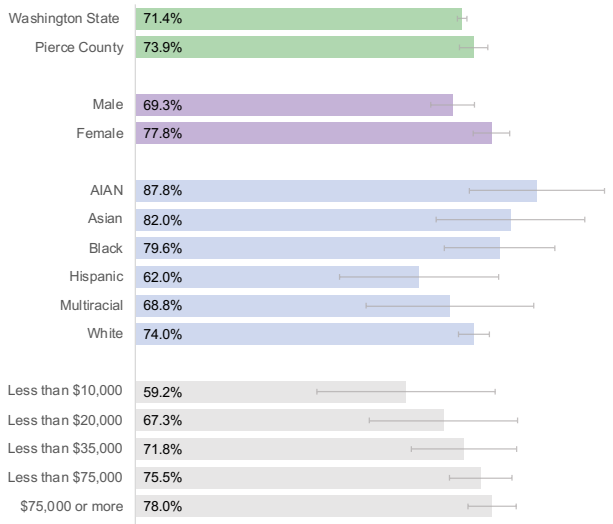
Regular screening for colorectal cancer can help detect cancer early in its development. In turn, this can improve treatment outcomes and reduce mortality. In 2016, the US Preventative Task Force recommended that adults ages 50 to 75 years begin regular screening at age 50 and continue until age 75. Adults over 75 years were advised to consult with their doctor on continued screening. These guidelines were modified in 2021, to include adults aged 45 to 50 years.[18] As the time period for the data ends before 2021, the graph below reflects the percentage that met the older guideline (50 years and above).

Pierce County residents were slightly more likely to be screened compared to the state, but the difference was not statistically meaningful. Hispanic adults were less likely to be screened compared to other groups, but the difference was not significant. No significant differences were seen by gender.

Colorectal screening increased with increasing income, though no differences were significantly meaningful.

Adults (50-75 yrs) meeting colorectal cancer screening guidelines (%)

Pierce County, 2015-2019



(*) value significantly different from WA state

Native Hawaiian/Pacific Islander excluded due to low sample size.

Source: Behavioral Risk Factor Surveillance System

[18] U.S. Preventative Services Task Force. "Colorectal Cancer Screening". 18 May 2021. Retrieved from: https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/colorectal-cancer-screening

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

Community Resources – Access to Care

Bates Dental Clinic provides low-cost preventive care and accepts Apple Health insurance for adults.

Pierce College Dental Hygiene Clinic provides low-cost preventive care for low-income and uninsured families and seniors.

Pierce County Project Access collaborates with providers to deliver medical and dental care for uninsured and low-income individuals. Project Access also offers premium assistance for individuals on the health exchange.

Community Health Care (CHC) is a private, nonprofit organization that operates clinics throughout Pierce County that offer primary medical and dental care services to uninsured and low-income individuals.

Sea Mar Community Health Center specializes in primary care medicine, including preventive health exams, urgent care visits, minor procedures, health education, follow-up care from hospital visits and referrals for other medical services. In addition to these services, Sea Mar provides comprehensive health services for the entire family, including dental, behavioral health and preventive health services.

Lindquist Dental Clinic for Children provides accessible, compassionate and effective dental care to Puget Sound children in need at local clinics, schools and dental outreach events.

Mary Bridge Children's Immunization Clinic offers free vaccines for newborns and children up to age 19.

Medical Teams International offers free or low-cost urgent dental care services through its Mobile Dental Program.

Neighborhood Clinic provides free urgent medical care to patients who cannot afford or access health care.

Statewide Health Insurance Benefits Advisors (SHIBA) can help explain health care coverage options and rights; find affordable health care coverage; and evaluate and compare health insurance plans. Provides free, unbiased and confidential assistance with Medicare and health care choices.

Tacoma-Pierce County Health Department Family Support Centers assists families in finding resources and applying for DSHS benefits, including SNAP (food stamps), as well as medical and dental benefits. In addition, the Family Support Centers connect families to low-cost and/or free resources in the community, including pregnancy, parenting and maternity support; infant case management; services for children with special needs; and services for behavioral health care needs.

Access to Care, Use of Clinical Preventive Services and Oral Health

Continued

Carol Milgard Breast Center offers sustainable breast health services to all women in the Pierce County community.

Federally Qualified Health Centers offer primary, preventive and supportive health services. without regard to economic or insurance status.

Potentially Preventable Hospitalizations Initiative is a pilot program led by a coalition of health service providers, including MultiCare Health System. Clinics in a six-zip code area are working to increase the number of residents who receive pneumonia and flu shots and who are screened for alcohol, tobacco and other drug use and for depression.

Maternal and Child Health

Improving the well-being of mothers, infants and children determines the starting point of health for families in our community. Maximizing the potential of our community requires protecting and promoting the health of our future generations through positive behaviors, such as early and adequate prenatal care and breastfeeding.

PREGNANCY

Pregnancy is a complex and life-changing experience that lays the foundation for a community's future. Many factors impact the likelihood of poor pregnancy outcomes. Early and adequate prenatal care may prevent pregnancy-related complications, help mothers as they navigate a high-risk pregnancy or assist them in connecting to tobacco cessation resources.

Prenatal Care – Obtaining early and adequate prenatal care is important to ensure that mothers address any acute or chronic health conditions that may lead to poor pregnancy outcomes.

Prenatal Care Adequacy

The adequacy of prenatal care is measured using Kotelchuck's Adequacy of Prenatal Care Utilization (APCU) index. Prenatal care is considered adequate based on when prenatal care is initiated (the earlier the better) and how many of the expected visits are completed.

Pierce County had a significantly higher percentage of mothers who had inadequate prenatal care compared to the state. Within the county, women who were American Indian/Alaskan Native and Native Hawaiian or Other Pacific Islanders had the highest percentage of inadequate care while white women had the lowest percentage of inadequate care. Younger women had the highest chance of having inadequate prenatal care.

When we looked at SVI across the census tracts in Pierce County, the percentage of mothers with inadequate prenatal care increased with increasing social vulnerability. Mothers living in somewhat vulnerable census tracts were significantly more likely to have inadequate prenatal care compared to mothers who lived in somewhat resilient areas. Similarly, mothers living in highly vulnerable areas were significantly more likely to have inadequate prenatal care compared to mothers who lived in somewhat vulnerable census tracts.[19]

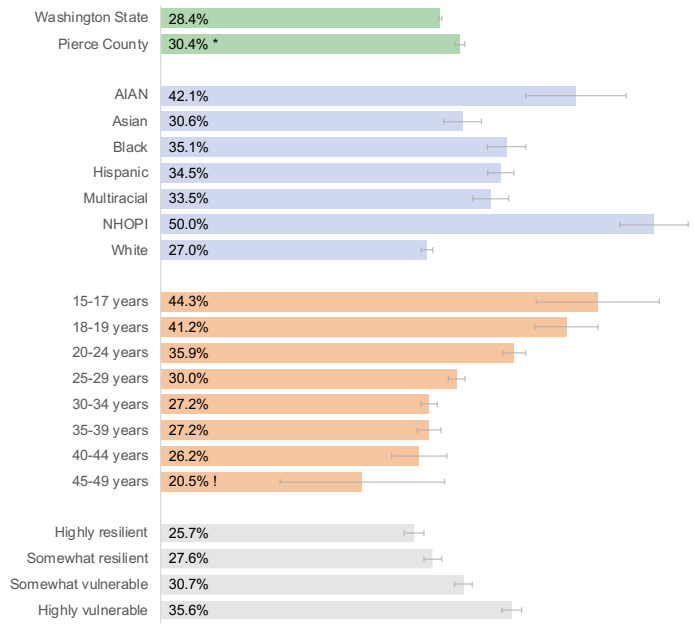
[19] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Maternal and Child Health

Continued

Inadequate prenatal care (%)

Pierce County, 2015-2019



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Some races excluded due to sample size limitations

Source: Washington State Department of Health, Center for Health Statistics (CHS), Birth Certificate Data, 1990–2016, Community Health Assessment Tool (CHAT), April 2021.

INFANCY

The first year of life, or infancy, is an important time in child development. Infant mortality, including Sudden Infant Death Syndrome (SIDS), is a concern in all populations with disparities between populations – such as teenage pregnancies and race and/or ethnicity.

Infant Mortality – The number of infant deaths per 1,000 live births is generated using birth certificate data and represents the infant mortality rate.

Low Birth Weight – A birthweight under 2500 grams is low birthweight, while very low birthweight is a birthweight under 1500 grams.

Infant Mortality

Infant mortality refers to the child's death less than 365 days after birth. As prenatal care has improved, infant mortality has become less common, but still exists.

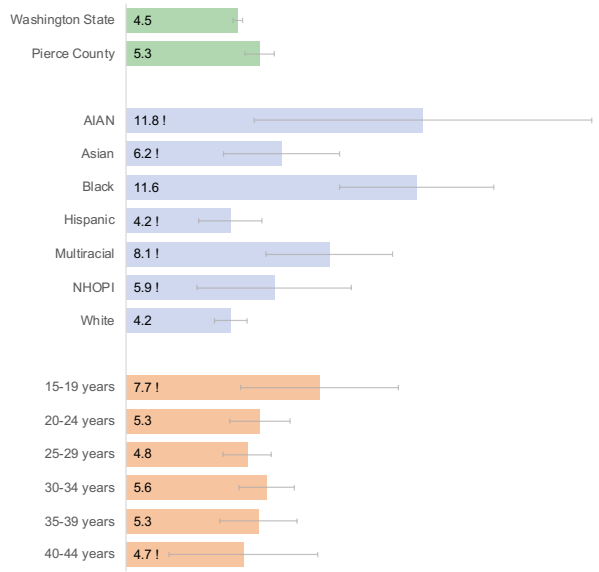
The rate of infant mortality in Pierce County was not significantly higher compared to the state. Within Pierce County, a few disparities were seen, with American Indian and Alaskan Natives and Blacks have higher rates of infant mortality compared to Hispanics and white adults.

Maternal and Child Health

Continued

Infant Mortality Rate (IMR)

Pierce County, 2014-2018



IMR: Infant deaths per 1,000 live births
(*) value significantly different from WA state
(!) relative standard error greater than 30%
Source: Washington State Department of Health, Center for Health Statistics (CHS), 1990–2018, Community Health Assessment Tool (CHAT), June 2020.

Low Birth Weight

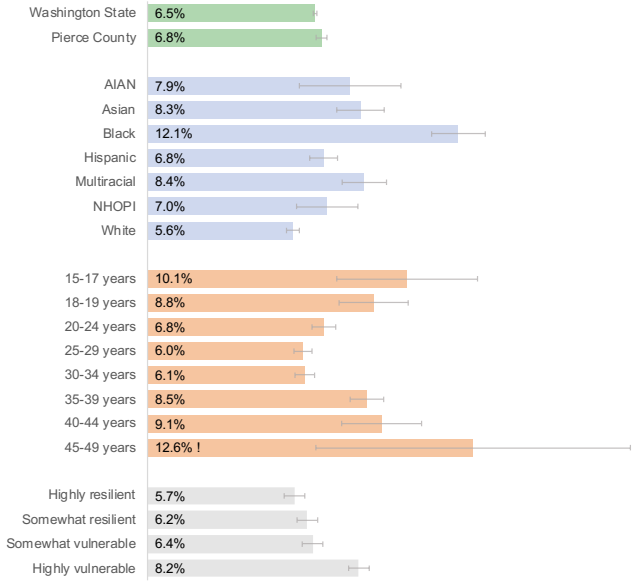
Having a low birthweight is an important risk factor for the well-being of a newborn. As a county-wide measure, a low birthweight is measured as the proportion of births where the infant was 2500 grams or fewer.

Black mothers had a significantly higher percentage of births with a low birthweight compared to mothers from other races. White and Hispanic mothers had the lowest percentage of births with a low birthweight.

When we looked at SVI across the census tracts in Pierce County, the percentage of babies born with a low birth weight increased with increasing social vulnerability.[20] The greatest difference was seen between individuals living in highly vulnerable census tracts compared to mothers who lived in somewhat vulnerable areas.

Low Birth Weight, ≤2500 grams (%)

Pierce County, 2015-2019



(*) value significantly different from WA state
(!) relative standard error greater than 30%
Source: Washington State Department of Health, Center for Health Statistics (CHS), Birth Certificate Data, 1990–2019, Community Health Assessment Tool (CHAT), June 2020.

[20] A lower social vulnerability score corresponds to greater resiliency in a community. To see which census tracts were assigned to which social vulnerability group, see Map 1 (page 10).

Maternal and Child Health

Continued

Community Resources – Maternal and Child Health

Nurse-Family Partnership is a home visiting program available to support families through pregnancy and a child's 2nd birthday.

Black Infant Health educates pregnant black women and their families about pregnancy and infant health through a partnership with local African American churches, community groups and TPCHD.

Pregnancy Aid is a Tacoma social service agency that provides immediate help to any woman and her family, including food, clothes, baby supplies and help with rent and utilities.

Postpartum Support International has two active support groups in Pierce County.

Native American Women's Dialogue on Infant Mortality (NAWDIM) is a Native-led collective whose members are concerned about high rates of infant mortality in their communities.

Equal Start Community Coalition brings together leaders of nearly 30 organizations to promote healthy mothers, families and communities and seeks to reduce infant mortality.

Results Washington is Governor Jay Inslee's statewide framework which calls for reducing birth outcome disparities.

MOMs Plus is a program for high-risk pregnant and parenting women.

Period of PURPLE Crying is a curriculum that helps parents understand this time in their baby's life and is a promising strategy for reducing the risk of child abuse.

Women, Infants and Children (WIC) provides support for pregnant women, nursing moms and children under five to improve access to healthy foods, receive health education and screening services, increase breast feeding and access other health and social services.

Public Health Improvement Partnership is convened by the Washington State Department of Health to prevent or reduce the impact of adverse childhood experiences, such as abuse and neglect.

Perinatal Collaborative of Pierce County (PCPC) is a local non-profit dedicated to improving the health of Pierce County mothers and infants. PCPC provides opportunities to learn about best practices in caring for mothers and infants in our community.

Maternity Support Services (MSS) includes preventive health and education services for Medicaid enrolled pregnant women and their infants.

Injury and Violence

Injuries and violence adversely affect everyone from the individual level to the greater community they live in, regardless of their background. Injuries and violence are leading causes of death and disability at all levels of our society, but we can prevent these events. Those who survive these traumatic experiences may face life-long mental and physical problems. Understanding the extent of this socioeconomic issue is critical to effective prevention.

CHILD ABUSE AND NEGLECT

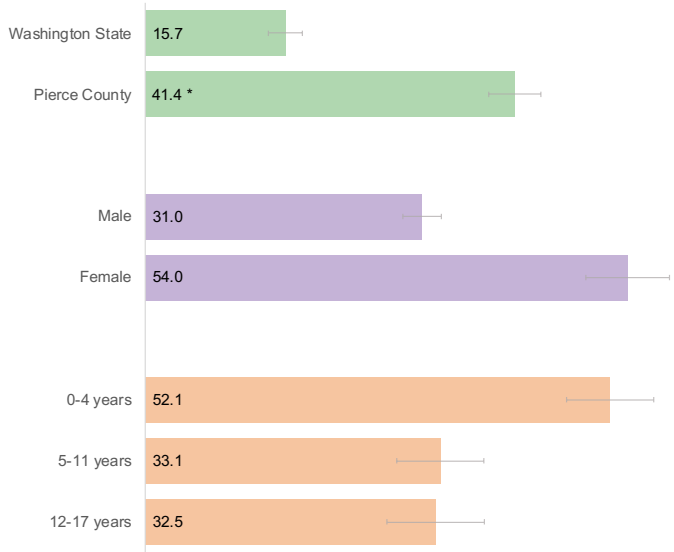
The rate of child abuse/neglect is measured through the Rapid Health Information Network (RHINO). It is a visit-based rate that is out of 10,000 emergency dept/urgent care visits. An individual may be counted more than once if they have repeat visits that fall under this category.

Pierce County had a higher rate of emergency department/urgent care visits related to child abuse and neglect compared to the state. Within the county, the rate was disproportionally higher for girls and for those under 5 years of age.

This indicator was negatively affected by COVID-19. The rate of child abuse relatively increased by over 70% from March 2020 to May 2020, and remained above pre-pandemic levels through March 2021. As child abuse/neglect is underreported, this is likely an undercount.

Child Abuse and Neglect per 10,000 Emergency Dept/Urgent Care Visits

Pierce County, June 2019 – March 2021



(*) value significantly different from WA state
(!) relative standard error greater than 30%
Source: Rapid Health Information Network (RHINO), June 2019-March 2021.

Injury and Violence

Continued

INTIMATE PARTNER VIOLENCE

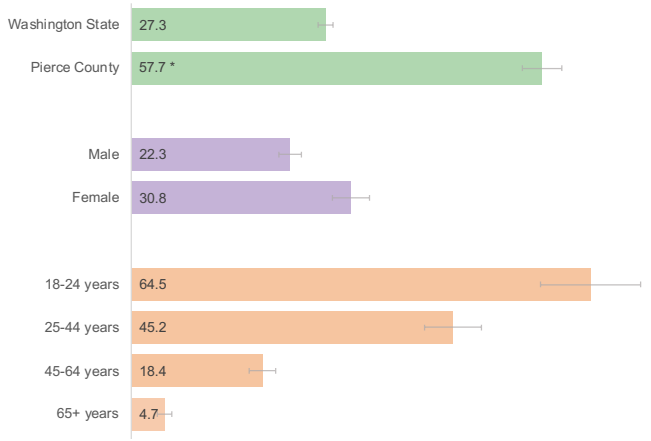
The rate of intimate partner violence is measured through the Rapid Health Information Network (RHINO). It is a visit-based rate that is out of 10,000 emergency dept/urgent care visits. An individual may be counted more than once if they have repeat visits that fall under this category.

The rate of intimate partner violence was significantly higher in Pierce County compared to the state (57.7 vs 27.3 respectively). Women were more likely to visit the emergency room/urgent care for this reason compared to men. The rate of intimate partner related emergency department/urgent care visits decreased with increasing age.

This indicator was negatively affected by COVID-19. The rate of intimate partner violence relatively increased by over 200% from April 2020 to June 2020, and relatively increased by over 50% from August 2020 – October 2020. As domestic/intimate partner violence is underreported, this is likely an undercount.

Intimate Partner Violence per 10,000 Emergency Dept/Urgent Care Visits

Pierce County, June 2019 – March 2021



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Rapid Health Information Network (RHINO), June 2019 – March 2021.

Injury and Violence

Continued

INTENTIONAL INJURIES

Intentional injuries, whether self-inflicted (attempted suicide hospitalizations and suicide deaths) or caused by others (firearm-related injuries), are of public health concern because they are often preventable, and the resounding effects can be far-reaching and long-lasting.

Although most of the data was collected before the 2019 pandemic, recent data suggests some concerning trends. Anecdotal evidence from the Pierce County Sheriff's Office suggests that there was a significant increase in drive-by shooting and aggravated assaults in 2020 (and the first four months of 2021) compared to earlier years. It is unknown whether this trend will continue.

Additional data obtained from RHINO suggests that the rate of self-harm emergency department/urgent care visits increased by 30% from April to July of 2020, compared to a similar timeframe in 2019 (with the largest increases being seen among individuals aged 5-17 and 18-44 years of age). Some of this increase is likely due to the COVID pandemic, but the exact amount is unclear. As life returns to a sense of normalcy, it is unclear whether this trend will continue.

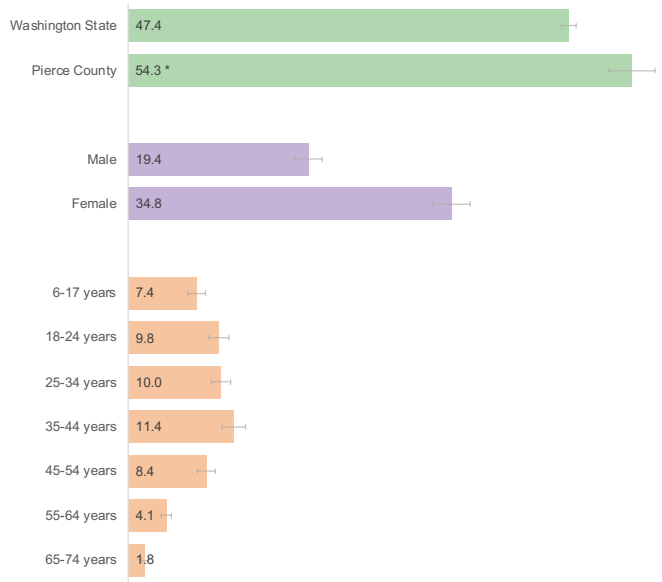
Hospitalizations (attempted suicide)

The attempted suicide hospitalization rate is reported as the rate per 100,000 people. It uses specific diagnosis codes set by the International Classification of Diseases, 10th Revision to capture the number of attempted suicide hospitalizations. The rate is age adjusted to the US 2000 standard population.

The attempted suicide hospitalization rate was significantly higher in Pierce County compared to the state. Women were more likely to be hospitalized for suicide attempts compared to men. Individuals aged 35-44 years were the most likely to be hospitalized due to an attempted suicide.

Hospitalizations (attempted suicides)

Pierce County, 2016-2019



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: WA Hospital Discharge Data, Comprehensive Hospitalization Abstract Reporting System (CHARS) 1987-2019. Washington State Department of Health, Center for Health Statistics, Community Health Assessment Tool (CHAT), August 2021

Injury and Violence

Continued

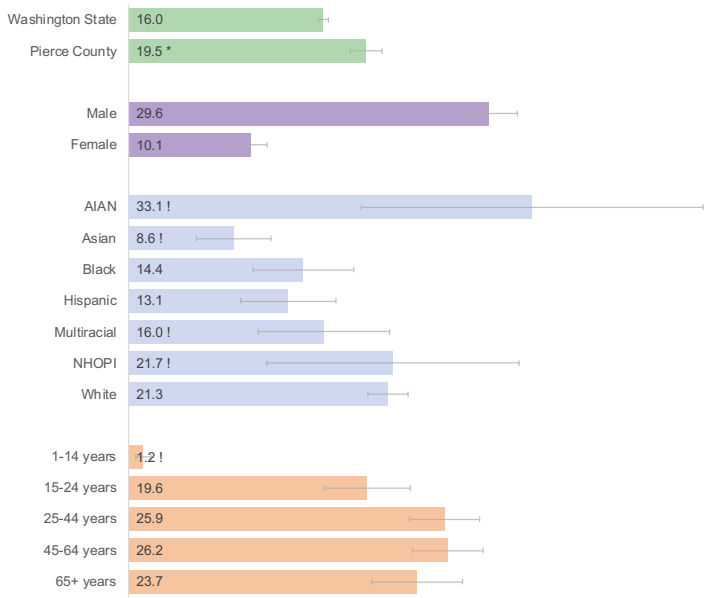
Suicide

Suicide is one of the leading causes of death. The rate of suicide is the number of deaths due to intentional self-harm per 100,000 people.

Pierce County had a significantly higher suicide rate compared to the state. Men are significantly more likely to commit suicide than women. Racial/ethnic data for suicides are limited, often leading to large relative standard errors (and unstable rates). With this in mind, American Indian and Alaskan Natives have the highest suicide rate. Excluding children under 14, no significant differences were seen by age group.

Suicides per 100,000 people

Pierce County, 2015-2019



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Source: Washington State Department of Health, Center for Health Statistics (CHS), 1990–2019, Community Health Assessment Tool (CHAT), January 2021.

UNINTENTIONAL

Accidental injuries are one of the leading causes of hospitalization and death nationwide. Typically, unintentional injuries are due to poisonings, motor vehicle crashes and falls.

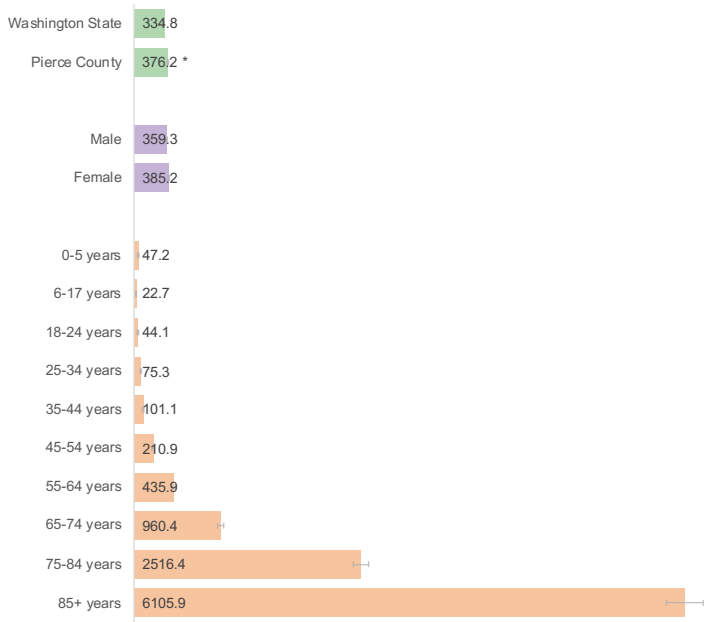
Fall-related Hospitalizations

Hospitalizations caused by falls are reported as a rate per 100,000 people from hospital discharge data. It includes both nonfatal and fatal falls.

The fall-related hospitalization rate for Pierce County was significantly higher compared to the state. Females were more likely to be hospitalized due to falls compared to males. With the exception of 6-17 year olds, the rate of fall-related hospitalizations increased with increasing age.

Hospitalizations (Fall-Related)

Pierce County, 2016-2019



(*) value significantly different from WA state

Rates by age are age-specific.

Source: WA Hospital Discharge Data, Comprehensive Hospitalization Abstract Reporting System (CHARS) 1987-2019. Washington State Department of Health, Center for Health Statistics, Community Health Assessment Tool (CHAT), August 2021.

Injury and Violence

Continued

Community Resources – Drugs and Alcohol

The Target Zero Task Force, which focuses on reducing traffic crashes and traffic-related injuries to zero by the year 2030.

Child Safety

Mary Bridge Center for Childhood Safety

Fall Prevention

Stay Active & Independent for Life (SAIL) is a strength, balance and fitness program for adults 65 and older.

THINKFIRST is a national injury prevention foundation, including concussions and falls.

Harborview Injury Prevention and Research Center is an international leader in injury-prevention research that focuses on reducing the personal impact of trauma and broadening the effectiveness of injury-prevention programs.

Community and senior centers offer physical-activity programs, such as Silver Sneakers.

Neighborhood & Community Safety

Safe Streets Neighborhood Mobilization Programs support safety and violence prevention across the county.

Crime Prevention Through Environmental Design (CPTED) is violence prevention through the lens of more livable neighborhoods.

Behavioral Health

Mental health is essential to a person's well-being and ability to live a full and productive life. Individuals of all ages, including children and adolescents, with untreated mental health disorders are at an elevated risk for many unhealthy and unsafe behaviors and co-occurring disorders, including substance abuse and dependency.

In a typical year, 1 in 5 (20%) Americans nationally will experience mental illness.[22,23] According to National Alliance on Mental Illness, American Indian/ Alaska Natives and multiracial U.S. adults experience more mental illness (18.7% and 31.7%, respectively) despite representing less of the U.S. population. U.S. adults identifying as lesbian, gay or bisexual are also experiencing more mental illness compared to other U.S. adult populations (44.1%).[23]

For the purposes of this report, mental health indicators (depression and anxiety) are reported from surveys taken before the 2019 coronavirus pandemic. The section following these results (COVID-19 and Behavioral Health), briefly discusses possible impacts of COVID-19.

MENTAL HEALTH

The level of psychological well-being or an absence of mental illness, or mental health, affects how we think, feel and act. Depression and anxiety are examples of how mental health presents itself in our communities.

Depression – Depression among youth is measured through the Healthy Youth Survey, while depression among adults is estimated through the Behavioral Risk Factor Surveillance System. Depression is identified through having a previous diagnosis of depression by a health care professional. Since different surveys are used to measure depression among adults and youth (each with their own wording), rates should not be directly compared among the two age groups.

Anxiety – Anxiety/nervousness/being on edge is measured through the Healthy Youth Survey. It is based on a self-report of youth who felt bothered by being nervous/anxious or on edge more than half the time in the previous two weeks.

[21] Nami.org. 2021. *Mental Health By the Numbers | NAMI: National Alliance on Mental Illness.* [online] Available at: https://www.nami.org/mhstats [Accessed September 8, 2021].

[22] Adults with any mental illness were defined as having any mental, behavior, or emotional disorder in the past year that met DSM-IV criteria (excluding developmental disorders and substance use disorders). Adults with any mental illness were defined as having serious mental illness if they had any mental behavioral or emotional disorder that substantially interfered with or limited one or more major life activities

[23] Nami.org. 2021. *Mental Health By the Numbers | NAMI: National Alliance on Mental Illness.* [online] Available at https://www.nami.org/mhstats [Accessed September 8, 2021].

Behavioral Health

Continued

Anxiety - Youth

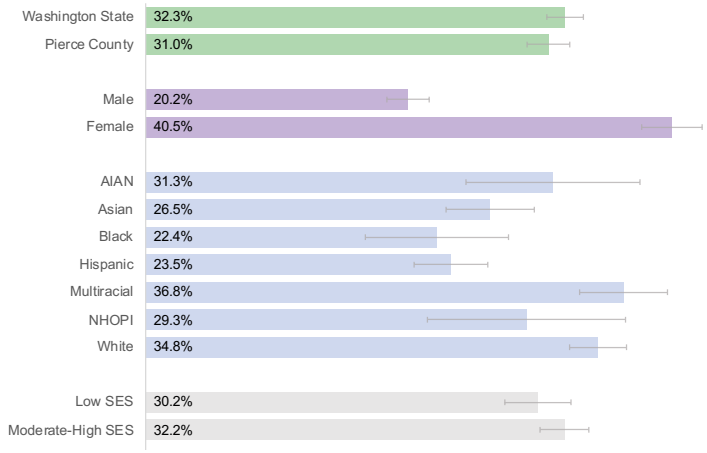
Youth are considered to have been anxious when they have reported feeling bothered by feeling nervous, on edge or anxious more than half of the time in the previous two weeks.

No significant differences were seen between Pierce County youth and the state. Girls are more likely to report being bothered by nervousness/anxiety or being on edge compared to boys. Black and Hispanic youth were less likely to report feeling bothered by nervousness/anxiety or being on edge compared to white residents and those identifying with multiple races.

No significant differences were seen by socioeconomic status.

Self-Reported Anxiety – Youth (%)

Pierce County, 2018



(*) value significantly different from WA state

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

Behavioral Health

Continued

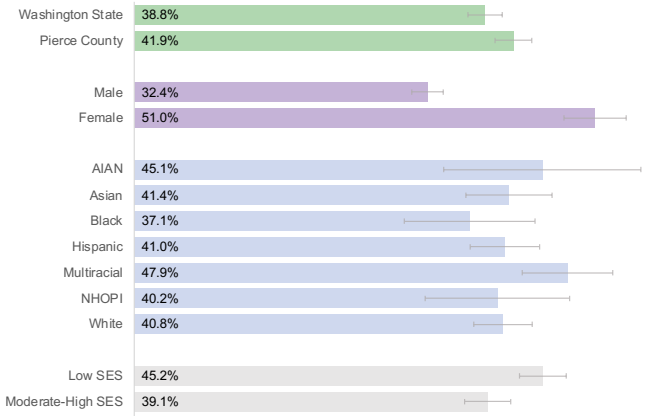
Depression Among Youth

Youth are considered to have been depressed when they reported feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities in the past 12 months.

No significant differences were seen between Pierce County youth and the state. Girls were more likely to be depressed compared to boys. The prevalence of youth depression decreased with increasing socioeconomic status.

Self-Reported Depression– Youth (%)

Pierce County, 2018



(*) value significantly different from WA state
Race excluded due to sample size limitations
Source: 2018 Healthy Youth Survey (10th graders)

Depression – Adults

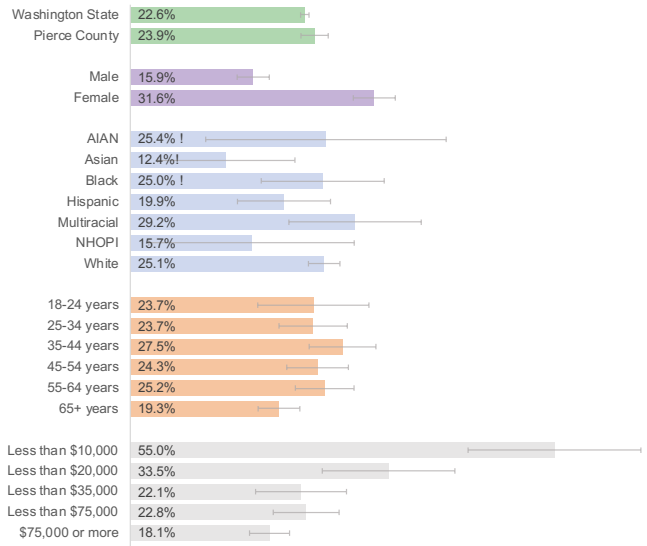
Depression diagnoses among adults are self-reported the Behavioral Risk Factor Surveillance System. As mentioned above, rates for adults should not be directly compared to those for youth, since different surveys (with different questions) are used.

No significant differences were seen between Pierce County adults and the state. Women were more likely to report being depressed compared to men. No significant differences were seen by race/ethnicity or age group.

The prevalence of diagnosed depression decreased with increasing income level.

Diagnosed Depression Among Adults

Pierce County, 2016-2020



(*) value significantly different from WA state
(!) relative standard error greater than 30%
Source: Behavioral Risk Factor Surveillance System

Behavioral Health

Continued

SUBSTANCE ABUSE AND DEPENDENCY

The inappropriate use of mind-altering substances, legal and illegal, presents major challenges to a community. Substances of public health concern include, but are not limited to, alcohol, marijuana and opioids. Alcohol and marijuana use among youth or driving while under the influence of either are concerns of the public health system. Ensuring an adequate system to assist individuals dealing with substance abuse and dependency issues is key.

Marijuana Use - Youth

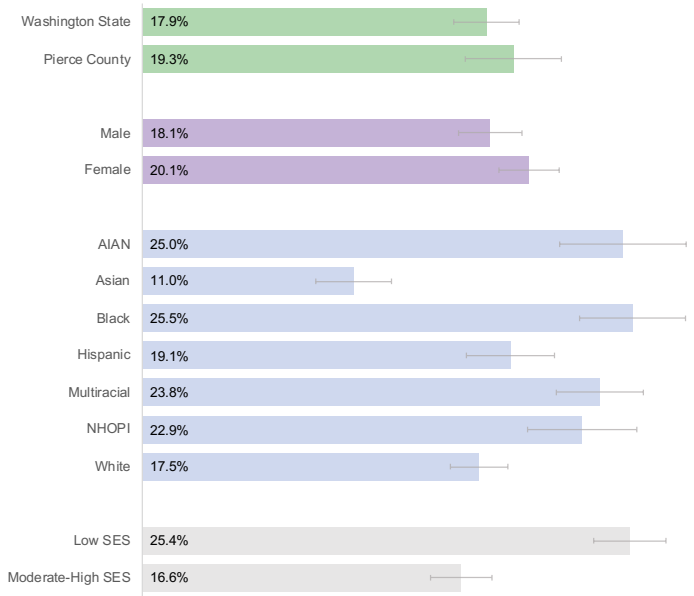
In Washington State, marijuana use is legal for people 21 years and older. Marijuana use puts youth at greater risk for addiction and failing in school. Most teens who enter drug treatment programs report marijuana is the main drug they use.

The percent of Pierce County youth who reported using marijuana was slightly higher compared to the state average. Asian youth in Pierce County reported less marijuana use compared to other race and ethnicity groups. Black and American Indian/Alaskan Native youth had higher use percentages compared to white and Asian youth.

Youth who reported being a lower socioeconomic status were more likely to use marijuana compared to those who reported a higher socioeconomic status.

Marijuana Use Among Youth (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

Behavioral Health

Continued

Alcohol, Marijuana, Painkiller or Other Illicit Drug Use

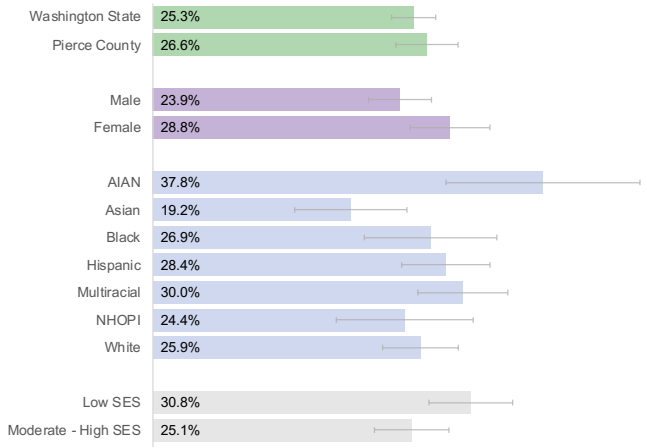
As mentioned above, marijuana use puts youth at greater risk for addiction and failing in school. Similarly, alcohol can put youth at a greater risk. Both can serve as a gateway mechanism for other illicit drug use.

The percent of Pierce County youth who reported drinking alcohol or using marijuana/painkillers/other illicit drugs in the past 30 days was slightly higher compared to the state average. Asian youth in Pierce County reported less alcohol consumption or marijuana/painkiller/illicit drug use in the past 30 days compared to other race and ethnicity groups. Black and American Indian/Alaskan Native youth had higher use percentages compared to white and Asian youth.

Youth who reported being a lower socioeconomic status were more likely to consume alcohol or use marijuana/painkillers/other illicit drugs compared to those who reported a higher socioeconomic status.

Alcohol, Marijuana, Painkiller or Other Illicit Drug Use– Past 30 days (%)

Pierce County, 2018



(*) value significantly different from WA state

(!) relative standard error greater than 30%

Mothers Education was used as a proxy for SES. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Source: 2018 Healthy Youth Survey (10th graders)

Behavioral Health

Continued

2020 AND BEHAVIORAL HEALTH

2020 and 2021 held many short-term and long-term traumatic events that may exacerbate existing mental health issues (e.g., COVID-19 pandemic, political strife, natural disasters and cries for racial justice). By itself, the COVID-19 pandemic has exacerbated all the social, environmental, and economic inequities we already see such as:

- Unemployment and housing instability;[24]
- Physical separation from loved ones and increased feelings of isolation and loneliness;
- Physical, emotional and economic stress;
- Grief and loss;
- Interpersonal violence and emotional separation;
- Pressures on parents and caregivers with young children and;
- A cascade of emotions as Washington State shifts back and forth through reopening.

Support systems meant to help individuals through this time often brought more anxiety and/or frustrations. For example, stimulus checks may have inadvertently fueled alcohol and substance misuse.[25]

In Pierce County, COVID-19 has disproportionally affected people of color. Case, hospitalization and death rates are higher among Native Hawaiian and other Pacific Islander, Black and Hispanic residents compared to white residents.[26] These communities are also more likely to be affected by public health measures aimed at slow transmission of the disease. For example, making school online-only places an undue hardship on those who do not have internet access.

Besides COVID-19, local and national events have ignited calls for racial and social justice, which may impact mental health in Pierce County, especially within communities of color.

The above stressors have impacted youth and adults– disruption of social life, changing schedules, and potential family issues with finances/living arrangements. These stressors have the potential to drive some individuals to try cigarettes/tobacco or other substances that otherwise would not have tried them.

[24] *The Urban Wire, 2020.* How COVID-19 is Affecting Black and Latino Families' Employment and Financial Well-Being. [online]. Available at https://www.urban.org/urban-wire/how-covid-19-affecting-black-and-latino-families-employment-and-financial-well-being.

[25] Thedenverchannel.com. 2021. [online]. Available at https://www.thedenverchannel.com/news/national/experts-fear-stimulus-checks-could-be-linked-to-more-drug-overdoses [Accessed 1 June 2021].

[26] https://www.tpchd.org/healthy-people/diseases/covid-19/pierce-county-cases

Behavioral Health

Continued

Community Resources – Behavioral Health

Gig Harbor Key Peninsula Suicide Prevention Coalition helps educate the community.

Living Works has several suicide preventions programs and training in Pierce County.

Forefront, a research organization based at the University of Washington, is training health professionals to develop and sharpen their skills in the assessment, management and treatment of suicide risk.

WA House Bill 2315 and other bills passed over the past several years require school staff, behavioral healthcare providers and other healthcare providers to participate in suicide prevention training as part of their licensure.

Children's Crisis Outreach Response System (CCORS) provides mobile crisis outreach and crisis stabilization services for children and youth up to age 18.

The Crisis Solutions Center offers a therapeutic option when police and medics are called to intervene in a behavioral healthcare crisis. The program minimizes inappropriate use of jails and hospitals and provides rapid stabilization, treatment and referrals for up to 46 individuals.

NAMI Pierce County serves individuals, families and communities in Pierce County struggling with mental health.

211 Pierce County has a dedicated mental health navigator.

Mental Health First Aid is an 8-hour course that gives people the skills to help someone who is developing a mental health problem or experiencing a mental health crisis.

Tacoma Pierce County Health Department Family Support Partnership - Family Support Centers offer many community-based services. They are a hub to help families find the resources to achieve their goals. Not all support centers have the same services. They are each designed to meet the needs of the community around it.

Greater Lakes Mental Healthcare provides a full range of mental health services.

Metropolitan Development Corporation has a wide range of housing, health and mental health programs.

Pierce County Alliance provides human services, specializing in substance abuse and mental health services for individuals, families and the community.

Behavioral Health

Continued

Comprehensive Life Resources provides behavioral health services, including outpatient and community support services to adults, children and families, services to homeless individuals, housing services, foster care and residential/inpatient services for children and adults.

Tacoma Area Coalition for Individuals with Disabilities (TACID) works with individuals to assess needs, including behavioral health needs, TACID supports and connects individuals with community resources, including behavioral health services.

Catholic Community Services consists of 12 family centers across Western Washington providing an array of services, including counseling, case management, information and referral, chemical dependency services, mental health services and family support services to children, adults and families in need.

Supplement

QUANTITATIVE DATA SOURCES

The data sources included in the quantitative analysis range from those providing aggregate results for the populations of interest to those with raw data available for analysis where estimates were generated by TPCHD.

American Community Survey (ACS)

This mailed survey is an annual supplement to the 10-year Census. The ACS location of residence is based on census tracts, which are converted to zip code tabulation area (ZCTA) for analysis.

Behavioral Risk Factor Surveillance System (BRFSS)

This is the largest, continuously conducted telephone health survey in the world. The survey collects information on a vast array of health conditions, health-related behaviors and risk and protective factors about individual adults. In 2011, a new data weighting approach was implemented making data before 2011 unreliable for comparison to 2011+ data.

Comprehensive Hospitalization Abstract Reporting System (CHARS)

Hospital discharge data including records on inpatient and observation patient hospital stays.

Community Health Assessment Tool (CHAT)

This data source is a web application that allows authorized users to generate estimates for different geographies depending on the data source. Data from an array of data sources is used to generate estimates by zip code, county and state in this tool.

Washington State Department of Social and Human Services (DSHS)

Foster care placement services, foster care support services and Child Protective Services aggregate estimates at the county-level and school district-level were available using the online reporting system available through DSHS.

Healthy Youth Survey (HYS)

This school-based survey is administered in even number years statewide to grades 6, 8, 10 and 12 in public schools. This report highlights 10th grade data. Mothers Education was used as a proxy for socioeconomic status. Low SES was defined as having a mother who had a high school diploma/GED or lower. High SES was defined as having a mother who had at least some college or technical training after high school.

Supplement

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Office of Superintendent of Public Instruction (OSPI)

The Washington State Office of Superintendent of Public Instruction provides data on graduation and free or reduced-price meal data through the Comprehensive Education Data and Research System (CEDARS), an online system that captures information regarding student graduation, transfers and drop-outs. The adjusted cohort method follows a single cohort of students for four years based on when they first entered 9th grade. The cohort is adjusted by adding in students who transfer into the school and subtracting students who transfer out of the school.

CDC Social Vulnerability Index

This index was originally developed by the CDC to help emergency responders prioritize certain communities for hazard preparedness and response. It uses 15 census-tract level variables to rank each community into four major themes: socioeconomic status, household composition and disability, minority status and language and housing type and transportation. The scores are then grouped into one overall score. For the purposes of this report, tracts are grouped into one of four categories: highly resilient, somewhat resilient, somewhat vulnerable, and highly vulnerable.

Birth Certificate Data

The birth certificate system contains records on all births occurring in the state and nearly all births to residents of the state. Information is gathered about the mother, father, pregnancy and child. The information is collected at hospitals and birth centers through forms completed by parents or medical staff, a review of medical charts or a combination of both. Midwives and family members who deliver the baby complete the birth certificate and collect the information from a parent or from their records. Data are compiled by the Washington State Department of Health, Center for Health Statistics.

Washington State Cancer Registry (WSCR)

The Washington State Cancer Registry (WSCR) monitors the incidence of cancer in the state to better understand, control and reduce the occurrence of cancer. In 1995, WSCR received funding through the Centers for Disease Control and Prevention's National Program of Central Cancer Registries. This program is designed to standardize data collection and provide information for cancer prevention and control programs. Estimates based on this data were obtained through the Washington State Department of Health's Community Health Assessment Tool (CHAT).

Supplement

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Washington State Immunization Information System (WSIIS)

The Washington State Immunization Information System (WSIIS) is a lifetime registry that keeps track of immunization records for people of all ages. Estimates were acquired from WSIIS. Immunization reports included data on babies aged: 19-35 months.

Washington Tracking Network (WTN)

The Washington Tracking Network is a collection of environmental public health data. Estimates available through this resource are collected from an array of data sources and serve as a single location to see various measures affecting environmental public health.

Quantitative Methods

Estimates are generated for Washington and Pierce County. In most cases we use SAS 9.4 software to analyze data. In some cases, estimates are provided from an external source. Estimates for sub-populations are also generated and maps are displayed when possible and appropriate. The following definitions help understand the contents of this report:

Rates: A rate is a standardized proportion (or ratio) expressed as the number of events (e.g., live births per year) that have occurred with respect to a standard population, within a defined time period (usually one year). Rates help compare disease risk between groups while controlling differences in population size. The size of the standard population used can vary depending on whether the events are common or rare. For example, since HIV is a rare condition in Washington, HIV incidence rates are expressed as new cases per 100,000. **Crude rates** are rates calculated for a total population, while **age-specific rates** are calculated for specific age groups.

Age-Adjustment: All age-adjusted mortality and disease rates in this report are adjusted to the 2000 U.S. population. The risk of death and disease is affected primarily by age. As a population ages, its collective risk of death and disease increases. As a result, a population with a higher proportion of older residents will have higher crude death and disease rates. To control for differences in the age compositions of the communities being compared, death and certain specific disease rates are age-adjusted. This aids in making comparisons across populations.

Averages: Multiple-year average estimates were used to increase sample sizes and to minimize widely fluctuating frequencies from year to year.

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Confidence Intervals (CI): County comparisons to Washington state and comparisons among subpopulations were calculated using 95% confidence intervals. Confidence intervals (error bars on the graphs) indicate the margin of error for the value estimated by describing an upper and lower limit of an estimate. Using confidence intervals is an approach to determine if differences among groups are statistically significant. If the confidence interval of two different estimates do not overlap, we most often can conclude that the difference is statistically significant and not due to chance.

Standard Error (SE): Standard errors are used to determine significance between groups in the analysis. Unless noted, these are based on 95% confidence intervals, or an alpha of 0.05. Relative standard error (RSE) is used to determine what statistics are reported. If the RSE is greater than 30% and/or the sample size is too limited to have confidence in these estimates, then they are excluded. If the RSE is greater than 30%, but the estimates may still be reliable, then they are presented but with a "!" to draw attention to this concern.

Stratification: Where possible (i.e., the population size or counts were adequate to determine significance and protect anonymity), we analyzed the indicators by race/ethnicity or gender. We used the following terms to describe race/ethnicity:

- NH: Non-Hispanic
- White-NH: Non-Hispanic white
- Black-NH: Non-Hispanic Black
- Hispanic: Hispanic as a race
- Asian-NH: Non-Hispanic Asian
- AIAN-NH: Non-Hispanic American Indian/Alaska Native
- NHPI-NH: Non-Hispanic Native Hawaiian or Pacific Islander
- Multiple: More than one race

For some indicators, these stratification levels may not have a sample size adequate to draw reliable conclusions about that population and are therefore excluded from this report. Groups are typically not combined due to concerns about over-generalizations made based on those results.

Supplement

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SELECTION OF PRIORITY HEALTH NEEDS

Key findings were identified as priority health needs by a public health epidemiologist using four criteria. Gender and equity were more heavily weighted due to racism being a major driver for poor health outcomes.

1. When compared to Washington state, county numbers are statistically significantly worse (1 point).
2. Existing estimates present a trend in the negative direction. (1 point)
3. The indicator is related to listed themes (domains) from community engagement activities. (1 point)
4. There is an appearance of inequity by gender or by race (2 points).

The sum of these criterion was calculated for each indicator. Indicators were ranked in descending order. From this list, the top five groups of indicators were identified as priorities.

Within each priority, the top two indicators with the highest scores (and that had worsening trends) were identified as being sub-priorities.

The selection of priority health needs was limited by several factors. These include:

- Selection of indicators. The inclusion and exclusion of certain indicators may bias the results toward a specific priority.
- Relevance to themes (domains) from community engagement activities. Due to the nature of the interview questions, relevance to some indicators may not be adequately captured.
- Indicators may have more than one association (for example: obesity has a chronic disease component and a behavioral health component). Secondary, tertiary and quaternary associations were ignored.

As a result of these limitations, the identified priorities may not adequately capture all the needs of the community.

Table 2.

CHNA Priorities, Indicators, and Related Scoring

Note: our qualitive assessment resulted in 3 overarching domains: barriers to health care, insitutional and structural racism, and challenges meeting basic needs.

Priorities and Sub-priorities	Indicators	Scores*
BEHAVIORAL HEALTH:		
drug-related deaths	drug related deaths	5
anxiety/depression	suicide	4
marijuana use	youth anxiety	4
	attempted suicide	4
	youth depression	4
	youth marijuana use	4
	adult cigarette use	3
	youth cigarette use	3
	adult depression	3
	youth use of alcohol/marijuana/ painkillers	3
	youth e-cigarette use	2
	lack of social support	1
CHRONIC DISEASE:		
hypertension	adult hypertension	4
obesity	adult obesity	4
	lung cancer	3
	disability	3
	adult cardiovascular disease	3
	colorectal cancer	2
	adult diabetes	1
	youth obesity	1
	breast cancer	0
	youth asthma	0

Priorities and Sub-priorities	Indicators	Scores*
ACCESS TO CARE:		
insurance coverage	insurance coverage	4
routine dental check-ups	routine dental care (youth)	4
	prenatal care adaquacy	4
	didn't see doctor due to cost	3
	vaccination	3
	routine dental care (adults)	2
	colorectal screening	1
VIOLENCE:		
child abuse and neglect	child abuse and neglect	4
exposure to violence	youth exposure to physical violence	4
intentional injury hospitalization	intentional injury hospitalization	4
	exposure to intimate partner violence	4
MATERNAL AND CHILD HEALTH:		
low birth weight	low birth weight	4
	infant mortality	3

**scores represent the culmination of state/local disease burden, trends, association with qualitative domains, and association with health inequity*