

2017 Minnesota Statewide Health Assessment





2017 Minnesota Statewide Health Assessment

Updated February 2019

The 2017 Minnesota Statewide Health Assessment was produced in collaboration by the Minnesota Department of Health and the Healthy Minnesota Partnership. This report was supported by funds made available from the Centers for Disease Control and Prevention, Office for State, Tribal, Local, and Territorial Support, under Federal Award Identification Number (FAIN) NB01OT009130. The content in this report is that of the authors, and does not necessarily represent the official position of or endorsement by the Centers for Disease Control and Prevention.

Suggested citation: Minnesota Department of Health. (2017). *2017 Minnesota Statewide Health Assessment*. Produced in collaboration with the Healthy Minnesota Partnership. St. Paul, MN.

Minnesota Department of Health
Center for Public Health Practice
PO Box 64975,
St. Paul, MN 55164-0975
(phone) 651-201-3880
<http://www.health.state.mn.us/statewidehealthassessment>

*Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording.
Printed on recycled paper.*

Foreword to the 2017 Minnesota Statewide Health Assessment



Minnesota is a wonderful state with strikingly beautiful lakes, rivers, forests, and grasslands; vibrant urban, suburban, and rural communities; numerous passionate and committed civic-minded people; many world-famous institutions; and a robust economy. Overall, Minnesota is a great place to live, work, play, pray, and raise a family.

Minnesota is also grappling with unprecedented change precipitated by events and policies at local, national, and global levels. Shifting weather patterns, political polarization, tragedies in our communities, changing demographics, and exploding social media bring us massive amounts of information on a 24-7 cycle, and challenge us to step up and meet the future as never before.

This 2017 Minnesota Statewide Health Assessment is a frank look at the challenges to health in Minnesota. It is a joint effort of the Healthy Minnesota Partnership and the Minnesota Department of Health. I am grateful to the many individuals and organizations who have brought this document into being.

When we consider the averages, Minnesota compares quite well overall for health, economic opportunity, civic engagement, and more. In areas where we don't do so well, we see some positive trends in the last five years—teen pregnancies are down in every population, for example, and high school graduation rates are up. But we also see some major challenges. Deaths from opioid overdoses and other diseases of despair are rising fast, and inequities—in everything from infant mortality and educational achievement, to employment, rates of home ownership and incarceration—stubbornly persist. It's these inequities that challenge the description of Minnesota as doing so very well: it's doing well for some, but not for everyone.

As commissioner of health, I cannot be content with averages that mask the real health of many people in both urban and rural Minnesota—especially people with disabilities, American Indians, African-Americans, Hmong, Somalis, people with Latino heritage, the LGBTQ community, elders, women, and children.

The *2017 Minnesota Statewide Health Assessment* is a critical step in examining Minnesota's inequities by race and ethnicity, gender, age, sexual orientation, geography, and disability, so that we can work together for change. Together our strengths can equip us to meet the challenges of today and tomorrow head on—provided we make room at the table for all.

Some tragic and traumatic events in Minnesota over the last few years have underscored the importance of confronting racism and all forms of hate in Minnesota. Acts of violence, exclusion, and discrimination, as well as unjust social and economic structures, do not represent the values that guide the work of either the Healthy Minnesota Partnership or the Minnesota Department of Health. I trust that they also do not reflect the vision and values of the vast majority of Minnesotans. Our growing racial and ethnic diversity is deepening our knowledge and broadening our vision of how to live in a way that helps all of us thrive.

Minnesota is a headwater state—a place where things begin and flow outward—not just for the Mississippi River but also for public health. The *2017 Minnesota Statewide Health Assessment* is a headwater document, a source for ideas and actions that can spring into being and stimulate change. This assessment allows us to look directly at our challenges and decide our response. I hope we all use these findings to channel our shared passion and commitment toward making sure Minnesota lives up to its image as a great place to call home—for everyone.

A handwritten signature in black ink, appearing to read "Edward P. Ehlinger". The signature is fluid and cursive, with a long horizontal stroke at the end.

Edward P. Ehlinger, M.D., M.S.P.H.
Commissioner
Minnesota Department of Health

T H I S P A G E L E F T I N T E N T I O N A L L Y B L A N K

CONTENTS

INTRODUCTION	1
What is health?	1
What creates health?	1
What is health equity?	1
Structural racism and health equity	2
Looking beyond averages	3
“Our” health.....	4
Childhood as a “critical moment” for lifetime health	4
The challenges of a statewide health assessment.....	5
Across time	7
PEOPLE	8
Different geographies: one Minnesota	9
Minnesota’s children.....	9
The aging of Minnesota	11
Race and ethnicity in Minnesota	11
The LGBTQ population in Minnesota	14
Persons in Minnesota with disabilities	14
OPPORTUNITY	16
Opportunity and our health.....	16
Education	16
Income	19
Employment and benefits.....	23
Housing.....	29
Transportation	30
NATURE	31
Nature and our health	31
Climate.....	31
Air quality	32
Water	35
Outdoor recreation	36
Food.....	37
BELONGING.....	39
Belonging and our health	39
Racism and infant mortality	39
Early life experience.....	40
Incarceration.....	44
Homelessness.....	45
Isolation	46
Sexuality	47
Physical and sexual violence.....	48
Belonging in school	49
Deaths of despair and disconnection.....	50
The health care system	53
WHAT COMES NEXT?	55
Starting with Minnesota’s strengths.....	55
Moving to a state of well-being.....	57
THE HEALTHY MINNESOTA PARTNERSHIP	58
Membership	59
MDH Staff to Partnership	59
END NOTES	60

Introduction

What is health?

The World Health Organization calls health, “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”¹ Everything in our lives — our families, homes, neighborhoods, jobs, schools, the land, water, and air — must support our health.

Health is a resource for our everyday lives.² If we are healthy, we can engage with our family and friends, attend school, go to work, play, and be active participants in society by volunteering, voting, and more. Each of us is part of multiple communities, and our health results largely from our interactions with the people and the places that surround us, including both the man-made and the natural world.³ Because health comes from our interactions, health is something we shape together, and each person’s health is affected by every other person’s health.



What creates health?

For many years, public health has been concerned with individual behavior change as the means of improving health. We are familiar with the advice to eat right and exercise. We are convinced that if we are overweight, if our blood pressure is high, or if we have trouble sleeping that the fault is our own. But research does not support this view. Without discounting the role of the individual, studies show that the circumstances of our lives — in particular where we live — play the largest role in our health. Where we live determines our options and influences our choices no matter how well-intentioned or motivated we may be to “make healthy choices.”⁴

Decades of study on the social determinants of health show that the policies and processes that shape the daily circumstances of our lives are what really create health. Our individual behaviors are overshadowed by a much larger set of economic and social forces put into action by policy decisions at every level of government.

The perspective that health is dependent on the individual continues to dominate in U.S. society, and prevents us from making the kinds of changes that *would* generate good health: policies that assure all children thrive, equitable educational and job opportunities, shared power and decision-making, access to health care, affordable housing, multiple transportation options, and unpolluted environments.

What is health equity?

Health equity is a state of affairs where everyone has what they need to be healthy and no one is prevented from being as healthy as they can be by unjust or unfair barriers. We can only achieve health equity when all children get a loving and healthy start; when we can all get a good education and good jobs; when we can all

take part in the decisions that shape our communities; and when we all have good living conditions. When some of our populations are not as healthy as they could be, it is typically because of inequities in these conditions. Inequities in health outcomes can only be eliminated when each of us has the opportunity to realize our health potential — the highest level of health possible for us — without limits imposed by structural inequities.

To achieve health equity, we need to tell a story about health that goes beyond the individual and is based in our growing understanding of what *really* creates health. A **collective narrative** stresses joint action and acknowledges the role that policy decisions play in shaping the material circumstances of our lives. We understand that we all share the responsibility of creating healthy communities where everyone can thrive, instead of each of us being solely responsible for our health.

Structural racism and health equity

Race is a social construct that divides people based on visible, physical characteristics such as skin color, eye color and shape, and hair color and texture. The notion of race, rather than nationality, developed only a few hundred years ago.ⁱ Race gave rise to *racism*, and dividing human groups into distinct races served to rationalize the oppression of large populations by characterizing some people as less than fully human. Slavery, genocide, displacement, and other acts of oppression toward entire populations, were justified by governments and others in power based on race.⁵

We can define racism as *believing one's own race is superior to others, seeing the "other" as a threat, and treating people differently according to certain easily identifiable physical characteristics*.ⁱⁱ Some racism is individual and **overt**, in the form of prejudicial comments or discriminatory actions. Some racism is individual but **implicit**, as when a person's attitudes influence their behaviors, but they are not aware of their bias. Some racism is **institutional**, in the form of policies, practices and procedures that work better for white people than for people of color or American Indians. Institutional racism, unlike individual racism, can be unintentional or inadvertent. Some racism is **structural**, based on historical and current institutional racism across *all* institutions, creating a whole system that negatively impacts populations of color and American Indians.

Structural racism works through policies and processes, which then perpetuate racial inequities.ⁱⁱⁱ Structural racism sets the stage for some groups to do better than others across generations. For example, federal lending policies after World War II that allowed discrimination on the basis of race, and kept African-Americans from

ⁱ The genetic variation within one population group is actually much wider than the variation between different groups supposedly characterized by "race." For more information, see: Adelman, L. (Executive Producer). (2003). *Race: The power of an Illusion* [Television series]. California Newsreel.

ⁱⁱ To categorize is human. But when some people chose to categorize other people according to a few superficial physical characteristics (such as skin color, hair and eye color, hair texture, and/or facial features), and then decide that those characteristics make people more or less valuable: that is racism. Historically, in the U.S. those with lighter colored skin, eyes and hair receive preferential treatment while those with brown and black skin, eyes, and hair experience more exclusion and discrimination. Discrimination leads to poor health, and thus is a serious public health concern.

ⁱⁱⁱ The Minnesota Department of Health describes structural racism as "the normalization of historical, cultural, institutional and interpersonal dynamics that routinely advantage white people while producing cumulative and chronic adverse outcomes for people of color and American Indians." For more information, see: Minnesota Department of Health. (2014). Advancing health equity in Minnesota: report to the legislature at https://www.health.state.mn.us/communities/equity/reports/ahe_leg_report_020114.pdf.

obtaining mortgages. During this same period, many white Americans bought homes and built wealth, and later passed it on to their children. Today, the rate of homeownership for white people in Minnesota is three times the rate for African-Americans (76 percent vs. 22 percent). The homeownership disparity creates new disparities when, for example, programs or policies are designed to benefit homeowners but not renters. Because the original disparity was based on race, the new structures also have a disproportionate negative impact on people of color. That's structural racism.

Racism, whether hidden, overt, individual or structural, continues to be a powerful force in American society, and we cannot ignore its impact on health. This statewide health assessment emphasizes race and racism, because these issues are so challenging and pervasive, and because racism compounds other forms of discrimination. Yet, racism is not the only form of discrimination that we experience. Those of us who are seen as *different* — having physical or mental disabilities, being female, being old, immigrant, lesbian, gay, bisexual, transgender, having been in jail or prison, having mental illness, having lower incomes or social class — also may have the experience of not being seen, heard or consulted, being subjected to derogatory comments, and having our needs ignored. Race often compounds these challenges. Research shows that the constant stress associated with discrimination can generate changes in our bodies that lead to more chronic disease, a higher rate of infant mortality, and earlier death.

Looking beyond averages

With the guidance of the Healthy Minnesota Partnership,^{iv} the Minnesota Department of Health (MDH) takes stock of the health of all people in Minnesota every five years through a statewide health assessment.^v The *2017 Minnesota Statewide Health Assessment* tells the story of our health today and how it has been shaped over time by opportunities, belonging, and interactions with nature. In each section of this assessment we link data on social, economic and environmental conditions with rates of disease or individual health behaviors to strengthen our understanding of what creates health and health equity. The assessment sets the stage for *Healthy Minnesota 2025*, a statewide health improvement framework, which will guide our collective efforts to assure that we achieve the Partnership's vision:

All people in Minnesota enjoy healthy lives and healthy communities.

The work of the Partnership helps to expand the way policymakers and others understand and act for our health, and is similar to the MDH vision statement:

The MDH vision is for health equity in Minnesota, where all communities are thriving and all people have what they need to be healthy.

^{iv} The Healthy Minnesota Partnership is a collection of diverse leaders from across Minnesota brought together by the commissioner of health. For membership, see page 61.

^v The statewide health assessment is required for accreditation of MDH by the national Public Health Accreditation Board. The assessment, which is to be produced at least every five years, provides information and a framework for planning and action for anyone in the state, including MDH and the Healthy Minnesota Partnership. This group guides the development of the statewide health assessment in accordance with accreditation standards.

Both statements stress that *all people* and *all communities* in Minnesota should have the opportunity to be healthy, but this is not true in Minnesota today. If we are able-bodied, gender-conforming, Judeo-Christian, and of European descent, we likely enjoy advantages that help us to be healthy — good schools, access to jobs and recreation, stable housing. Others of us struggle to meet our basic needs, and face daily obstacles to our opportunity to be healthy, particularly those of us who are of American Indian, African, Hispanic/Latino, and Asian descent, who have different religious beliefs and practices, sexual orientations or gender identities, or who are disabled.

This assessment intends to help make clear the association between the conditions of our lives and our health, and to reveal the sources of health inequities experienced by many people in Minnesota.

The *2017 Minnesota Statewide Health Assessment* has four sections, reflecting what we need to be healthy:

- **People:** Looks at who we are, where we’ve come from, and how our real and perceived differences play a role in shaping our health.
- **Opportunity:** Our health is related to our opportunities for education, employment, income, housing and transportation. Data exposes the persistent inequities in social and economic opportunity that continue to oppress many people in Minnesota and result in generations of poor health.
- **Nature:** Our health is shaped by our connection to and interactions with the natural environment — including the impact our actions have on the air water and soil — and the places we live, learn, work, and play.
- **Belonging:** Inclusion in the community and our connections with each other enhance or weaken our health, from early childhood and continuing through our later years.

“Our” health

In this assessment, we prefer to use the words “we” and “our” to describe our populations and our health rather than “them.” This construction emphasizes that we can only be healthy if we are all healthy together.

We are healthy together when the conditions in our communities support everyone’s health. Many of those conditions are created by policy decisions, such as zoning, transportation, and more. Identifying the conditions in our communities and understanding how they shape our health is critical for achieving our vision of a healthy Minnesota.

Childhood as a “critical moment” for lifetime health

Early childhood is a critical time to maximize the opportunity for a healthy future. Early nutrition, the material environment, and interactions with nature and with the people around us are all potent influences on our life-long health. Parents who receive support to provide safe, stable, and nurturing environments can help their children grow into strong, successful adults. Homes full of affection and free of the stress caused by poverty and other negative conditions help us develop good mental, social, and physical health. Traumatic childhood experiences increase our risk for a host of negative health behaviors and health outcomes throughout the lifespan.

The impact of *opportunity*, *nature*, and *belonging* on children is highlighted in each section of this assessment.

The challenges of a statewide health assessment

Conducting a statewide assessment of health presents a number of challenges and raises certain tensions, such as:

THIS ASSESSMENT CAN ONLY SAY A LITTLE, ABOUT A LOT OF THINGS

This statewide health assessment provides snapshots of many data points, to draw an overall picture of health and the conditions that create it. Many topics are here that others have studied and written about in great detail; thorough references are available in the end notes.

Only limited statewide data are available for some populations, such as the LGBTQ (lesbian, gay, bisexual, transgender, and queer/questioning) community, specific ethnic and cultural groups such as Somali and Hmong populations, and people with disabilities. This makes it challenging to make population-level comparisons and provide a complete picture of the health and health inequities experienced by these populations.

DATA CATEGORIZES US

Each individual is unique, each population is unique, each community is unique, and **each has value**. However, quantitative research methods require creating categories for analysis, and grouping people, populations, and communities in such a way that hide some of our real and important differences while allowing comparisons (see “diversity within diversity,” below).

In addition, many issues in this assessment could fit in more than one section, because many issues overlap and have multiple dimensions. In order to increase readability, therefore, certain editorial choices were made.

A statewide assessment can only start the conversation about health in the community. The work of advancing health equity requires engaging with people and communities to more fully understand all our unique circumstances and to shape action for change.

RACE AND CLASS IMPACT HEALTH IN DISTINCT WAYS

In order to reveal structural racism and keep the conversation going about race and health in Minnesota, this assessment provides information by race/ethnicity as often as possible. In some places, data is also presented by income. While income is sometimes used to signify social class, income and class are not exactly the same. Social class or “socio-economic status” (SES) includes additional factors like occupation and education.

Race, income, and social class are related, because the effect of racism has relegated American Indian, African-American, Hispanic/Latino, and other populations of color to a lower socio-economic status.^{vi} It can be tempting to assume that talking about poverty alone is sufficient in considering the effects of race/ethnicity on health, but to do so would ignore the separate effect of racism on health, which is significant itself.

^{vi} Krieger and Bassett state: “The facts of being black derive from the joint social relations of race and class: racism disproportionately concentrates blacks into the lower strata of the working class and further causes blacks in all class strata to be racially oppressed.” For more information, see: Krieger, N. and Bassett, M. (1986). “The health of black folk: Disease, class, and ideology in science.” *Monthly review*, 38, 74-85.

In some parts of Minnesota, the populations of American Indians and persons of African, Hispanic/Latino, or Asian descent are quite small (2 percent or less). In these regions, it is essential to consider the role of social class in shaping health inequities through generations of white families.

THERE IS DEEP DIVERSITY *WITHIN* DIVERSITY

Although much of the data here are presented by race/ethnicity to reflect the diversity of the state's populations, the differences within each population group can be as great as the differences between different population groups.^{vii} While public health has made progress in differentiating, for example, African-born people from U.S.-born African-Americans, and identifying significant Asian groups like the Hmong, in general the data available for a statewide health assessment do not permit the analysis of all possible differences within every population. Data throughout the assessment should be understood as providing clues to the health of different populations, but not the whole story.

TRAUMA AND RESILIENCE ARE PART OF CHANGE AND HOPE

The story of health is one of both trauma and resilience. When looking at disparities by race and ethnicity, it is very easy to feel that everything about Minnesota's communities of color and American Indian populations must be cause for concern. Yet, painting a picture of despair is inaccurate and unhelpful, because it perpetuates deficit-based models and narratives. It does not take into account a community's strengths. Minnesota's communities of color and American Indian populations have endured generations of **trauma**, as well as recent traumas. It is important to remember that with trauma comes both **vulnerabilities** and **resiliency**. Vulnerabilities (or risks) include health, socioeconomic, and educational disparities. While community assets like the preservation of language and culture; strong and close-knit cultural communities; and adaptability and determination in the face of adversity are resiliency factors. Efforts to advance health equity must take into account vulnerabilities stemming from trauma, while supporting the resilience that exists within communities to create culturally-grounded solutions.

THINKING ABOUT INDIVIDUALS CAN OVERSHADOW THE ROLE OF SYSTEM

Most of what we know today about health comes from data collected on individuals: individual rates of disease or injury, and individual behaviors like smoking and exercise. When we emphasize personal choice as *the* key strategy for improving health, we attribute health problems to the individual alone, rather than seeing each person in a set of surroundings. However, our growing understanding about what creates health pushes us to locate the source of health problems in the systems and structures that shape individual behavior and health across our communities, for good and for ill.

The tension persists because so much of what we know about health comes from our analyses of individuals, and because the individual and his/her ability to make choices is still important. The challenge that confronts us is to move from a focus on individuals to an analysis of communities and to get much better at addressing the policies and systems (economic, educational, social, and more) that create or hinder health.

^{vii} The category of Asian or Asian Pacific Islander (API), for example, encompasses over 40 different countries with very different languages and cultures. For more information, see: Council on Asian Pacific Minnesotans: About Us <https://mn.gov/capm/council/about-us/>.

Across time

This assessment embraces the multiple perspectives of past, present, and future. It includes references to past actions and historical trauma. By highlighting current inequities, the stage is set for a different tomorrow.

- **We must learn about and understand the past to confront the issues of today.** If we will not or cannot see the impact of historical policies on health, we cannot understand health inequities or make good decisions for the future. The past also gives us examples of hope and progress.
- **We must act in the present.** Historical reflection and understanding should lead to concrete steps for change today. We can always do something *now*.
- **We must engage in the work of advancing health equity with hope for the future.** It is easy to become overwhelmed by the severity of health inequities. With growing partnerships and the wisdom of many we can build our collective efforts toward meaningful change.

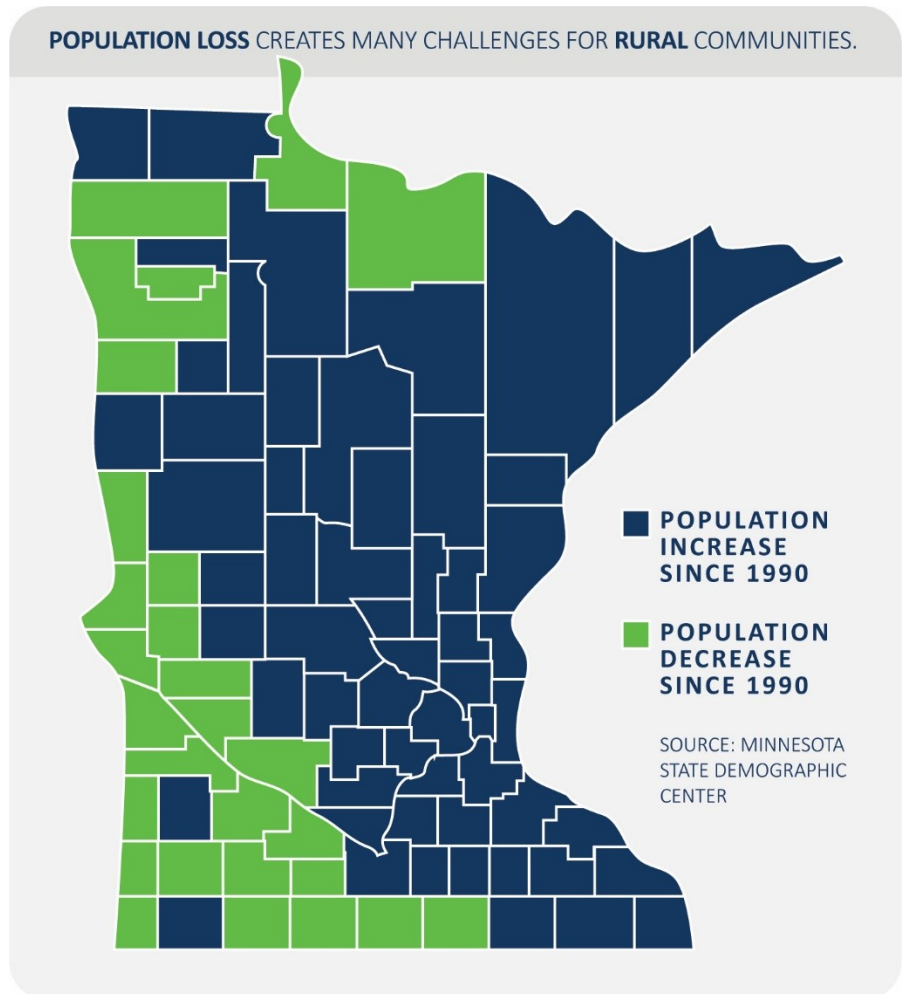
This statewide health assessment provides a grounding for people and organizations in Minnesota to develop plans for improving health (see “What comes next?” at the end of this document).

People

In 2015, 5,485,238 people lived in Minnesota.⁶ Nearly 73 percent (4 million) live in urban areas, about 11 percent (over 600,000) live in or near large towns, roughly 7 percent (nearly 390,000) live in or near small towns, and about 8 percent (more than 434,000) live in more remote rural areas.^{viii}

Our population is projected to grow. According to the Minnesota State Demographic Center:⁷

- Minnesota's total population is estimated to exceed 6 million by 2032, and grow to nearly 6.8 million by 2070.
- In the coming two decades (2015-2035), the population under age 18 will grow modestly (by just 32,000). Meanwhile, the population age 65 and older will grow much more rapidly, adding more than half a million people (510,000+) over that same period. By 2035 – for the first time in our state's history – we will have more adults over age 65 than children.
- The percent of Minnesota's population comprised of people of color (those self-identifying as one or more races other than white, and/or Latino) is projected to grow from 14 percent in 2005 to 25 percent by 2035.



^{viii} Large towns are defined as having 10,000 to 49,999 residents and small towns as having 2,500 to 9,999 residents. For a discussion of these terms, see: Minnesota State Demographic Center: A greater understanding of “Greater Minnesota” (and “metro” areas) <https://mn.gov/admin/demography/news/ada-to-zumbrota-blog/?id=36-245952>.

Different geographies: one Minnesota

Where we grow up, where we live, work, and play all deeply influence our identities, values, opportunities, and ultimately our health. Minnesota has communities of every size, all valuable and all “Minnesotan.” When assessing challenges or developing solutions, we often approach the state as being simply either urban *or* rural, which can quickly turn into “us” versus “them.”

But we are not urban *or* rural; we are urban *and* rural, and much more besides. Counties in the Twin Cities metropolitan areas include farmland and large open areas. Cities and towns in greater Minnesota share many of the same challenges as Minneapolis and St. Paul. No matter where we live now, many of us have roots or deep and lasting relationships with people and places across the state. Illness and health are not constrained by geographic boundaries and categories; inequities in opportunity and health exist across our state.

While communities across Minnesota are unique, we have many concerns in common. For example:

- Our young children face a growing rate of poverty
- Aging populations challenge our capacity to adapt to the growing needs of our elderly, while still attending to the needs of our young people
- Increasing racial and ethnic diversity in every Minnesota region requires us to confront discrimination and assert our values of equity and opportunity for all
- Increasing numbers of families struggle to make ends meet, highlighting the importance of assuring opportunities for education and good jobs with benefits
- Scarcity of affordable housing limits the ability of our young families and new immigrants to establish themselves and provide a healthy living environment for their children
- Population changes challenge our ability to maintain our infrastructure (roads, bridges, water quality, sewers, schools and more) and protect the health and well-being of all residents
- Growing pressures on our transportation systems mean we must assess our capacity to provide equitable access to jobs and increase economic opportunity across the state

As Minnesota’s population grows and changes, we need to harness the strengths of our commitment to and shared vision for a Minnesota where everyone can thrive.

Minnesota’s children

In 2014, almost 24 percent (1.3 million) of the state’s population was under 18. Over half of our state’s children (55 percent) live in the seven-county Twin Cities metropolitan area, and the remaining 45 percent live in the other 80 counties.

Children and youth with special health needs are those who have (or who are at increased risk for) a chronic physical, developmental, behavioral, or emotional condition. Children with a disability face a lifetime of physical and social challenges, including discrimination. The challenges of parenting a special needs child can stress a family, increasing financial burdens and difficulties accessing adequate physical and mental health care and social support.

Almost one in five Minnesota families with children has at least one child with a special health need (estimates of children with special health needs in Minnesota range from 160,000 to 200,000).⁸

Some of the demographic changes taking place highlight the importance of attending to children's health and opportunities.

Minnesota's children are far more diverse than previous generations, and many have parents who are immigrants.

- From 1990 to 2012, the number of Hispanic children in Minnesota grew from almost 2 percent of all children (20,858) to over 8 percent (103,308).
- The number of black children with a foreign-born parent grew from less than 0.5 percent (1,966) to over 3 percent (39,188).⁹
- About 14 percent (165,400) of all children in Minnesota lived in poverty in 2015;¹⁰ African-American and American Indian children are the most likely to be poor in Minnesota.¹¹

1 OUT OF EVERY **7**
KIDS (0-4 YRS) IS
LIVING IN **POVERTY**



SOURCE: MINNESOTA STATE
DEMOGRAPHIC CENTER

MINNESOTA CHILDREN UNDER 5 AT OR BELOW 100% OF THE FEDERAL POVERTY LINE, 2015, BY RACE/ETHNICITY

AFRICAN-AMERICAN OR BLACK



AMERICAN INDIAN/ALASKA NATIVE



ASIAN/PACIFIC ISLANDER



HISPANIC



OTHER/TWO OR MORE RACES



NON-HISPANIC WHITE



SOURCE: U.S. CENSUS BUREAU, AMERICAN COMMUNITY SURVEY

CHILDREN OF COLOR ARE 3 TO 5 TIMES MORE LIKELY TO BE LIVING IN POVERTY THAN WHITE CHILDREN.

It is critical to address these challenges facing our children so every child has the opportunity to grow up healthy.

The aging of Minnesota

The Minnesota State Demographer expects the total number of persons age 65 and over to double between 2010 and 2030, until more than one in five of us will be an older adult.¹²

Aging presents new challenges to health, including increasing levels of disability. For example, older adults are at increased risk of injuries from falls, over half of which occur at home.¹³ Aging also presents new opportunities — to volunteer in the community, to try a different career, or to take on a new role in the family. For example, 42 percent of Minnesota adults age 65 to 74 volunteer.¹⁴

- About one-third (32 percent) of people in the urban areas of Minnesota are age 50 or above; this rate rises for large towns (38 percent), small towns (41 percent), and rural areas (44 percent).
- More than 1 in 20 residents (6 percent) in rural and small town areas are presently over 80 years old, and the state demographer anticipates the rate will continue to rise.¹⁵

Securing adequate income can be challenging as adults move out of the workforce and depend on other sources of income, such as Social Security.

- Older adults in Minnesota experience significant racial disparities in income: the median income for white adults over age 65 in Minnesota is \$40,054; the median income for black adults of the same age is \$18,417.¹⁶

The aging of Minnesota is an opportunity to rethink workplaces, redesign living spaces, and create communities that support and celebrate people of all different ages and abilities.

Race and ethnicity in Minnesota

Minnesota is rapidly becoming more racially and ethnically diverse.^{ix} Census data from 2000-2014 shows that the rate of growth among populations of color (74 percent) far outpaced that of the state's white population (2 percent). Asian, black, Hispanic/Latino and multiracial populations will continue to grow more rapidly than the state's white non-Hispanic population in the coming decades. The state demographer estimates that the number of people of color in Minnesota will increase by over 500,000 between now and 2035.¹⁷

This change is taking place statewide, but looks different depending on location.

- In large urban areas, 79 percent of residents are white non-Hispanic; in most small towns and rural areas, more than 90 percent are.
- About three-fourths of all residents in rural, small town, or large town areas were born in Minnesota, compared to two-thirds of urban residents.
- Most Minnesotan immigrants (89 percent) live in urban communities.¹⁸

^{ixix} Data categorization varies throughout this assessment because different data sources use different terminology. One report might use African-American, another black, and another African-American/African Born. The Minnesota Student Survey asked ninth-graders about their identification as lesbian, gay, or bisexual (LGB), but not transgender or questioning, while 11th-graders were asked about all those categories (LGBTQ). Some data sources refer to "white, non-Hispanic" and others only to white. Some data is only available for the five major census racial groups (American Indian, Asian, black, Hispanic, and white). Other data sources include data by birthplace and ethnicity (e.g., Hmong, Somali, black/foreign-born, black/U.S.-born, Southeast Asian, etc.). While this can be confusing, this assessment does not make any assumptions about what was intended and uses the original source terminology.

POPULATIONS OF COLOR ARE EXPECTED TO GROW IN MINNESOTA MUCH FASTER THAN THE STATE'S WHITE POPULATION. FOR EXAMPLE, **THE NUMBER OF HISPANIC OR LATINO MINNESOTANS IS EXPECTED TO GROW BY 181 PERCENT BY 2035;** THE NUMBER OF WHITE, NON-HISPANIC MINNESOTANS IS EXPECTED TO GROW BY ONLY 9 PERCENT.



SOURCE: MINNESOTA STATE
DEMOGRAPHIC CENTER

Race and ethnicity are powerful indicators of the opportunity people have to be healthy. Data shows that Minnesotans of American Indian, African-American, Hispanic, Asian, and African descent experience poorer outcomes in education and economic status, and consequently health, relative to Minnesotans who are white. Understanding racism and inequity are key to understanding how different factors create or limit health. This is an urgent issue, because of our rapidly changing population. If we do not improve opportunities for our fastest growing population groups, Minnesota's overall population health and economic well-being will decline.¹⁹

AMERICAN INDIANS^x

Anishinaabe (Chippewa, Ojibwe) and Dakota tribes in Minnesota have a unique relationship with local, state, and federal entities, because by treaty with the U.S. government they are sovereign nations. Seven Anishinaabe tribes, four Dakota (Sioux) communities, and their ancestors have called this area home for thousands of years: long before European settlements and the establishment of the State of Minnesota. The lands set apart for the Anishinaabe and Dakota reservations were established by treaties in the late 19th century.²⁰

American Indians comprise almost 2 percent of the total population in Minnesota, including approximately 65,000 who identify as American Indian only, and about 36,000 who are American Indian and one other race. Most American Indians in Minnesota live on the federal-designated reservation lands, in the areas surrounding the reservations, and in counties in greater Minnesota. About 12,000 live in Hennepin County, and about 9,000 live in Ramsey County.²¹

Historical trauma and threats to health

Historical trauma refers to the collective emotional and psychological injury from this cataclysmic history over the life span, across generations, and continuing today. Encounters between the original inhabitants of Minnesota and European settlers were often violent and cruel, and included military action, displacement, forcibly separating children and parents, even genocide. This history still affects and seriously threatens the health of American Indians in Minnesota today, including:

^x The term "Indian" was given to the indigenous people of North America by the European explorers when they first encountered the New World, mistakenly thinking they had reached the Indies. Individuals have different preferences for the term used to describe indigenous people in the United States, including American Indian, Native American, or by the names they call themselves in their own languages. This publication follows the convention of using "American Indian" as that is the term used in some state laws and in the U.S. Census for indigenous people to identify themselves.

- American Indian people in Minnesota are more likely to live in poverty²²
- American Indian youth are less likely to graduate from high school in four years²³
- American Indians are four times as likely to die of diabetes than white Minnesotans, and twice as likely to die of unintentional injury²⁴
- Young American Indians are more likely to attempt suicide²⁵
- American Indian people in Minnesota have lung cancer at a rate twice as high as the rate for black Minnesotans and three times the rate for Asian and white people in Minnesota.²⁶

It is important to recognize that the trauma of various historical events also affects other race/ethnic minority groups and other populations. In the midst of these challenges, American Indian culture and values are sources of strength and resilience for families and tribes as they work to change the systems and structures that continue to oppress their communities.

IMMIGRATION

Over 80 percent of people in Minnesota have roots in northern Europe. French fur traders arrived in Minnesota in the 17th century and were among the first Europeans to call Minnesota “home”; other settlers followed. Today, Minnesota’s immigrant population includes people from all over the globe, including Africa, Asia, and Central and South America. The largest populations of immigrants to Minnesota today come from Mexico, China, Korea, and India.²⁷

AFTER ENGLISH, THE MOST COMMON LANGUAGES SPOKEN AT HOME IN MINNESOTA

SPANISH	194,121
HMONG	58,833
CUSHITE	38,315 (OROMO, SOMALI, AND OTHER EAST AFRICAN)
OTHER AFRICAN	36,780 (AMHARIC, SWAHILI, KRU, IBO, YORUBA)

SOURCE: U.S. CENSUS BUREAU, AMERICAN COMMUNITY SURVEY

Refugees are people who have been forced to leave their home countries, often because of war, disaster, or oppression. Refugee challenges are unique, including the trauma and upheaval of the refugee experience and challenging conditions in refugee camps. Today, the largest populations of refugees to Minnesota come from Somalia, Liberia, Laos, Thailand, Vietnam, and Ethiopia. Minnesota is home to the second-largest population of Hmong^{xi} in the U.S. (more than 66,000, including first, second, and third generations).²⁸

- After English, the most common languages spoken in Minnesota homes are Spanish (194,121 speakers) and Hmong (58,833 speakers).^{29,30}

AFRICAN-AMERICAN MIGRATION

From 1916 to the 1980s, millions of African-Americans migrated from southern states in the U.S. to northern cities, dramatically transforming the demographics and social structures of major U.S. cities, including Detroit, Chicago, Cleveland, and New York. During this period, the population of African-Americans in Minnesota also grew by nearly 100,000 people.

^{xi} Hmong people are an ethnic group originally from the mountainous regions of China, Vietnam, Laos, and Thailand.

- About 4 percent of people in Minnesota (197,552) are U.S.-born African-Americans.³¹

African-Americans moved from the south to the north to escape state and local laws enforcing racial segregation (known as Jim Crow laws), but migrants nonetheless encountered racism and policies of exclusion in the north, including in Minnesota.³²

For example, lending institutions practiced “redlining,” which limited or denied financial services to specific neighborhoods, usually because residents were poor or people of color.^{xii, 33} This practice was legal, and practiced in major cities—including Minneapolis—during the 1930s to 1970s. While the Fair Housing Act of 1968 outlawed redlining, it continues to affect rates of homeownership for African-Americans in Minnesota today.^{34 35} Nevertheless, mortgage lending discrimination continues in different forms. Financial institutions continue to be subject to lawsuits for discriminatory practices.³⁶

The LGBTQ population in Minnesota

Population-based data on persons who identify as lesbian, gay, bisexual, transgender, and questioning (LGBTQ) is becoming more available. While the U.S. Census and American Community Survey do not ask sexual orientation or gender identity, the national Behavioral Risk Factor Surveillance System (BRFSS) and the National Health Interview Survey now include questions about both. The Minnesota Student Survey added questions of sexual orientation, gender identity, and gender expression to surveys for high school students in 2016.

- A 2012 Gallup poll found that 2.9 percent of Minnesota’s population overall identify as LGBT.³⁷ Tracking during 2012-2014 by Gallup found that 3.6 percent of adults in the Minneapolis-St. Paul metropolitan area identify as LGBT, lower than many other major metropolitan areas.³⁸
- In the Minnesota Student Survey, 1 percent of ninth and 11th grade students identify as gay or lesbian. However, 2 to 8 percent identify as bisexual, and another 3 to 6 percent identify as not sure (questioning). In each grade, a range of 2 to 4 percent of students identify as transgender, genderqueer, gender fluid, or unsure of their gender identity.³⁹

Data from the Minnesota Student Survey, the Behavioral Risk Factor Surveillance System, and surveys conducted by the Rainbow Health Initiative shows significant concerns for LGBTQ youth and adults in Minnesota. The LGBTQ community disproportionately experiences exclusion, poverty, homelessness, and barriers to health care. These experiences can be compounded by race/ethnicity, advancing age, and language barriers.^{40,41}

Persons in Minnesota with disabilities

The definition of “disability” varies between researchers, policymakers, and the public.^{xiii} Some favor a more narrow definition, which includes only disabilities we can see: for example, bodily impairments, activity limitations, or restrictions on participation that relate to a health condition.⁴² Others prefer to expand the

^{xii} Redlining was so named, because banks and others used color-coded maps to indicate neighborhoods considered of greater (red) or lesser (green) financial risk. People who lived in “red” areas could not get mortgages, and could not buy homes.

^{xiii} For example, U.S. Census Bureau defines disability narrowly: a serious difficulty in several different areas, including hearing, vision, remembering/concentrating/making decisions, walking or climbing stairs, bathing or dressing, and difficulty doing errands alone. BRFSS uses seven questions to define disability, and estimates 25 percent of the population has some form of physical or mental difficulty. The Minnesota State Council on Disability indicates that nearly one in five people in Minnesota has a disability.

definition to encompass disabilities that may be invisible, such as chronic pain or some types of mental illness. Because there is not a consensus on the definition of disability, the reported rates of people with disabilities in Minnesota vary widely.

- 11 percent to 25 percent of the state’s population are living with one or more disabilities. Among those with any disability, 44 percent report two or more disabilities.⁴³

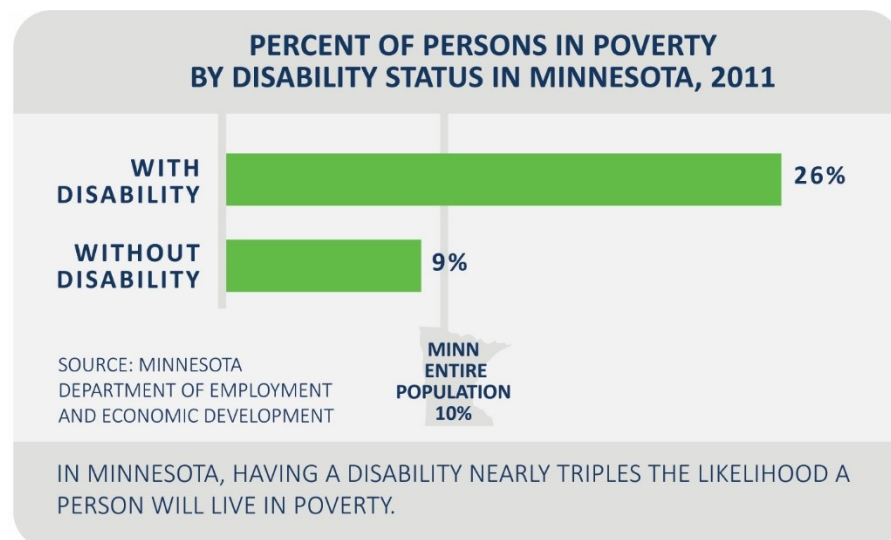
Issues of race/ethnicity, age, language, gender, poverty, and low social status compound the impact of having a disability. For example, different racial and ethnic groups experience significant disparities in their rate of disability.

- Approximately 9 percent of Minnesotans age 18 to 64 have a disability. Within this group, the highest rates of disability are found among American Indians and African-Americans.⁴⁴

The likelihood of developing a disability increases with age, and as the state’s population ages the number and percentage of people living with a disability is expected to rise.^{xiv}

Mental illness (depending on diagnosis and severity) can also be considered a disability, especially if a person’s environment is not set up to support successful management of their illness or if it limits their opportunities to participate in the community.

Some of the greatest challenges for people with disabilities arise because physical environments and social settings are not structured to support full participation.⁴⁵ People with disabilities live daily with challenges that include a lack of adequate accessible transportation, limited housing, unequal access to programs and facilities, barriers to education and employment, and reduced income. In fact, people with disabilities are nearly three times more likely to live in poverty than those without a disability.⁴⁶ These inequities affect health outcomes, as with other populations that experience inequities in *opportunity*, *belonging*, and interactions with *nature*.



^{xiv} The Minnesota and North Dakota chapter of the Alzheimer’s Association estimates there are currently 92,000 people in Minnesota with Alzheimer’s Dementia. They anticipate this number to grow to 120,000: a 30 percent change. For more information, see: Alzheimer’s Association: 2017 Alzheimer’s Disease Facts and Figures (PDF) http://www.alz.org/documents_custom/2017-facts-and-figures.pdf.

Opportunity

The American dream, as it is traditionally understood, describes a place where all of us have the opportunity to make a life for ourselves, and to improve our lives and our children’s lives.^{xv} Opportunity means having the chance to experience success at every stage of life, from early childhood through old age. The conditions that constrain or expand our available choices shape our opportunities. These conditions include what schools we can go to, what jobs are open to us, and even what kind of food is available to us.

Our opportunities are interconnected. For example, employment drives income. Housing depends on income and employment. Employment depends on our opportunities for training and education and our social connections. Our ability to manage demands of family and care for our health is influenced by whether our jobs offer benefits like health insurance and paid leave.

Opportunity and our health

The opportunities envisioned in the American dream — to earn a living, to own property, to determine the course of one’s own life — are also important for health. Research is very clear that whether we get a good education, have a permanent home, find work with good pay and health insurance, or have safe places to play improves or reduces our chances to be healthy. Research is also clear, as this assessment shows, that whole populations in Minnesota do not have these key opportunities to shape a healthy life.

The conditions that shape opportunity — income, in particular — have important and lasting impacts on our children’s health. Children need good nutrition, stable housing, and positive life experiences to grow healthy and strong. Living in families and communities that face constant economic stress can cause changes to young brains and bodies that show up as health problems later in life.

Education

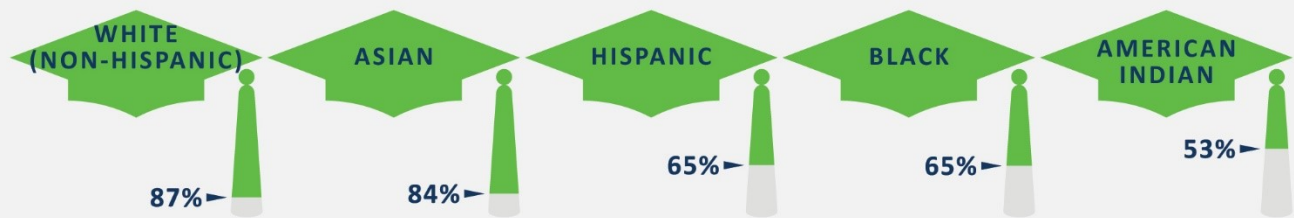
Education is one of the clearest and strongest predictors of lifelong health. When we have more education we are more likely to live longer, healthier lives. Success in school leads to higher earnings, and this improves our living conditions. Education allows us to find better-paying jobs, with healthier working conditions and benefits including health insurance and paid leave. Our children are more likely to be healthy, too.⁴⁷

White and Asian students in Minnesota graduate high school on time at a rate one-third higher than American Indian, black, and Hispanic students.⁴⁸ The high rate for Asians, however, masks major disparities within that group. For adults 25 and older, Southeast Asians, including Hmong, Cambodian, Laotian, and Vietnamese, are less likely than American Indian, African-American or Latino adults to have a high school degree.⁴⁹

^{xv} The American Dream originated in 1931, in James Truslow Adams’ *The Epic of America*. He states it is “that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement.” For more information, see: Library of Congress: The American Dream

<http://www.loc.gov/teachers/classroommaterials/lessons/american-dream/students/thedream.html>.

ON-TIME GRADUATION RATE BY RACE/ETHNICITY



SOURCE: MINNESOTA COMPASS

EDUCATION IS ONE OF THE CLEAREST AND STRONGEST PREDICTORS OF LIFETIME HEALTH.

People with disabilities also face educational barriers and have lower levels of education than the rest of the population.

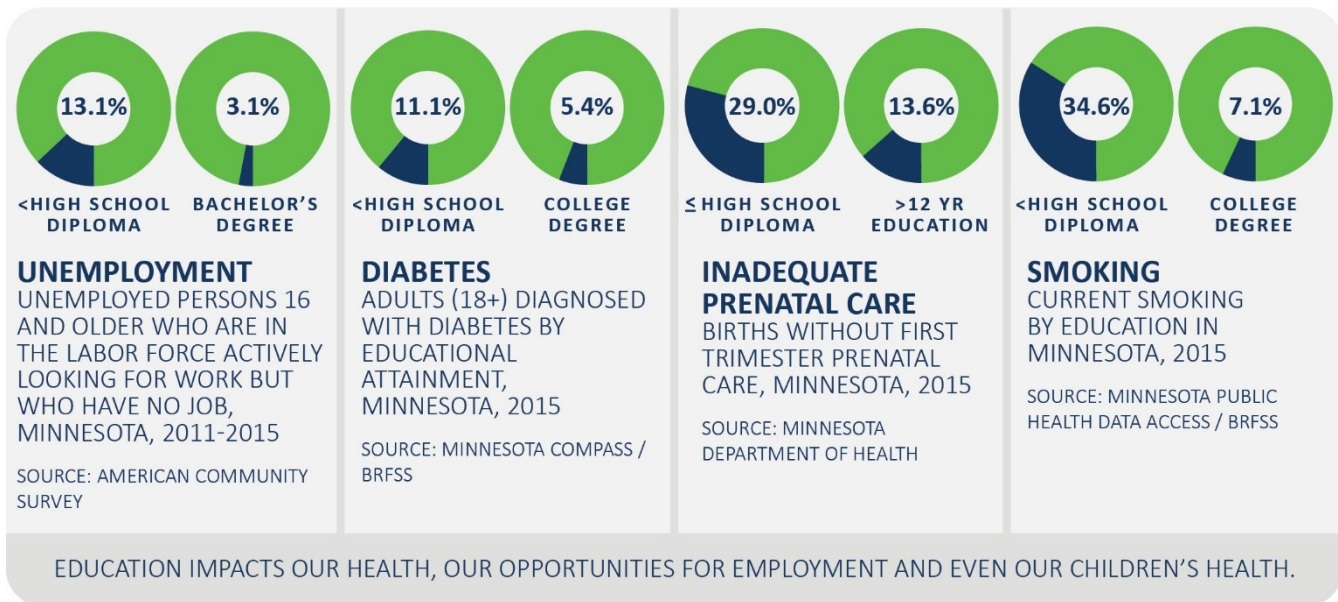
- People with a disability are less likely to have graduated high school or to have attended or graduated college or tech school.⁵⁰

Education is a source of personal and community power. When we succeed in school, we are better able to shape circumstances to benefit our lives and the lives of those around us.

- Minnesotans with more education are much more likely to be employed,⁵¹ are less likely to be diagnosed with diabetes,⁵² are more likely to receive prenatal care,⁵³ and are less likely to smoke.⁵⁴

A person's education and whether they smoke reflect their parent's education and income, and their own experiences in early childhood.^{xvi} Communities with high levels of education are better able to create the kinds of social and physical environments that support physical, mental, and social well-being.

^{xvi} According to Yale University, "Educational disparities in adult smoking are anchored to experiences from early in life. School policies, peers, and expectations about the future measured at ages 13 to 15 predict smoking at ages 26 to 29. The families in which children grow up and children's non-cognitive skills may matter far more than realized in explaining the robust association between education and smoking in adulthood. Marlani writes, 'Overall, educational inequalities in adult smoking are better understood as a bundling of advantageous statuses that develops in childhood, rather than the effect of education producing better health.'" For more information, see: [Dodson, H. \(2014, May 13\). Yale study shows links between education and smoking \[blog post\] https://scitechdaily.com/yale-study-shows-links-between-education-and-smoking/](https://scitechdaily.com/yale-study-shows-links-between-education-and-smoking/). For the study abstract, see: Maralani, V. (2014). Understanding the links between education and smoking. *Social Science Research*, 48, 20-34 <https://doi.org/10.1016/j.ssresearch.2014.05.007>.



Just as high school graduation improves the opportunity for health, dropping out of school is linked to both poverty and poor health. Whether because of school policies, social norms, or discouragement, when a teenage girl gets pregnant, she is more likely to drop out of school. This affects her future health and well-being, as well as her child's health. Without a high school diploma, her earning potential and opportunities to succeed are severely limited.^{xvii}

- Only about half of teen mothers receive a high school diploma by 22 years old, compared to 90 percent of women who are not teen mothers.⁵⁵

Even as education increases, racial disparities remain in the rate of prenatal care.

- White, non-Hispanic mothers with a high school degree or less are more likely to get early prenatal care than mothers who are more highly educated and African-American/black, American Indian, Hispanic, or Asian/Pacific Islander.⁵⁶

Parents' level of education and income affects the educational attainment of their children, and influences the choices they make.

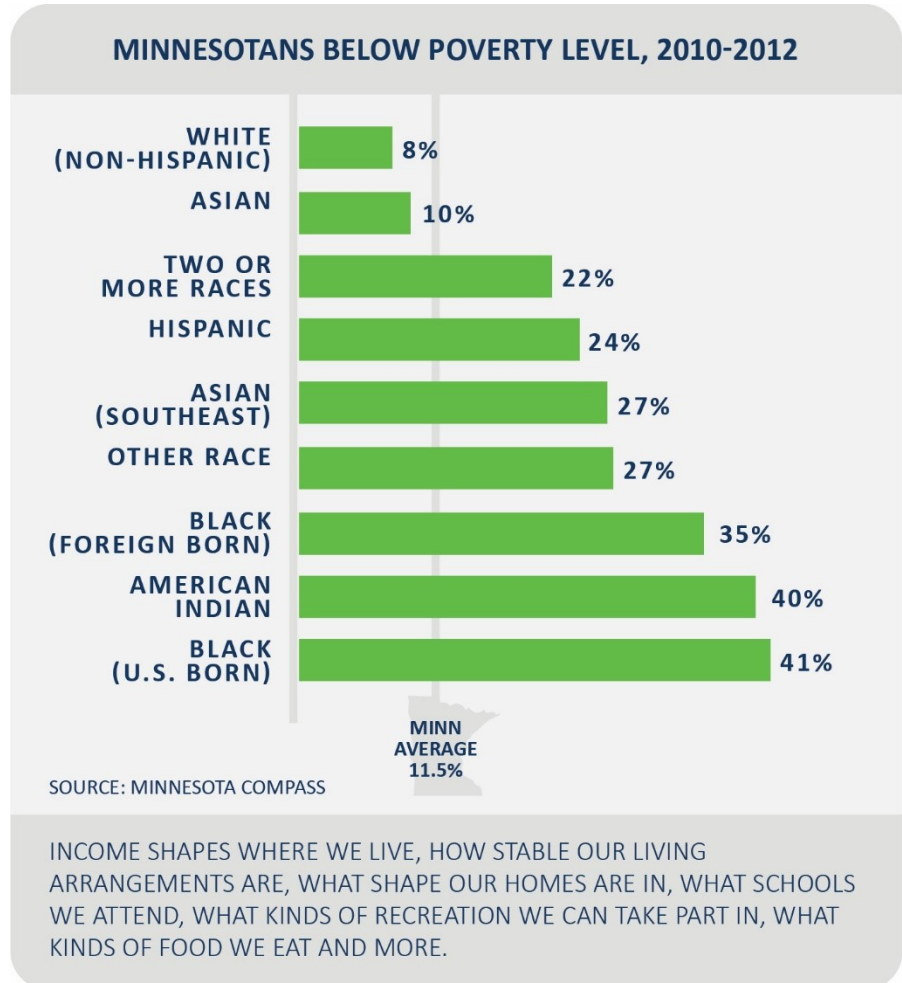
- Children with college-educated mothers read better by the third grade than their peers whose mothers have less education.⁵⁷

^{xvii} An earlier version of this assessment incorrectly stated that 36.4% of mothers with less than a high school diploma and 20.8% of mothers with more than a 12-year education receive inadequate prenatal care.

Income

Income shapes many areas of our lives: where we live and the stability of our living arrangements, the condition of our home, what schools we attend, what kinds of recreation we can take part in, what kinds of food we eat, and more. On average, if we make more money, our overall health is better.

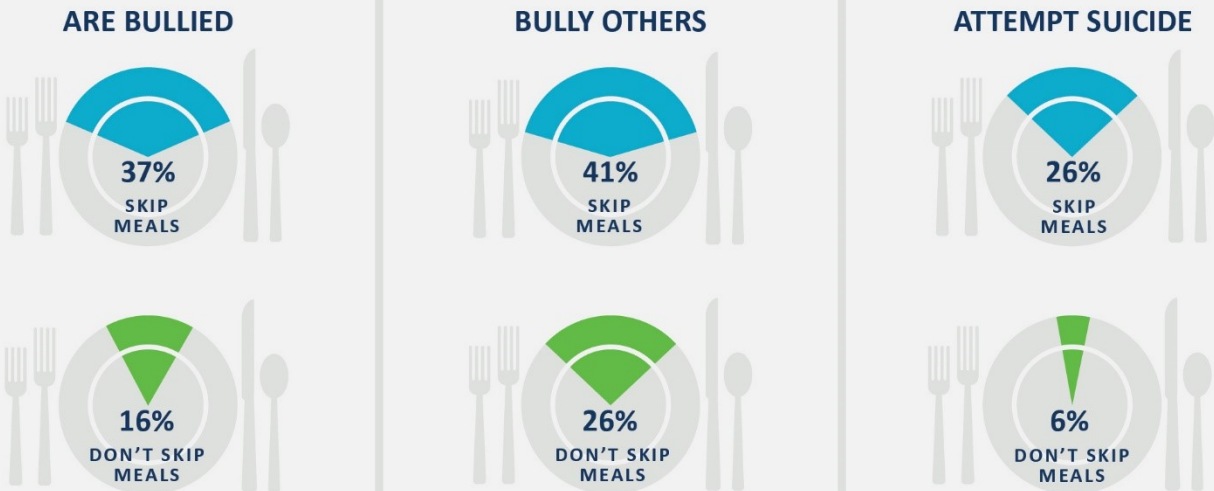
- Black, American Indian, Hispanic, and Hmong households have the highest poverty rates of all populations in Minnesota.⁵⁸
- Women earn less than men in every racial and ethnic group.⁵⁹ Children who grow up poor face many health challenges, because family income has profound and lasting effects on health. Early nutrition, positive relationships, and a healthy environment are essential to grow up healthy.⁶⁰
- Children four years old and younger are more likely to live in poverty than any other age group.⁶¹ African-American, Hispanic, American Indian, and Asian children are most likely to be poor.⁶²



The challenges of poverty also appear in teenagers.

- Ninth-graders who report having to skip meals in the last 30 days fare worse on many other measures of well-being, including attempting suicide and bullying.^{63xviii}

NINTH-GRADERS WHO REPORT HAVING TO **SKIP MEALS** FARE VERY POORLY ON MANY OTHER MEASURES OF CONCERN



SOURCE: MINNESOTA STUDENT SURVEY

A community's income also affects health for people in that community. In Minnesota, neighborhoods tend to segregate based on race, class, and income, creating inequities in community resources. Higher-income neighborhoods have higher property values and better-funded schools, since public schools are supported by property taxes. Low-income neighborhoods lack money, influence and power and frequently end up with a higher concentration of



SOURCE: A.H. WILDER FOUNDATION

^{xviii} An earlier version of this assessment incorrectly stated that, of ninth-graders who are bullied, 39% skip meals and 14% do not; of those who bully others, 49% skip meals and 28% do not; and of those who attempt suicide, 24% skip meals and 5% do not.

pawn shops and liquor stores, and fewer full-service grocery stores and parks. Stress, lack of access to care, and unequal exposure to environmental hazards all contribute to earlier deaths for those with low incomes, and longer lives for those with higher incomes.

- The lifespan of people living in higher income areas of the Twin Cities metropolitan area can be more than 13 years longer than people living in low income areas.⁶⁴

Workers in urban areas of Minnesota earn more than in other parts of the state.

- Urban workers' median earnings, for men and women, are \$10,000 or slightly more, higher than all other geography types. This earnings advantage is due in part to more urban employment in higher paying industries.
- Rural, small town, and large town residents who work full-time are twice as likely to live in poverty as urban residents who work full time.⁶⁵



Working-age people^{xix} who have a disability face challenges in employment and may experience hiring discrimination. As a group, persons with a disability have lower earnings relative to others without a disability, and in Minnesota, nearly half of adults with a disability have no annual earnings whatsoever.⁶⁶

The inability to make ends meet, including housing, food, and other needs, is a major source of stress for many people in Minnesota. The stress of being poor, such as worry about money, increases the chance of developing chronic diseases later.

- The groups that are most likely to report being worried about having enough money to afford their housing are American Indians, African-Americans, LGB populations, and people who have low incomes or are out of work.⁶⁷
- People worried about housing costs are more likely to report having chronic diseases such as cancer, arthritis, depression, diabetes, or asthma.⁶⁸

^{xix} Working age: 18 to 64 years old.

WORRY ABOUT AFFORDABLE HOUSING IMPACT ON DISEASE

Financial stress about housing, adults 18-64 only	Usually or always	Sometimes	Rarely or never
Ever had cancer (other than skin cancer)	8%	4%	4%
Ever had COPD1	10%	4%	2%
Ever had arthritis	29%	16%	14%
Ever had a depressive disorder	49%	24%	15%
Ever had diabetes	9%	5%	5%
Currently have asthma	14%	9%	6%
Currently smoke cigarettes	39%	23%	14%
Report binge drinking in past 30 days	25%	24%	22%
Are obese	35%	30%	24%

SOURCE: MINNESOTA DEPARTMENT OF HEALTH, BEHAVIORAL RISK FACTOR SURVEILLANCE SURVEY

Poverty also may increase the risk of developing diabetes, and chronic disease can lead to lower income.

- Working-age adults living in households earning less than \$35,000 a year are 2½ times as likely to report having diabetes as those with higher incomes.⁶⁹

One way some people manage stress, including the stress of coping with limited resources, is by using tobacco. Some Minnesotans describe the stress they feel, and how it contributes to smoking:

“It’s cheaper to get a 99 cent burger and a pack of cigarettes than to deal with the stress that you’re facing if you’re making less than \$40,000 per year.”
— American Indian interviewee

“People are more concerned about having a job and a place to stay, things to eat, and feeding kids... They think ‘I’m stressed out; I need this cigarette.’ I see they’re worried about how they’re going to live day to day.”
— African-American interviewee

“This is similar across all cultures, people really smoke because they’re stressed, there’s so much going on in their lives, they want some relief from their everyday lives... the stress relief is so immediate.”
— East African interviewee⁷⁰

NUTRITION

Breastfeeding provides the ideal first nutrition for infants, but resources and support needed to successfully breastfeed are not equally available to all mothers. Despite progress, large gaps in the rate of breastfeeding persist due to poverty, a lack of benefits that allow mothers to stay home with their babies during the early months, the negative effects of trauma and structural racism on cultural practices, and a lack of community support for breastfeeding.^{xx}

- Ninety percent of Minnesota mothers say they breastfed their babies (for any amount of time), but rates of breastfeeding are highest among better-educated, older, urban mothers, and lowest among mothers with low income and mothers under age 20.

Lack of access to adequate nutrition also affects older children.

- Ninth-graders who report having to skip meals (an indicator of poverty) fare more poorly than all other groups on nearly every measure of concern in the Minnesota Student Survey, including all racial/ethnic groups and LGB students. In addition to not eating enough, they get less sleep, are bullied more often, are more likely to bully others, and are much more likely to attempt suicide.⁷¹

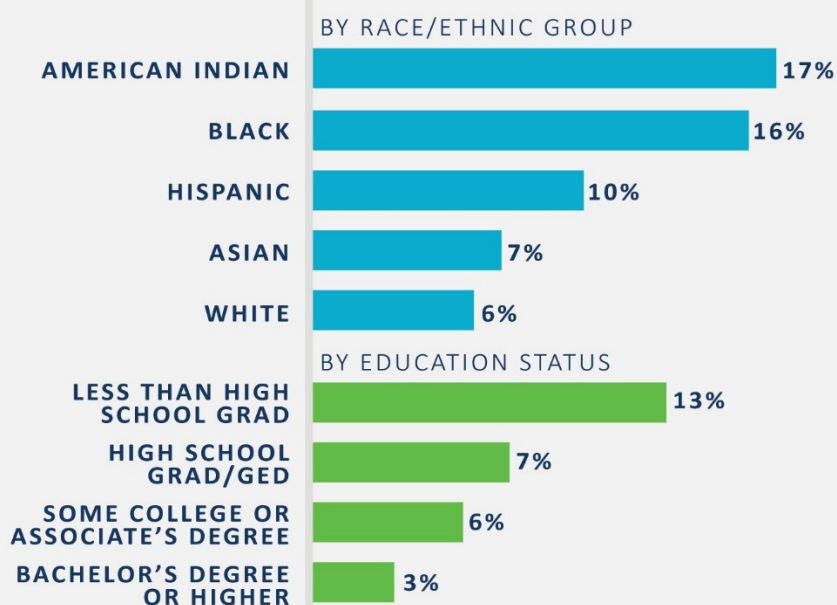
Employment and benefits

Paid work provides a source of income and connects us to people who may be a source of support, while offering a sense of purpose, meaning and belonging in the community. Employment provides us with opportunities for success, and is the main way most people in Minnesota access health insurance.

Large disparities in employment are evident in Minnesota.⁷²

- African-American and American Indian people in Minnesota are three times more likely to be unemployed than people who are white.⁷³

UNEMPLOYED MINNESOTANS, 2010-2014*



*AGE 16 AND OLDER WHO ARE IN THE LABOR FORCE ACTIVELY LOOKING FOR WORK BUT HAVE NO JOB AT ALL.

SOURCE: MINNESOTA STATE DEMOGRAPHIC CENTER

^{xx} Separating families, including mothers and babies, is a powerful form of oppression. American Indians have experienced this, as did African-Americans during slavery.

Earnings differ by race and ethnicity, reflecting higher concentrations of some communities of color and American Indians in low-skill, lower-paying jobs.⁷⁴ Meat and poultry processing jobs in Minnesota are increasingly being filled by immigrants. These jobs, according to the Centers for Disease Control and Prevention (CDC), carry a number of health risks, including exposure to cold, repetitive injury (e.g., carpal tunnel syndrome), exposure to disinfectant chemicals or chemical byproducts, exposure to dust from flour and spices creating allergic reactions, and exposure to bacteria that may cause diarrheal diseases and skin infections.⁷⁵

People with disabilities often face multiple barriers to employment and income, including discrimination. The majority of adults with disabilities are either unemployed or underemployed, despite their ability, desire, and willingness to work in the community.⁷⁶ Highly qualified job seekers with disabilities are frequently overlooked and underestimated. Workers with disabilities also face significant gaps in pay and compensation, compared to workers with no disability.^{77 78} Minnesotans with a disability also are much more likely to be unemployed than those without a disability.⁷⁹

RATE OF EMPLOYMENT IN MINNESOTA, 2011



SOURCE: U.S. CENSUS, AMERICAN COMMUNITY SURVEY

PERSONS WITH DISABILITIES ARE THE LEAST LIKELY OF ALL POPULATIONS TO BE EMPLOYED.

The daily pressures of financial struggles, lack of employment, difficulty in finding affordable housing, and lack of social support all affect mental well-being. Adults who are out of work report a greater number of poor mental health days than others.

- Nearly one-fifth of unemployed adults reported 14+ days of poor mental health in the past month, compared to one-tenth of employed adults.⁸⁰

PAID LEAVE

Access to paid leave creates the opportunity for family members to provide care and support for one another, and makes it possible for people to earn a living and care for their loved ones.

People with paid leave use less sick time and fewer health care services, and their children do better in school than the children of parents who lack paid leave. Paid leave contributes to better maternal mental and physical health, better prenatal and postnatal care, more breastfeeding, and greater parent-infant bonding. Elders cared for by family members with paid leave enjoy a higher quality of life.⁸¹

- People who have less education, lower incomes, work part time, or are single parents are less likely to have access to paid sick and family leave.⁸²

Access to paid leave varies by industry. People working in service and industrial occupations have the least access to paid sick leave, while professionals and people working in technical fields are more likely to have paid leave as an employment benefit.⁸³

Employer support for mothers who are breastfeeding, such as private spaces for breastfeeding/pumping (lactation rooms), varies widely in Minnesota. Mothers who work in service industries, retail, and industrial jobs may not continue breastfeeding once they return to work due to lack of employer support. Paid maternity leave gives mothers the opportunity to master breastfeeding.

- Only 5 percent of women in the lowest-paying jobs have access to paid maternity leave, compared to 20 percent of women in the highest-paying jobs.
- One in four working mothers returns to work less than two weeks after giving birth.⁸⁴

HEALTH INSURANCE AND ACCESS TO CARE

Minnesota has a higher rate of health insurance coverage compared to the rest of the U.S., in part due to a higher overall employment rate. Individual insurance is available, but for most people insurance is tied to full-time employment. People with part-time, contract, or low-paying jobs may not have access to health insurance or may lack adequate coverage, making it difficult for them or their families to get needed care. People who are uninsured or underinsured tend to get sicker before seeing a doctor, and have a harder time recovering.

- American Indian, Hispanic/Latino, and black populations in Minnesota are far less likely than other groups to have health insurance.⁸⁵
- Completing high school or college increases the likelihood that a person will have health insurance.⁸⁶

When people have health and dental insurance, they are much more likely to access preventive care, including immunizations, cancer screenings, prenatal care, and dental care. Even with insurance, many people do not get the care they need, because it is too expensive.

- People with a disability are twice as likely to skip seeing the doctor because of cost.⁸⁷

Childhood immunizations

Vaccines prevent many infectious diseases, including chickenpox, measles, diphtheria, hepatitis, influenza, polio, pneumonia, and tetanus.^{xxi} Most vaccines are provided through private insurance, but the federally funded Minnesota Vaccines for Children Program makes certain that any child in the state can receive the recommended vaccines.⁸⁸

- In 2016, only about 60 percent of Minnesota children age 24 to 35 months had completed the childhood immunization series, which includes seven vaccines that should be given by age 2 years if following CDC recommendations.^{xxii,89}
- Vaccination rates for kindergartners in the 2015-16 school year were at 90 percent or higher for each reported vaccine.⁹⁰

Because vaccines are available at low or no cost to those who need them, historically, Minnesota has not seen disparities in vaccination by population. In 2008, however, state and local public health officials became concerned about the declining rate of vaccination among young Somali children. An outbreak of measles in 2011 lead MDH and local public health departments to increase their outreach and community engagement efforts to the Somali community, including the hiring of Somali outreach workers. In response to the 2017 outbreak (April through August 2017) there was a further intensification of community outreach and public education activities, resulting in an increase in the Somali MMR (Measles, Mumps and Rubella) vaccination rates.

In the summer of 2008, a local news network featured a story about Somali parents concerned about autism in their children. The news coverage increased the concern in the community about what was called the “triple letter vaccine,” and many Somali parents came to believe that it would cause their children “to stop talking.” Around this time, immunization providers had already started noticing that an increasing number of Somali parents were refusing the MMR vaccine for their children.

In response to the declining MMR vaccination rates in the Minnesota Somali community, the Minnesota Department of Health developed an approach to connect more meaningfully with the Somali community, respecting the community’s oral culture and community connectedness. The number of MMR vaccines given to Minnesotan children of Somali descent increased in response to the 2017 measles outbreak. Post outbreak, state officials are continuing to work with the Somali community to improve understanding of vaccination and to ensure ongoing protection from measles and other vaccine preventable diseases.⁹¹

^{xxi} For a full list of vaccine-preventable diseases, see: Minnesota Department of Health: Diseases Prevented by Vaccines <https://www.health.state.mn.us/people/immunize/vpds.html>.

^{xxii} The Centers for Disease Control and Prevention (CDC) recommend the following seven vaccines for early childhood: diphtheria, tetanus, pertussis (DTaP); polio; measles, mumps, rubella (MMR); Haemophilus influenzae type b (Hib); Hepatitis B (Hep B); Varicella (chickenpox); and Pneumococcal conjugate vaccine (PCV). For more information, see: Minnesota Department of Health: MN Public Health Data Access: Immunizations https://data.web.health.state.mn.us/immunization_basic.

- In the first quarter of 2017 (January-March), an average of 37 MMRs were given to Somali children each week. That number jumped early in April, and from mid-April through early June the average number of MMR vaccines provided to Somali children was 321 per week.⁹²

Access to cancer screening

Cancer is the leading cause of death for Asian-Americans, Native Hawaiians and Pacific Islanders (NHPI) in Minnesota.

- Between 2002 and 2006, Asian-Americans and NHPI were four times more likely than white Minnesotans to have liver cancer and twice as likely to have stomach cancer (both types of cancer have a lower survival rate than other forms of cancer).
- Asian-American and NHPI women in Minnesota were also more likely to have cervical cancer, at twice the rate of white women.⁹³

Screening and early detection for some of the most common types of cancer (such as breast or cervix) can improve survival and save lives. Screening for colorectal cancer can also prevent cancer by detecting and removing pre-cancerous polyps. In the past 20 years, the rates of illness and death from colorectal cancer has dropped in Minnesota and nationwide, due in part to increased screening and improvement in treatment. Remaining colorectal cancer death disparities by race reflect common risk factors: how early the cancer was detected (e.g., by screening), access to health care and treatment, and overall health status at the time of diagnosis. While nearly three-fourths of people in Minnesota aged 50 and older get regular colorectal cancer screening, this rate varies by race and education.

- All racial ethnic groups are significantly less likely (by 73 percent) to undergo colorectal cancer screening than white Minnesotans.⁹⁴
- Only 61 percent of those without a high school education get screened, compared to 71 percent of those who completed high school, 75 percent of those with some post-high school education, and 80 percent of those with a college degree.⁹⁵
- American Indians are diagnosed with colorectal cancer at a rate of 50 to 80 percent higher than white non-Hispanics, and are twice as likely to die from it.⁹⁶

Access to prenatal care

Prenatal visits help keep both pregnant women and their babies healthy. Prenatal care reduces the risk of pregnancy-related complications for babies, such as anemia, preterm birth, and low birth weight. For mothers, these visits reduce the risk of complications like preeclampsia, diabetes, and hypertension.

Access to prenatal care differs by race. White women are more likely to get prenatal care than American Indian or African-American women. A supportive surrounding for prenatal care can be crucial in overcoming historical and social barriers to good prenatal care. American Indian and African-American babies are also more likely to be born at a low birth weight than white babies, and low birth weight can lead to higher infant mortality.

Mothers who do not receive adequate prenatal care are also less likely to receive information about breastfeeding.

- African-American women are less likely to receive prenatal education on breastfeeding from health care providers, and hospitals where African-American mothers give birth are less likely to have maternity care practices that support breastfeeding.⁹⁷⁻⁹⁸

Access to oral health care

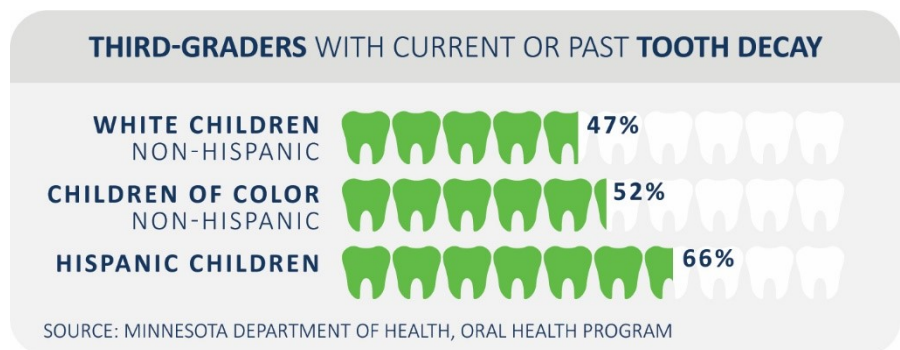
Oral health is essential to overall health. Oral health means being free of chronic oral-facial pain, mouth and throat cancers, sores and lesions, birth defects (like cleft lip and palate), and other problems affecting the mouth, teeth and face, including tooth decay, gum disease, or oral-dental trauma.

Chronic diseases like heart and lung disease, stroke, and diabetes are linked to periodontitis.^{xxiii} Chronic inflammation and infection of the gums is linked to chronic diseases such as heart and lung disease, stroke, and diabetes. Mothers with periodontal disease have a higher incidence of preterm and low birth weight babies.⁹⁹

For children, untreated tooth decay can cause pain and infections that may lead to problems with eating, speaking, playing, and learning.¹⁰⁰

Significant disparities in dental disease and oral conditions exists for low-income children and adults, people of color and American Indians, older adults, and people with disabilities. These disparities are largely due to limited access to and availability of oral health services, lack of comprehensive dental insurance, limited oral health education, and high out-of-pocket costs.

- Rural and isolated areas of the state have only one practicing dentist for every 3,900 residents. Residents face additional challenges like travel time, appointment wait time for the available dentists, and dentists who do not accept patients reimbursed by public programs.¹⁰¹
- Third-graders attending public schools with high free and reduced price eligibility^{xxiv} are more likely to have untreated or treated tooth decay, as are third-graders enrolled in rural public schools.¹⁰²



^{xxiii} Periodontitis is a chronic inflammation and infection of the gums and periodontal ligament and bone that support the teeth.

^{xxiv} This is used to represent lower-income households.

Housing

We all need a safe place to live that is not so expensive that we cannot afford other necessities. Stable housing provides a critical foundation for daily living and health. When such housing is out of reach, we may end up living in places that are overcrowded or do not meet basic health and safety standards.

COST BURDEN OF HOUSING

Housing creates stability, but only if it is affordable.

- Many people in Minnesota are burdened by housing costs that exceed 30 percent of their income,xxv leaving less money to cover other necessities, like food and medical care.^{103, 104}
- Vacancy rates are low, especially for rental units, and both average rent and average home costs have increased, making affordable housing increasingly difficult to find.¹⁰⁵
- The high cost of renting makes it more difficult to save for a down payment on a home. Homeownership is an increasingly distant dream for many.

HOMEOWNERSHIP

Owning a home is an important way that Minnesotans build wealth. Homeownership provides stability and minimizes disruptions that are detrimental to health and emotional well-being, such as changing schools, changing jobs, or frequent moves. This stability allows us to increase trust among neighbors, create lasting friendships, and build community cohesion. Homeowners move less frequently than renters, and have more control over their home environment.

- Single moms are least likely to own a home.¹⁰⁶
- White Minnesotans are more than three times as likely to own a home as African-Americans.^{107xxvi} This large homeownership disparity is a direct result of years of discrimination in housing policies, real estate, and lending practices. Communities of color continue to experience discrimination and segregation in housing, find it difficult to obtain traditional mortgages; similarly, they are targeted with predatory lending practices.¹⁰⁸

THREE TIMES AS MANY WHITE MINNESOTANS OWN HOMES AS AFRICAN-AMERICAN MINNESOTANS.



SOURCE: MINNESOTA COMPASS

^{xxv} The 30 percent standard for housing must be used carefully because it does not take into account overall income. For a discussion of this, see: Hertz, D. (2016, February 3). Affordability: the 30 percent standard's blinders [blog post] <http://cityobservatory.org/the-problem-with-how-we-measure-housing-affordability/>.

^{xxvi} An earlier version of this assessment incorrectly stated that 77% of white and 25% of African-American Minnesotans own homes.

Transportation

Transportation is key to all of our daily activities, including access to food, health care, and connections to family, friends, and faith communities. Transportation connects the people, natural resources and businesses within the state to each other and to markets and resources outside the state and country, improves education and job security, strengthens social connections, supports mental health, and provides access to recreation.¹⁰⁹

Reliable and affordable transportation are important for equity in health. Equitable transportation supports the health of communities by ensuring that *everyone* can get where they need to go.

- Virtually every Minnesotan (99 percent) lives within 60 minutes of a designated trauma hospital.^{xxvii 110}

Transportation impacts safety, including the condition of sidewalks, bikeways, roads and bridges, concentrated emissions from vehicles, the safety of pedestrian crossings, adequate lighting and signage, adequate bus shelters, and traffic speeds and controls.

- In 2015, more than 180,000 people in Minnesota were involved in nearly 75,000 crashes, involving 138,000 motor vehicles. Nearly 30,000 were injured, and 411 died.¹¹¹
- Most driving-related deaths were caused by alcohol-impaired driving (23 percent), driving too fast (unsafe speed) (14.7 percent), and driver distraction/inattention (14.3 percent).¹¹²

Low income populations – which includes many communities of color and American Indians – often live in less desirable neighborhoods close to industries and near busy roads and freeways (which serve people who own cars and live in areas further out). Heavy traffic can limit opportunities for walking and physical activity, and can be a safety hazard. Residents of high traffic areas also are exposed to more noise and air pollution.^{113,114}

Rural populations, especially communities located outside a five-mile radius of a city or town, have very limited transportation options. Interest in a wider range in the means of transportation, including public transit, is growing as needs for transportation options increase. The key demographic trends that are shaping transportation needs across the state include increasing population and a growing population of older adults; an increase in the number of individuals with limited English proficiency; a growing population of people with disabilities; and increasing interest among people of all ages in driving less and living in walkable communities.¹¹⁵

^{xxvii} Hospitals voluntarily participate in Minnesota's trauma system by attaining designation as a Level 1, 2, 3 or 4 trauma hospital. Designation levels reflect the resource capabilities of the respective hospital, where Level 1 has the greatest number of resources. It is not a ranking of the quality of care provided by the hospital.

Nature

How we understand and feel about nature, how we treat our surroundings, and our access to natural spaces are shaped by our families, jobs, culture, and society. People with wide-ranging interests and values have very different ideas about what it means to own land, how nature should be used (or not), who is responsible for assuring access to clean air and water, and how to reconcile the many complex issues and competing interests involving nature.

Some view nature as “here for our use”, (such as industries like farming, mining, or logging). Others see nature as a means to physical activity and recreation (e.g., parks, bike paths, and walking trails). Still others, especially American Indians in Minnesota, see nature as sacred. They define it by relationships other than those of ownership. In the Dakota language the term for nature, *uŋčǐ makhá*, translates as “grandmother earth”: viewing all of nature (the earth) as sacred, the source of life, and worthy of respect and protection. In the Ojibwe language, nature, or *gaa miinigooyang*, means “that which is given to us.” This term reflects the Ojibwe worldview where “the individual is dependent on the group, the group is dependent on nature, and nature is dependent upon the supernatural for survival.”¹¹⁶

Nature and our health

Research across the diverse fields of landscape architecture, agriculture, sociology, psychology, anthropology, health care, and education link human health and well-being to our relationship with nature. The way we design our cities, our homes, and our workplaces shapes our interactions with nature and determine who can access a healthy natural environment and who cannot. As a society, we choose how to use land and water, and what we put into the air. We make decisions every day in agriculture, development, construction, land management, and food processing, which ultimately shape our health. Being mindful of our actions and interactions with nature — whether they remove us from the natural environment, create inequities in access to water and land, or threaten the quality of our surroundings — is essential to assure our health.

Children are particularly vulnerable, both to being separated from nature and to the effects of pollution. Playing outdoors is an important part of learning for children. Being in nature activates all of their senses. Research suggests that children who can play in natural settings have improved attention spans, experience less stress, are more physically active (and less obese), and care more for the environment as adults. However, because a child’s brain and body are rapidly developing, they are more susceptible when exposed to toxins in the environment.

Climate

Climate change impacts human health through extreme weather events, wildfires, decreased air quality, threats to mental health, and illnesses transmitted by food, water, and vectors (disease-carriers) like mosquitoes and ticks.¹¹⁷

Climate change influences our health, but it does not affect us all in the same ways. Some of us are more vulnerable to the effects of climate change, including the poor or homeless, the elderly, young children, and

people who have chronic health conditions like allergies and asthma. The effects of climate change also create stress for people whose livelihoods are dependent on the weather, like farmers, and for people who work outdoors.

In Minnesota, our average temperature is rising.

- Rising temperatures increase air pollution,^{xxviii} which intensifies the symptoms of asthma and other respiratory and cardiovascular diseases
- Rising temperatures cause more deaths from heat stroke
- More insects survive when winters are warmer, contributing to the spread of diseases like Lyme disease
- Warming temperatures are leading to a longer allergy season

Warmer nights mean that homes without air conditioning do not cool down. People who don't have air conditioning, who are isolated, or unable to get out of their homes are at greater risk of heat-related illness. People who must work outdoors, such as farm laborers and construction workers, are also at risk.

- In 2014, 435 Minnesotans visited the emergency department for heat-related illnesses and two people died due to heat.¹¹⁸

Climate change disrupts weather patterns and increases severe weather events that lead to flooding and drought, negatively impacting human health, social networks, land, plants, and wild and domestic animals. One-time and recurring natural disasters also create widespread stress and challenge the mental well-being of entire communities.

The number of severe rainfalls in Minnesota is growing. Flooding can cause injury and death from exposure to floodwaters, harm mental health by destroying homes and property (including the livelihoods of those who depend on the land), cause respiratory illnesses from mold in wet basements, and increase the potential for contaminated drinking water and waterborne infections.

People who live in low-lying areas and who are poor are at greater risk from flooding and its aftereffects, especially when they can't afford to fix their homes, or have to depend on a landlord to make repairs.

- In 2016, Minnesota experienced two mega-rains in one year for the first time since tracking major rainfall events in Minnesota.^{xxix}

Air quality

Air quality affects our health in multiple ways. Outdoor air pollution includes ozone and fine particles in the air, which can trigger asthma attacks and contribute to pneumonia, bronchitis, and heart attacks. Outdoor air pollution comes from motor vehicles, and agricultural equipment; home heating, burning (garbage and wood); gas stations, char-broilers, dry cleaners, and auto body shops.^{119, 120}

^{xxviii} Smog contains ozone particles, which form faster at higher temperatures, and hotter, drier air increases the risk of wildfires.

^{xxix} A mega-rain event means that 6 inches of rain fell, covering more than 1000 square miles, and that the core of the storm topped 8 inches.

- While air alert days in Minnesota have been declining, air pollution continues to negatively affect our respiratory and cardiovascular health.¹²¹

Indoor air pollutants and allergens include asbestos, carbon monoxide, dust mites, formaldehyde, lead dust, mold, fine particles, radon, tobacco smoke, and volatile organic compounds.¹²² Some pollutants or allergens in indoor air occur naturally (like radon and dust mites) and others are the product of human decisions, such as materials used in home construction and furnishings. We benefit from homes, schools and workplaces built with radon resistance, adequate ventilation, and plenty of natural lighting.

Populations with higher rates of heart and lung disease are most affected by air pollution, including people of color, the elderly, children with uncontrolled asthma, and people in poverty.

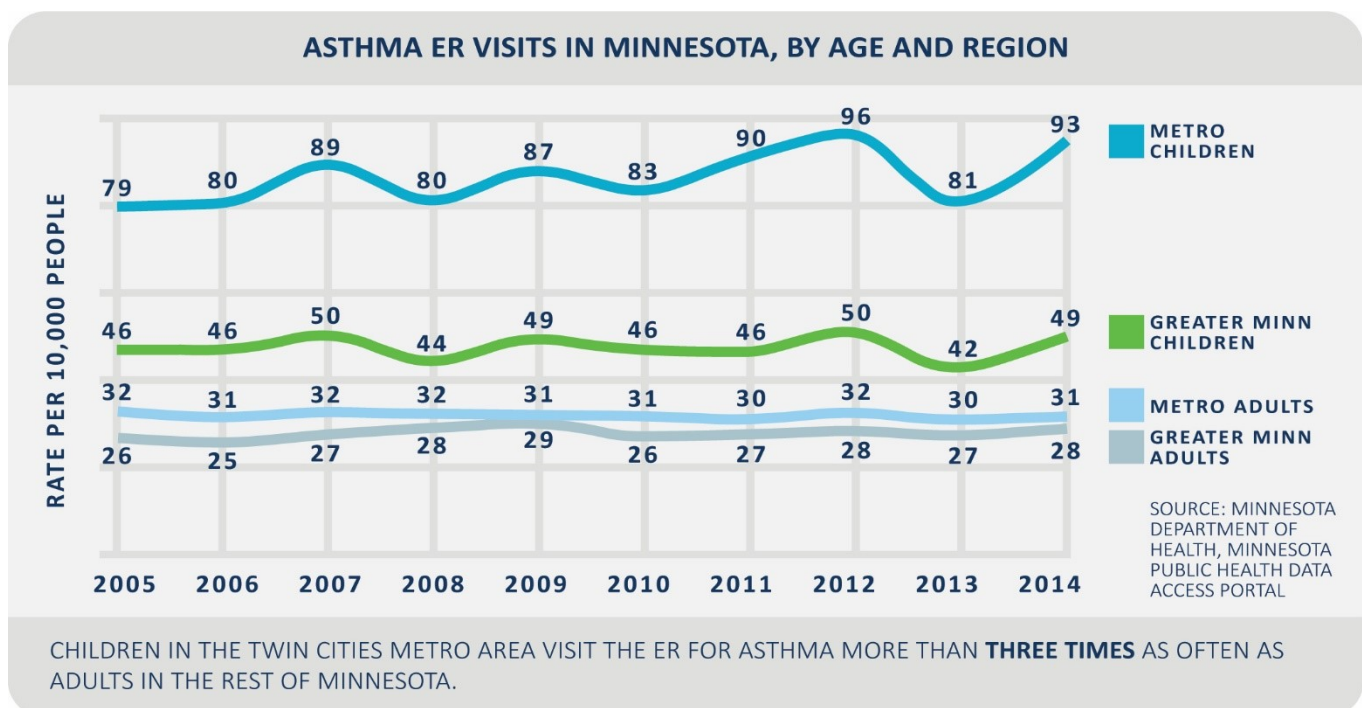
- From 2 to 5 percent of all metro residents who visited the hospital or emergency room for heart and lung problems, did so partly because of exposure to fine particles in the air or ground level ozone.¹²³

Air pollution is especially harmful for people living with asthma or respiratory and cardiovascular diseases, the elderly, and those who participate in heavy or extended physical activity.

- One in 16 children (6.4%) and one in 13 adults (7.4%) currently have asthma.¹²⁴

Asthma attacks are more common in communities located near busy roads. People who are less able to choose where they live, to determine the conditions of their homes, or to control their surroundings (like renters), may suffer more frequent asthma episodes.¹²⁵

- The number of emergency department visits for asthma is highest among children in the Twin Cities metropolitan area, and lowest among adults in greater Minnesota.¹²⁶



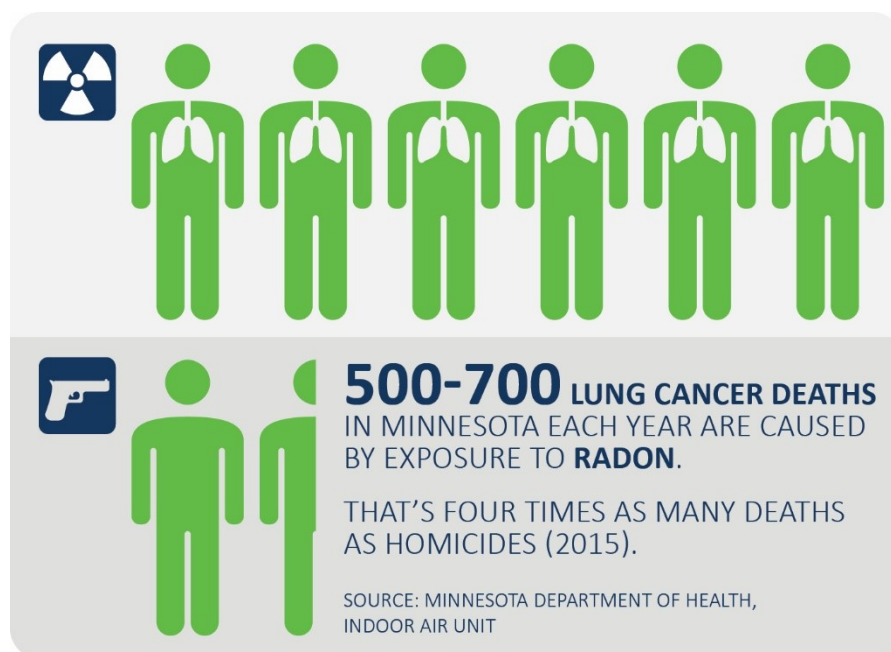
Radon is a colorless, odorless radioactive gas that naturally comes from the soil. About 40 percent of Minnesota homes have elevated levels of radon. In winter, heating systems tend to draw in radon gas from the soil, increasing radon levels inside our homes, schools, and other buildings.^{xxx}

- The average radon level in Minnesota soil is more than three times higher than the average U.S. radon level.¹²⁷
- About 500-700 lung cancer deaths in Minnesota each year are caused by exposure to radon.¹²⁸

Lead-based paint was phased out of residential use, in the U.S., in 1950 and eventually banned in 1978. When children under age six ingest lead (usually through the dust from lead paint), they can develop problems with brain function and behavior that last a lifetime.

Elevated blood lead cases in Minnesota are declining, but lead is still one of the most common environmental health threats to children. Older housing, especially housing built before 1950, is a risk factor for childhood lead exposure due to the presence of lead-based paint. Lead exposure primarily affects low-income children living in older, poorly maintained housing.

- In Minnesota, 23 percent of homes were built prior to 1950, and about 59 percent were built prior to 1980. Lead dust in homes exposes children to critical health problems.
- In 2015, 765 children had confirmed elevated blood lead test results.



^{xxx} It is relatively easy to test for radon, and it is possible to reduce exposure using radon mitigation systems. The state's energy code, starting in 2009, required new single-family homes, duplexes and triplexes to be radon resistant, but not multi-unit housing. The state building code was changed in 2015 to require multi-unit housing also to be built radon resistant, which corrected this inequity. A law that went into effect on 1/1/14 requires all homes sold in the state to disclose and notify radon to prospective buyers. Landlords, however, are not required to disclose radon levels to prospective or current tenants. Radon mitigation is a possibility for any homeowner, if they can afford it. In 2017, the cost of installing a radon mitigation system averaged between \$1,500 and \$2,000. The lack of disclosure in rentals and the cost of mitigation may create a potential inequity in radon exposure for renters and for people with lower incomes.

Water

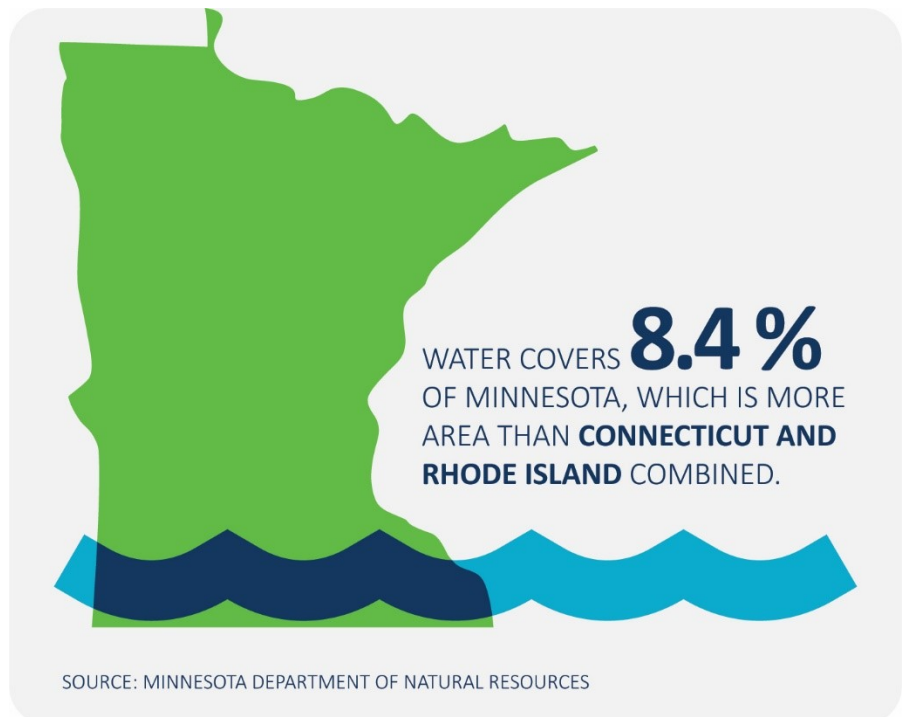
Over eight percent of Minnesota is covered with water.¹²⁹ Clean water supports human health and the health of all living things. Not only is clean drinking water essential, but many of us enjoy using lakes, rivers and streams for swimming, boating, and fishing.

The health of Minnesota's water supplies is threatened.

Land use is a major factor in our current water quality problems, including agricultural drainage, urban and rural runoff, and erosion caused by removing vegetation from shorelines.¹³⁰

Community water supplies, which are monitored for contaminants, play a critical role in protecting our health. Communities in Minnesota test their water supply and treat water problems, but smaller communities may lack the technical expertise or the financial resources to maintain water quality. Sometimes water supply clean-up costs are passed on to homeowners, which can over-burden people with the least ability to pay.

- Minnesota has 6,787 public water systems.¹³¹
- In 2016, 25 small (rural) community public water supplies had bacterial contaminant violations, compared to three violations in urban community public water supplies.¹³²



NITRATE

Nitrate in groundwater and surface water is closely tied to land use practices. Over half of Minnesota's land is used for agriculture. While the amount of nitrogen fertilizer used by each farm is down, the number of total acres of "row crops" (like corn and soybeans) has increased, so nitrogen fertilizer run off remains a problem. Runoff or leakage from fertilized soil, wastewater, landfills, animal feedlots, septic systems, and urban drainage can cause high levels of nitrate in water, which is especially concerning for the health of infants. Babies under six months old who are fed formula mixed with water are at the highest risk for methemoglobinemia [*met·he·mo·GLO·bi·ne·mia*], or "blue baby syndrome." Blue baby syndrome is a blood disorder that affects how the red blood cells distribute oxygen in the body. Infants with this disorder have skin that looks blue, and may fail to thrive, have seizures, and experience developmental delays and intellectual disabilities.

- In 2005, 15,000 Minnesotans were served by community water supplies that treat for nitrite; in 2015, this number grew to 50,000.
- In some townships, over 50% of existing private wells tested exceeded the drinking water standard for nitrate.¹³³ Statewide, approximately 1% of new wells exceeded the drinking water standard.^{134 xxxi}

ARSENIC

Arsenic occurs naturally in Minnesota water, mostly as a result of glacial deposits; levels differ due to geography. Some counties have more arsenic because of how the sediment was deposited and where conditions are right to release arsenic into the water. Arsenic is very expensive to remove from water.

Long-term exposure to arsenic, even at low levels, is associated with cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate. Other possible health effects include cardiovascular disease, diabetes, developmental and reproductive effects.

Since 2008, all new private wells in Minnesota must be tested for arsenic. In October 2001, EPA established a standard of 10 micrograms (µg) per liter for arsenic in drinking water; anything above this level is deemed to increase risk to the public's health.

- 30 to 44 percent of new wells in seven counties in central and northwestern Minnesota have arsenic levels that exceed the EPA standard (10 µg/L).¹³⁵

Public water supplies are monitored and treated for arsenic. Private well owners may be at higher risk for exposure to arsenic, because they are personally responsible for testing and treating their own drinking water.

Outdoor recreation

Outdoor recreation is good for the mind, body and spirit. Minnesota is rich in parks and trails, creating many opportunities to get outside, alone or with friends and family.

- People over age 55 visit parks most frequently.
- Adults under 35 are more likely to use the park or trail for commuting than for recreation.
- White people in Minnesota use parks nearly twice as often as other populations, and rarely note any safety concerns.
- Populations of color are more likely to use the parks for fishing, special events and picnicking, and are more likely to note safety concerns about being in the relatively isolated spaces of regional parks.¹³⁶
- Park accessibility varies in Minnesota, a concern for adults and children with disabilities.^{xxxii}

^{xxxix} An earlier version of this assessment incorrectly stated that nearly 10% of existing wells exceeded the drinking water standard.

^{xxxii} The Minnesota Department of Natural Resources acknowledges that accessibility varies in state parks: Minnesota Department of Natural Resources: Accessible Outdoors: Minnesota State Parks, http://www.dnr.state.mn.us/accessible_outdoors/parks/index.html. Because accessibility varies, organizations have developed guides to help people with disabilities and parents identify accessible parks and playgrounds in Minnesota: Society for Accessible Travel & Hospitality: Newly Revised Minnesota Accessibility Guidebook, <http://sath.org/newly-revised-minnesota-accessibility-guidebook>, Accessibleplayground.net: Minnesota: Playground Directory, <http://www.accessibleplayground.net/playground-directory/?cn-s&cn-cat=39&cn->, and ConnectWC: 2017 Minnesota Summer Camp Guide for Campers with Disabilities <http://www.connectwc.org/2017-summer-camp-guide.html>.



WHITE MINNESOTANS ARE TWICE AS LIKELY TO USE REGIONAL PARKS AND RARELY NOTE SAFETY CONCERNS.

POPULATIONS OF COLOR ARE MORE LIKELY TO NOTE **SAFETY** CONCERNS ABOUT BEING IN REGIONAL PARKS.

SOURCE: METROPOLITAN COUNCIL

Access to parks and safe places for outdoor recreation contribute to our physical and mental well-being. Children should get at least an hour of exercise a day, while adults should get regular exercise throughout the week. Even a couple of hours of moderate physical activity per week can add quality and length to our lives.

National guidelines recommend that children and adolescents participate in 60 minutes or more of moderate-to-vigorous physical activity on most — preferably all — days of the week.

- Only half of white, heterosexual Minnesota ninth-graders get the recommended amount of physical activity. All other groups of ninth-graders get even less activity.¹³⁷
- People in Minnesota take nearly 90 million bicycle trips every year. Safe places to ride near home, for recreation and to get to work and school, are important for physical and emotional health.¹³⁸
- Almost half of people in the state never get on a bike. One in four ride once a month and almost one in five ride once a week, covering nearly 30 million miles. Minnesotans living in suburbs are more likely to ride a bike than those who live in the core cities of Minneapolis and St. Paul.¹³⁹

Food

Food is connected to the ways people choose to use the land and water and the effects these decisions have on the natural environment.

Food also connects people in community. A wide variety of foods, from all cultures, can be enjoyed as part of an eating pattern that supports overall well-being. National guidelines recommend that after the first six months,^{xxxiii} people eat a variety of foods high in nutrients, and limit food high in added sugars, saturated fats, and sodium.¹⁴⁰ A healthy eating pattern including nutrient-rich foods like fruits and vegetables that is low in added sugars, saturated fat, and sodium reduces the risk for heart disease, diabetes, stroke, and some cancers, and helps manage body weight. However, many people do not or cannot eat this way. An individual's income and life circumstances make healthy food choices difficult, especially when these foods are not readily available

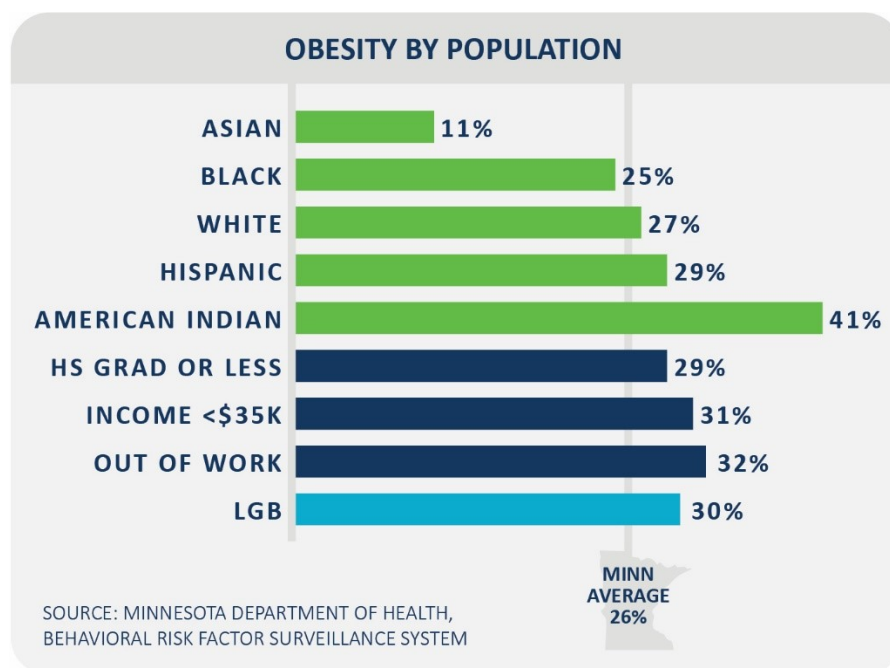
^{xxxiii} The first and best food for humans for the first six months is breast milk or, when that is not possible, infant formula.

or affordable. In the U.S., processed foods and beverages high in calories, added sugars, sodium, and added fats are cheap and readily available, while nutrient-rich fresh foods such as fruits and vegetables can be less available and less affordable.^{xxxiv}

- Less than half of ninth-graders eat fruit more than once a day.¹⁴¹ Even fewer eat a green salad or other vegetables daily.¹⁴²

Minnesota is fortunate to have many thriving farmers' markets across the state, but we also have "food deserts," especially in rural areas. The absence of nearby stores affects what people eat.

- About 235,000 people in Minnesota live more than 10 miles away from a large grocery store or supermarket.¹⁴³
- Nearly 900,000 Minnesotans live in lower-income communities with insufficient grocery store access. This grocery gap is fourth-worst in the nation, and disproportionately affects Minnesotans living in rural communities and tribal nations.¹⁴⁴
- One in four adults in Minnesota is obese. The American Indian population in Minnesota has the highest rate of obesity, largely because of the history of forced dietary changes that came with the loss of tribal lands and livelihoods and the introduction of foods high in fat and sugar.¹⁴⁵⁻¹⁴⁶
- About 10 percent of youth are obese; the rates are higher among LGB (17.2 percent), American Indian (16.5 percent) and Hispanic (15.7 percent) youth.^{147xxxv}
- Children with special health care needs are also more likely to be obese (31 percent) compared with children without a special health care need (21 percent).¹⁴⁸



^{xxxiv} For more information, see: Minnesota Food Charter: Food Access Planning Guide <http://mnfoodcharter.com/planningguide/>. The guide is a companion resource to the Minnesota Food Charter, a shared roadmap developed by thousands of Minnesotans that offers 99 proven policy and systems change strategies designed to ensure reliable access to safe, affordable, healthy food for all Minnesotans.

^{xxxv} An earlier version of this assessment incorrectly stated that 32% of those earning less than \$35,000/year, 31% of out-of-work, and 30% of LGBTQ Minnesotans are obese.

Belonging

When a population or community **belongs** (that is, they are not marginalized or excluded), their voices are heard in such a way that they help shape the conditions in the community that affect their lives and their health.¹⁴⁹

Belonging and inclusion determine how we interact with each other individually, in our families, in the community, and in society. Belonging improves the nature of our relationships, expands our access to resources, improves our resilience, and increases our opportunities for educational and economic success. We are social creatures, and belonging creates meaning, purpose, and hope for the future.

Forming relationships and learning to be part of families and communities are critical in early childhood. Children find their own place in society through their experiences and relationships in their families and communities. Pregnant mothers, babies and children experience stress and trauma when they or their families are marginalized. Children in these circumstances may struggle to connect with others and are at greater risk of experiencing alienation and depression in adolescence and adulthood.¹⁵⁰

Belonging and our health

Healthy, positive relationships and lifelong inclusion in society interact to prevent disease, disability, injury, and premature death: they also create a high quality of life. **In many ways, *not* belonging is the true source of health inequity.** When prejudice and discrimination are a regular part of our lives, we hear a persistent message that “you don’t matter.”

If our voices are not heard, if we are not allowed to fully participate in society, we suffer more than stigma. We suffer from higher rates of injury, addiction, abuse, joblessness, homelessness, incarceration, trauma, depression, disease, disability, and death.

Racism and infant mortality

Racism is one of the most powerful exclusionary forces. Experiencing racism over a lifetime, and over generations, raises stress hormones in the body and has a toxic effect on health, including the health of future generations. Even when accounting for other factors like a mother’s education, income, and access to health care, infant mortality rates are higher for American Indian and African-American babies. Although infant mortality is decreasing overall, American Indian and African-American babies die in their first year of life twice as often as Asian and white babies.¹⁵¹

INFANT MORTALITY RATE PER 1,000 BIRTHS IN MINNESOTA BY RACE/ETHNICITY 2009-2013



SOURCE: MINNESOTA DEPARTMENT OF HEALTH,
MINNESOTA CENTER FOR HEALTH STATISTICS

IF WHITE BABIES IN MINNESOTA DIED AT THE SAME RATE AS AMERICAN INDIAN BABIES,
2,134 MORE WHITE BABIES WOULD HAVE DIED BETWEEN 2012 AND 2016.

Early life experience

Many things including relationships, experiences, and the environment influence brain development. During the first 1,000 days of life, a baby's brain rapidly develops. An early bond with another person helps set the stage for our lifelong emotional, social, and physical health. While we learn about our world, a strong attachment to another person promotes positive emotional and physical development.¹⁵²

ATTACHMENT

Bonding – or forming attachments – is a building block for developing trust and learning to navigate the world. Holding, cuddling, and talking to infants are essential for their development and lifelong health. If they are consistently well cared for, over time, babies learn to trust their physical and emotional needs will be met.^{xxxvi,153}

Breastfeeding is one powerful way to develop attachment between mothers and babies by providing them with time together and close physical contact. Breastfeeding releases beneficial hormones in the mother's body during breastfeeding, which help her bond with her baby. The baby also benefits because breast milk is especially good for them. Babies who are breastfed tend to have fewer health problems and lower adult weight than babies who are not breastfed. Mothers who breastfeed are less likely to develop diabetes or breast or ovarian cancer later in life.

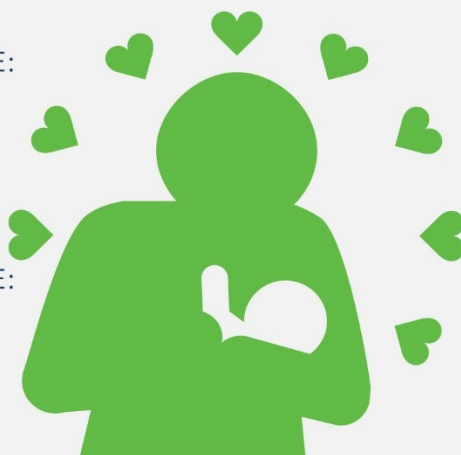
^{xxxvi} Attachment is ideally formed in infancy with a child's family of origin. When this is not possible the development of healthy attachments is still possible with consistent, loving and trauma informed care.

WOMEN ARE **MORE LIKELY** TO BREASTFEED IF THEY ARE:

- MORE EDUCATED
- LIVING IN URBAN AREAS
- OLDER
- HAVE PAID LEAVE

WOMEN ARE **LESS LIKELY** TO BREASTFEED IF THEY ARE:

- YOUNGER THAN 20
- LOW INCOME



BREASTFEEDING

DEVELOPS ATTACHMENT BETWEEN MOTHERS AND BABIES WHICH HELP BABIES LEARN THEIR EMOTIONAL AND PHYSICAL NEEDS WILL BE MET.

SOURCE: MINNESOTA DEPARTMENT OF HEALTH, PREGNANCY RISK ASSESSMENT MONITORING SYSTEM

- Rates of breastfeeding are highest for older, urban mothers with more education. Breastfeeding rates are lowest among mothers with low income, and mothers under the age of 20.¹⁵⁴
- Mothers with higher education are most likely to have access to paid leave, which increases the likelihood that they will be able to continue to breastfeed their babies.^{xxxvii}

Not only close care and attention, but consistency of caregivers is important for a young child's ability to attach. Out-of-home placements, even when these are necessary for the safety of the child, disrupt the attachment to a caregiver. The more changes in caregivers young children experience, the more likely they are to suffer from attachment disorders. Attachment disorders are associated with risk taking behaviors in adolescence.¹⁵⁵ In Minnesota, a larger share of American Indian children are in foster care than in any other state. American Indian community leaders are concerned that American Indian children are removed from their homes more often because their families are being held to a higher standard than other families, leading to more family separation and triggering trauma.¹⁵⁶

- In Minnesota, a larger proportion of American Indian children are in foster care than in any other state.¹⁵⁷

ADVERSE CHILDHOOD EXPERIENCES

Negative experiences, especially adverse childhood experiences, or ACEs, also shape lifelong health. ACEs are traumatic events in life occurring before a child turns 18. Adverse experiences for children are closely linked to adverse conditions for communities, such as the much higher rate of incarceration of African-American men.

Nine different types of ACE have been studied: physical abuse, sexual abuse, verbal abuse, mental illness of a household member, problematic drinking or alcoholism of a household member, illegal street or prescription drug use by a household member, divorce or separation of a parent, witnessing domestic violence towards a parent, and incarceration of a household member.

^{xxxvii} Not every mother is able to breastfeed, but still can form close emotional bonds with her infant and provide them with a loving, healthy start.

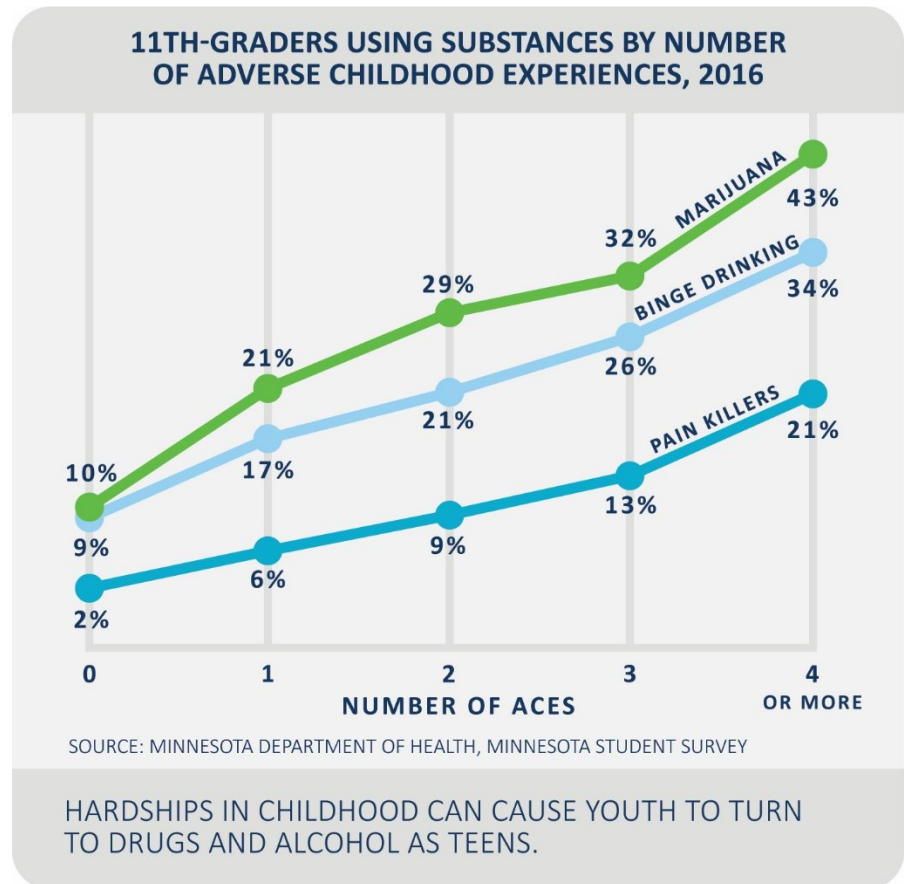
The more ACEs we experience, the more likely we are to have health problems later in life.

- Children and youth with special health care needs in Minnesota are almost three times more likely to experience three or more adverse events in childhood.
- Teens from low-income families, LGB teens, and American Indian teens are the most likely to have experienced four or more adverse events in childhood.¹⁵⁸
- Adverse experiences in childhood increase the risk of adolescents turning to alcohol and drugs.¹⁵⁹

SMOKING

Even though they are experienced in childhood, ACEs have a powerful effect on our entire lives. This is especially true for smoking, the primary cause of preventable disease and death in Minnesota.

- Between 2013 and 2016, the smoking rate of 11th graders declined by over 30%.¹⁶⁰ Significant disparities in smoking rates remain, however, when adverse childhood experiences are considered.
- People who experienced five or more ACEs are much more likely to smoke as adults (42 percent versus 11 percent, respectively).¹⁶¹
- Adults who experienced ACEs are three times more likely to have asthma, four times more likely to have depression, six times more likely to have anxiety, and twice as likely to engage in chronic drinking.¹⁶²

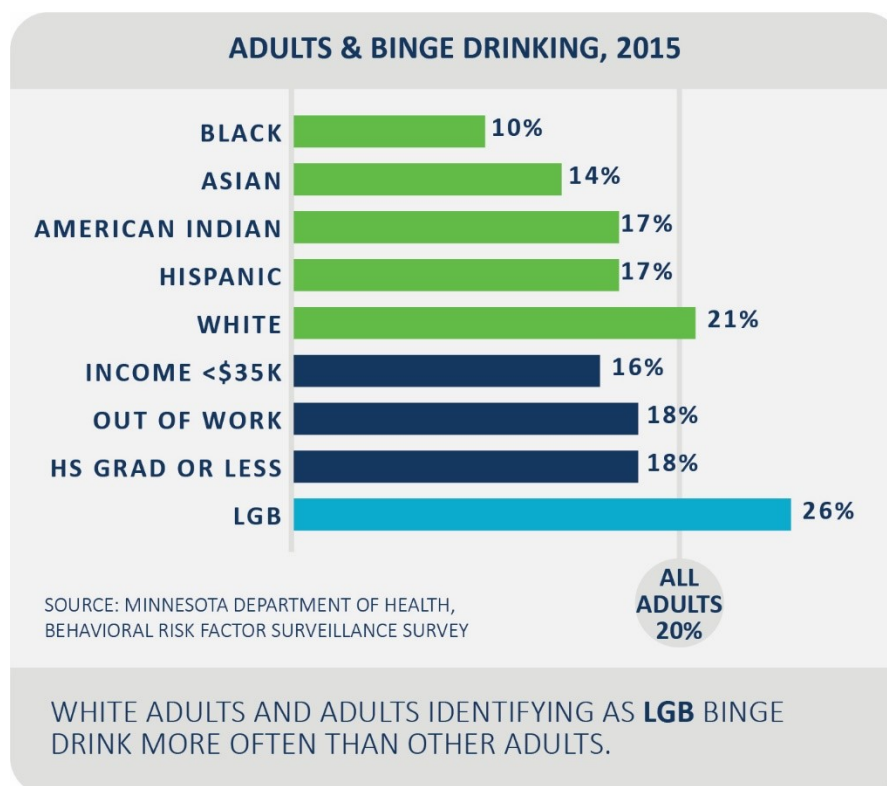


BINGE DRINKING

People binge drink for many reasons, including to feel they belong, to feel more self-confident, to forget their problems, and to avoid negative emotions. Family history and the availability of alcohol are also factors in binge drinking. For men, binge drinking is generally defined as having five or more drinks in a short amount of time; for women it is defined as having four or more drinks in the same short time period.¹⁶³

Binge drinking is associated with many health problems, including injuries, suicide, sexual assault, domestic violence, liver disease, poor control of diabetes, and cardiovascular disease. Problematic drinking or alcoholism of a household member is itself an adverse experience for children.^{164xxxviii}

- Minnesota has the seventh-highest rate of binge drinking in the nation.¹⁶⁵
- Men (25 percent) binge drink nearly twice as often as women (14 percent).¹⁶⁶
- LGB adults in Minnesota (26 percent) are the most likely to binge drink. African-American adults are least likely to binge drink (10 percent).¹⁶⁷
- Among 11th-graders in Minnesota, homeless youth (27 percent) and youth in economic hardship (23 percent) are most likely to binge drink, followed by American Indian (18 percent) and LGB (16 percent) 11th-graders. Hispanic and white 11th-graders are the least likely to drink (14 percent).¹⁶⁸



^{xxxviii} An earlier version of this assessment incorrectly stated that 26% of LGBTQ Minnesotans binge drink.

Incarceration

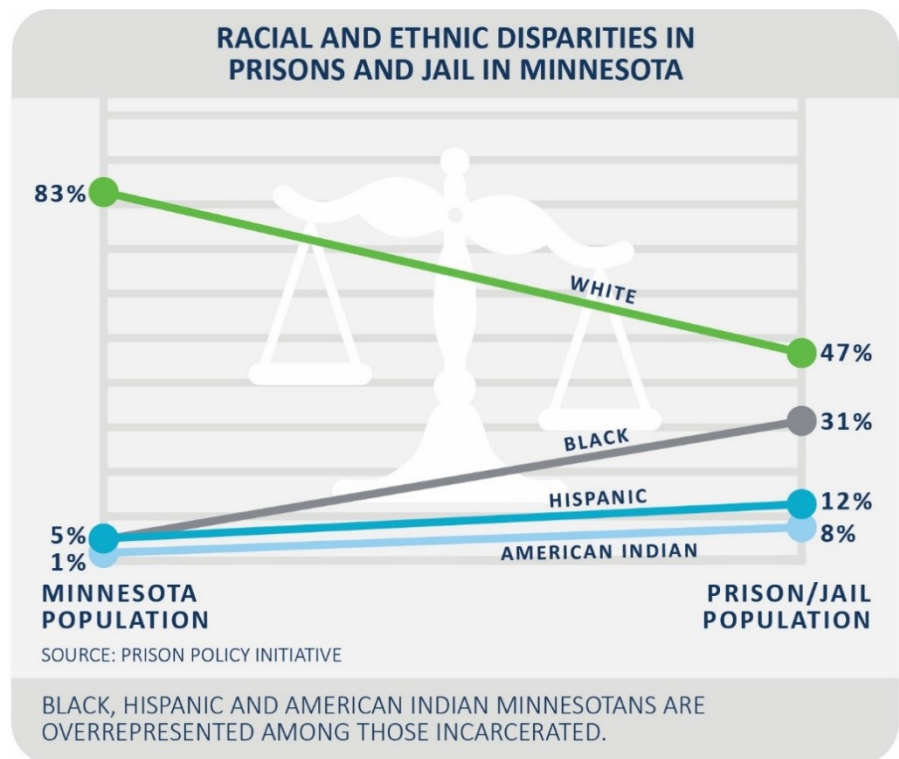
African-American, American Indian, and Latino populations are far overrepresented in Minnesota's prison and jail populations; this inequity is among the highest in the nation. This is not because of greater rates of crime in these populations, but due to inequities in arrests (especially for drug-related crimes), convictions, and sentencing. For example, whites distribute and use drugs at the same or higher rates than other racial and ethnic groups, but are arrested and convicted far less often because policing efforts are concentrated in low-income areas and on street-level drug use. Moreover, African-Americans are more likely than white Minnesotans to be arrested, and once arrested are more likely to be convicted. If convicted, African-Americans are more likely to face stiffer sentences.¹⁶⁹

- While white people make up 83 percent of the state's population, they represent only 47 percent of the prison population in Minnesota. Black people make up 5 percent of Minnesota's population, but represent 31 percent of the prison population.^{170xxxix}

A felony conviction separates someone from their families and communities and reduces their societal belonging by removing their voting rights. When part of a community cannot vote, the whole community loses influence in broader society.

These inequities reinforce each other. People with a criminal conviction frequently are excluded from jobs and have trouble finding somewhere to live. This affects their well-being and that of their families and communities. High incarceration rates and the cycle of incarceration weaken communities by increasing family and neighborhood instability, reducing community attachment and investment, and reducing expectations and hopes for the future.¹⁷¹

Communities that see high levels of arrests and convictions breathe an atmosphere of greater anxiety about public safety, and are concerned about both crime and police action.



^{xxxix} An earlier version of this assessment incorrectly stated that, among the population in prisons/jails in Minnesota, 53% are white, 34% are black, 10% are American Indian, and 5% are Hispanic.

Incarceration severely disrupts belonging and creates trauma for families and children.^{xl} When a parent is in prison or jail, children are more likely to experience economic hardship, have unpredictable family relationships, have difficulty with school, struggle with mental and physical health, engage in risky behaviors such as drinking alcohol, and experience stigma.¹⁷²

- About 10,000 Minnesota children currently have a parent in prison or jail.¹⁷³
- Youth with a parent in prison are more likely to report trying alcohol (72 percent) than youth without (43 percent).¹⁷⁴

Homelessness

A safe home and stable housing are essential for everyone. Without a home it is difficult to apply for a job or build long-term relationships, which in turn reduces social support. A person's quality of sleep suffers without a safe and stable home. Without a home, children and youth suffer from hunger, have reduced mental and physical health, often experience physical and sexual violence, and are more likely to miss school.¹⁷⁵

People who are homeless fare worse on nearly every measure of health. The constant stress of homelessness leads to a lifetime of health problems.

- People who are homeless are three to four times more likely to die prematurely than those who have a home, and experience an average life expectancy of 41 years, compared to the overall Minnesota average life expectancy of over 80 years.¹⁷⁶
- On a one-night count in 2015, 9,312 adults, youth, and children in Minnesota were homeless.¹⁷⁷



^{xl} Incarceration of a family member is an adverse childhood experience.

Young people are most at risk of experiencing homelessness.

- Children and youth age 24 and younger are the most likely among all age groups to be homeless in Minnesota. Nearly half of these children are age 5 or younger.¹⁷⁸
- Domestic violence causes over one-third of homeless women to be homeless.¹⁷⁹

Glaring and persistent racial disparities are evident among populations experiencing homelessness, including all age groups, genders, and geographic locations.

Young people are most at risk of experiencing homelessness.

- Children and youth age 24 and younger are the most likely among all age groups to be homeless in Minnesota. Nearly half of these children are age 5 or younger.¹⁸⁰
- Domestic violence causes over one-third of homeless women to be homeless.¹⁸¹

Glaring and persistent racial disparities are evident among populations experiencing homelessness, including all age groups, genders, and geographic locations.

African-Americans represent nearly 40 percent of homeless adults in Minnesota but comprise just 5 percent of the total state population.¹⁸²

- A survey of the LGBTQ population found that 32 percent of respondents had been homeless at least once in their lives, and 3 percent were homeless at the time of the survey.¹⁸³

Isolation

People physically or socially isolated are at greater risk of abuse, loneliness, depression, and injury. As people grow older and lose life partners or family members, they may become more isolated. The proportion of older persons who are expected to be living alone is anticipated to increase significantly among baby boomers, partly because they have fewer children than preceding generations.

- In 2010, almost 10 percent of people aged 65+ lived alone. This number is expected to rise to over 13 percent by 2030.¹⁸⁴

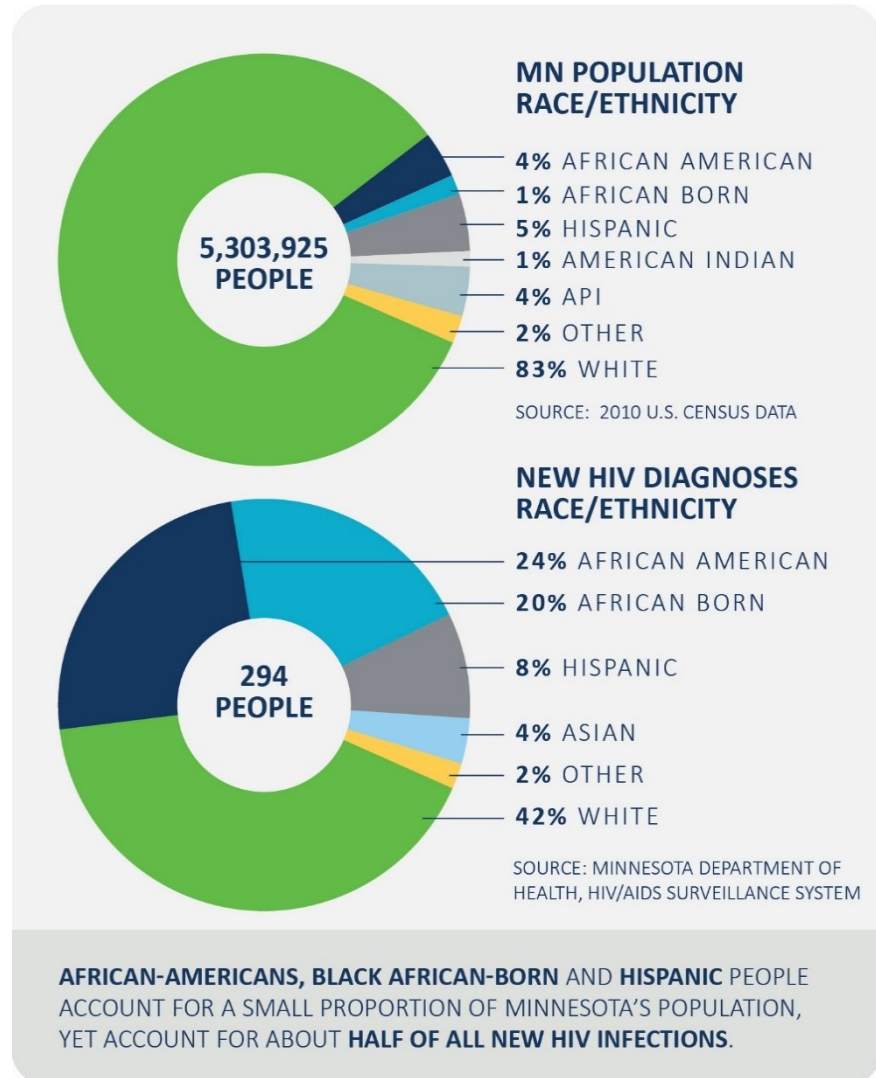
Immigrants and refugees who lack English language skills and cultural knowledge face additional hurdles to belonging. The loss of a shared culture, lack of access to familiar foods, and missing the companionship of friends and loved ones contributes to isolation. For rural elders the risk of isolation is compounded by distance to family, communities, or needed services. Disability at any age increases a potential for physical and social isolation.

Sexuality

Women and sexual minorities are especially affected by societal attitudes toward sexuality. Rape, sexual assault, and other experiences of gender inequality, sexual prejudice, and violence injure relationships and harm health. LGBTQ populations frequently face rejection and negative attitudes, including during negative health care encounters and (for youth) bullying. Experiencing exclusion — not being wanted, respected, or valued — is connected to a greater risk of sexual assault and sexually transmitted infections.

- Over 8,500 people in Minnesota live with HIV/AIDS.¹⁸⁵
- Gay and bisexual men in Minnesota are 40 times more likely to be diagnosed with HIV than men who have sex with women.¹⁸⁶
- African-Americans, black African-born, and Hispanic people account for a small proportion of Minnesota's population, yet account for about half of all new HIV infections. Among women with new HIV diagnoses, the majority are women of color; for men, almost half are men of color.^{187xli}

Other sexually transmitted infections, including chlamydia and gonorrhea, also disproportionately affect populations of color.



- Populations of color and American Indians are more likely than white populations to have gonorrhea and chlamydia.¹⁸⁸
- Between 2014 and 2015, the rate of syphilis in Minnesota increased by 70 percent, primarily among women of childbearing age in all racial and ethnic groups, including pregnant women.¹⁸⁹

^{xli} An earlier version of this assessment incorrectly stated 42% of Minnesota's population identified their race/ethnicity as "other."

Physical and sexual violence

Physical and sexual violence are a means of maintaining power or control over another person. The effects of this violence on a person's mind and body lasts for a lifetime.

- The risk of violence is much lower for people without disabilities than their peers with disabilities, who are often targeted specifically because of those disabilities.^{xliii} People with disabilities also report crime less frequently, often due to the nature of their disabilities (like cognitive or physical disabilities or mental illness).¹⁹⁰
- Women are far more likely than men to experience physical and sexual violence. Nearly one-fourth of women attending college reported experiencing a sexual assault during their lifetime, compared with 5 percent of men.¹⁹¹
- American Indian women are more likely than any other race to experience rape, physical assault, and stalking.^{192 193}

When violence against a woman occurs during pregnancy, it endangers both baby and mother. Depression, anxiety, and stress from a violent situation linger; children sense and respond to this, too.

- Low-income women are at greater risk of violence during pregnancy.¹⁹⁴
- About one in eight American Indian and African-American women experience violence at the hands of an intimate partner before or during their pregnancy.¹⁹⁵

Adolescents also experience physical and sexual violence. Rates of sexual abuse vary widely among ninth-graders.

- Bisexual, gay, and lesbian ninth-graders report the highest rates of sexual abuse; heterosexual youth, the lowest.¹⁹⁶

^{xliii} Two systematic reviews of international data indicate that “children with disabilities are 3.7 times more likely than non-disabled children to be victims of any sort of violence, 3.6 times more likely to be victims of physical violence, and 2.9 times more likely to be victims of sexual violence. Children with mental or intellectual impairments appear to be among the most vulnerable, with 4.6 times the risk of sexual violence than their non-disabled peers.” For more information, see: World Health Organization: Violence against adults and children with disabilities <http://www.who.int/disabilities/violence/en/>.

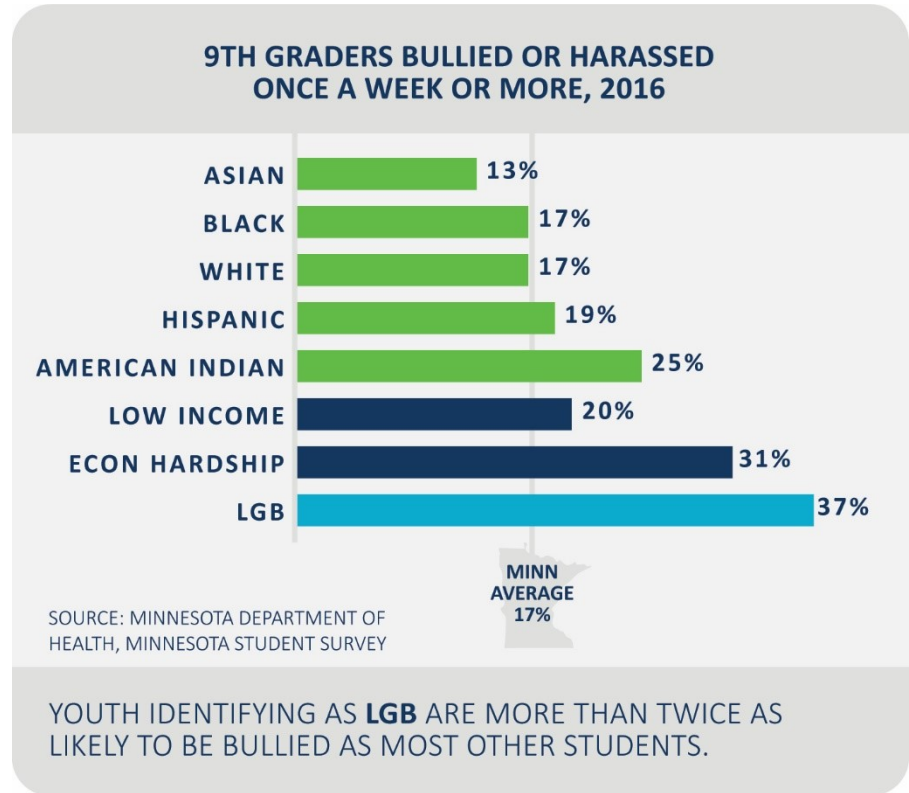
Belonging in school

Belonging as an adolescent sets the stage for belonging and participating in society as adults. A welcoming and supportive school environment, where every child knows they belong and are valued, can have positive effects throughout life.

- Ninth-grade students are less likely to report feeling teachers are interested in them as a person if they also report missing meals, being homeless, or identify as LGB.¹⁹⁷

Whether in school or another setting, bullying also negatively affects belonging. Bullying is intentional physical, verbal, or psychological tormenting, and can range from hitting, shoving, name-calling, threats, and mocking to extorting money and treasured possessions. Some kids bully by shunning others and spreading rumors. Others use email, social media, and text messages to taunt others or hurt their feelings online.

- LGB ninth-graders are bullied far more often than other students, as are ninth-graders who reported skipping meals in the past 30 days.¹⁹⁸



Deaths of despair and disconnection

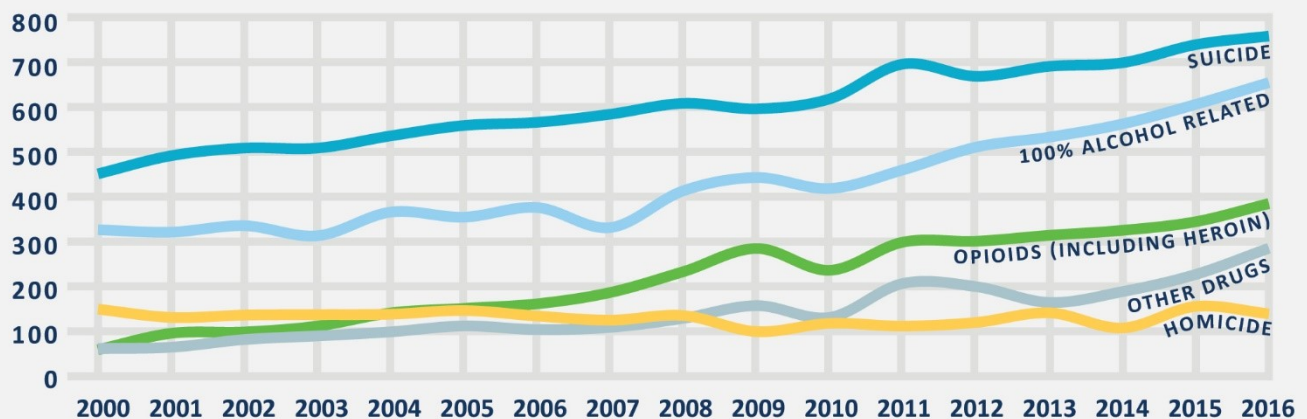
Belonging is linked not only to higher rates of chronic disease and other poor health outcomes, but also has a connection to deaths from suicide, homicide, drugs and alcohol – sometimes referred to as *deaths of despair and disconnection*. These also include deaths caused by an intimate partner (e.g., boyfriend, girlfriend, wife, or husband), deaths due to child maltreatment, unintentional firearm injury death, and deaths where individuals are killed by law enforcement.¹⁹⁹ These causes of death all are associated with the disruption and hopelessness engendered by exclusion and disconnection.

SUICIDE

Suicide can reflect a deep sense of hopelessness and lack of belonging. Historical trauma, experiences of racial and other prejudice, physical, sexual, or emotional abuse, the experience of being addicted to drugs or alcohol, chronic pain, mental illness, or an immediate crisis can all lead to suicidal thoughts or actions.

- In 2015, nearly 5 of every 10 suicides (46%) in Minnesota were white men age 20-54.²⁰⁰
- While girls and women of every race attempt suicide, boys and men more often die from suicide, because they tend to use more lethal means (e.g., firearms).

DEATHS IN MINNESOTA FROM SUICIDE, HOMICIDE, ALCOHOL AND DRUG OVERDOSE, 2000-2016



SOURCE: MINNESOTA DEPARTMENT OF HEALTH, INJURY AND VIOLENCE PREVENTION UNIT

DEATHS FROM SUICIDE, ALCOHOL, AND DRUG OVERDOSES HAVE BEEN STEADILY INCREASING OVER THE LAST 16 YEARS.

- Suicide is also an issue for Minnesota's veterans: 35 percent of respondents to the Minnesota Veterans survey reported having thoughts about suicide, 9 percent had attempted suicide, and 15 percent had sought help at some time because they were suicidal.

Many things can lead to suicidal thoughts and attempts, including the loss or absence of meaningful work, difficulty with school, the trauma of frequent exposure to violence, an assault, post-traumatic stress, financial troubles, broken relationships, experiences of mental illness, and other challenges. Crushing personal circumstances can limit mental well-being and affect the ability to sleep, to eat and to work.

- Over one-fourth of American Indian ninth-graders report feeling down, depressed, or hopeless on more than half of the days in the past two weeks, compared to 18 percent of Asian ninth-graders, 20 percent of black ninth-graders, and 16 percent of white ninth-graders.²⁰¹

HOMICIDE

Homicides are typically categorized as a public safety or criminal justice issue. While legally correct, homicide can also be characterized as an expression of hopelessness and exclusion.

Violence in a community, especially violent death, has immediate and long-lasting effects on the physical and mental health of all community members. Violence anywhere in the community increases anxiety and stress. One effect of community violence is poor quality or less sleep; when youth experience this, it hurts their school performance.²⁰²

Racial disparities in homicide reflect the exclusion, lack of opportunity, and racism experienced by populations of color. The message that “you do not belong” is amplified by the systemic and institutional racism of the criminal justice system through actions like racial profiling, the killing of African-Americans by police, and the inequities in incarceration noted elsewhere in this report.

- Young African-American men in Minnesota are the most likely to die by homicide.²⁰³
- In 2016, 66 victims of homicide in Minnesota were white and 61 were African-American. In Minnesota, 81 percent of the population is white; 6 percent is African-American.²⁰⁴

Conversations with African-American community members characterize some homicides in the community as “suicide by homicide” (see inset), feeling that some young men put themselves in danger of being killed (rather than committing suicide) because they see no reason to live.²⁰⁵

“In 2015, we noticed an increase in suicide deaths for African-American men in Minnesota. We met with community members to learn more. Leaders in the African-American community shared with us that, in their experience, the lines between suicide and homicide are not always clear. Suicide, they said, needs to be understood in a broad context that includes historical oppression and community violence. They described how intergenerational, systemic, and historical trauma affect mental health. What they said they are seeing is a deep mistrust of the health care sector, combined with a community emphasis on resilience, which prevents men in particular from seeking help for depression and other concerns. Deep feelings of hopelessness become internalized and show up in violent crime, substance abuse, other criminal behavior, and sometimes suicide or, as they called it, ‘suicide by homicide.’”

— MDH Injury and Violence Program Staff, personal communication, April 27, 2017

ALCOHOL AND DRUG OVERDOSE DEATHS

Like the rest of the U.S., Minnesota has seen a dramatic increase in deaths due to opioid overdose (some of these deaths may be suicides) and alcohol abuse.

Over the past 20 years, the steep rise in prescriptions for opioids, to more people, for more conditions, has expanded the availability and use of these powerful and addictive drugs. The growing death rate is evidence of growing addiction to prescription opioids such as oxycodone, hydrocodone, and fentanyl, and the concurrent growth in addiction to heroin. Many people first become addicted to a prescription opioid, but may later seek out and use heroin as a cheaper and more readily available substitute.

- Death caused by overdose on methadone and other opioids has increased 10-fold in the past 16 years, from 18 deaths in 2000 to 186 in 2016.²⁰⁶
- Heroin overdose death has jumped almost as much, but in a shorter time period: from 2 deaths in 2005 to 142 in 2016.²⁰⁷
- American Indians die from drug overdose six times more often than whites, African-Americans die twice as often as whites.²⁰⁸

A side effect of increased opioid use, associated heroin and injection drug use, is an increase in hepatitis C infections. The most common risk factor for hepatitis C is injection drug use (i.e., sharing needles and other injection equipment). People 30 years of age and younger in Minnesota report more new hepatitis C infections, most likely because of the increasing use of heroin (via injection) associated with the rise in addiction to prescription opioids.

- In 2015, 23 percent of new cases of hepatitis C occurred in those age 30 and under, compared to only 5 percent of new cases in 2001.²⁰⁹

Deaths that are 100 percent attributable to alcohol include accidental and intentional alcohol poisoning, or chronic conditions of the liver, heart, pancreas, stomach, and nervous system.

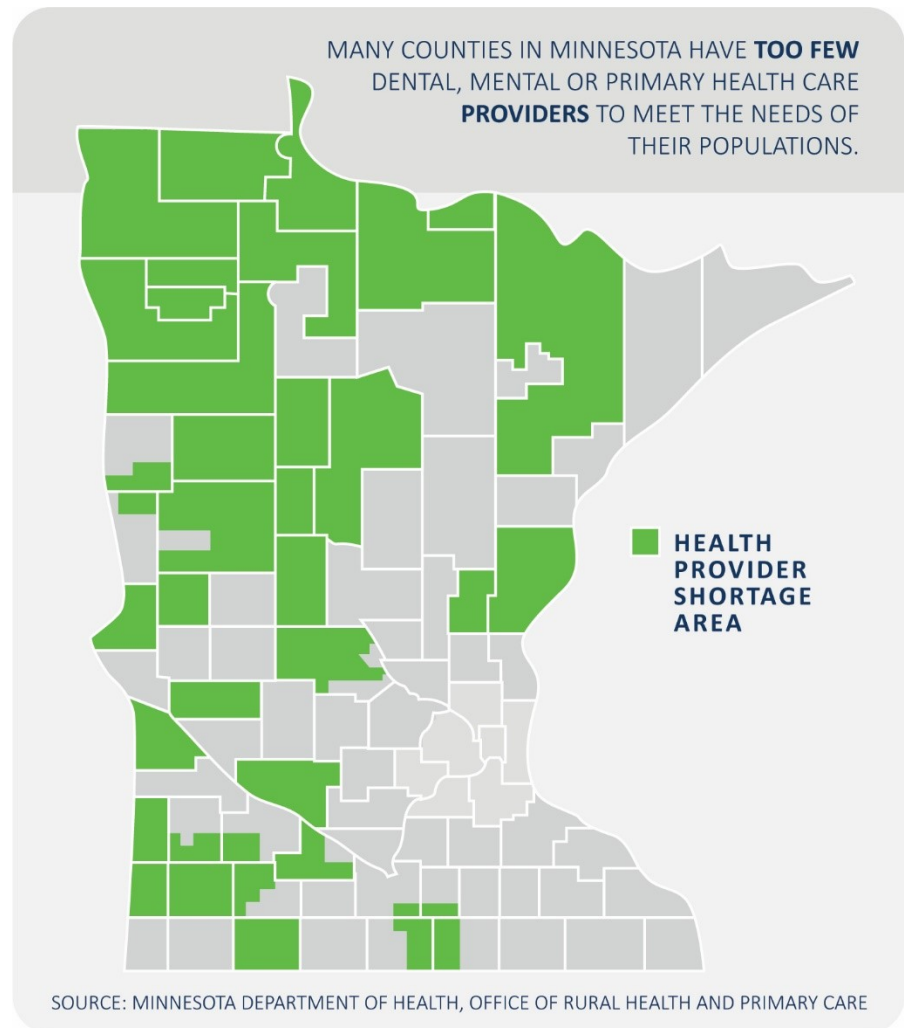
- The number of alcohol-related deaths in Minnesota have increased steadily since 2000. Over half of these are due to liver disease; liver disease is the primary driver of the increase in 100 percent alcohol-related deaths.²¹⁰

The health care system

With so many health challenges confronting people in Minnesota, particularly the disproportionate burden of disease experienced by people of color and American Indians, it is important that our health care system supports belonging for all Minnesotans. The experiences of veterans, for example, are not always well understood by the health care system. People will not seek or receive adequate care if they do not feel the health care system understands or respects them, their culture, or their unique health issues and needs. When belonging shapes health care encounters, we detect problems earlier and connect people more quickly to resources that will help them recover and thrive.

Health care systems support belonging when people can get the right care at the right time, in a convenient location, with a caring provider and a positive outcome. The health care system is shaped by: the number and types of providers located in every community; the range of services available; whether providers reflect the populations served; and whether services are provided in culturally appropriate ways. We can improve health care encounters when providers have ready access to current health information, and when health care is coordinated among different providers.

- Minnesota's current population of providers does not reflect the racial and ethnic diversity of the state. Most of Minnesota's physicians are white, and most speak only English.²¹¹
- The physician-to-patient ratio is very uneven across the state. Urban areas have one physician for every 277 people (1:277), large rural areas have 1:494, small town/small rural have 1:653, and rural or isolated have only 1:1,987.²¹²
- Mental health professionals, and dentists, are especially hard to find in rural Minnesota.²¹³



The nature of each health care interaction can have a powerful influence on health, including whether patients and guests feel welcomed, empowered, respected, and understood. The physical environment of a care setting, such as having signs in multiple languages, can signal welcome and belonging — or otherness and exclusion — before a patient even meets a health care professional.

For example, one study of the Twin Cities LGBT community found members face many barriers to quality care, including the clinic environment (physical space, patient flow, encounters with staff and other patients, and intake forms), lack of insurance, talking with patients about risky behaviors, LGBT-specific patient information, reaching out to the LGBT community, and gaps in care:

“There’s the walk from wherever you enter the building or the facility to where you get to the part of the clinic that you’re going to and how people react to you — other patients, staff, security guards, or anybody. Then there’s the interaction you have with the desk staff, the intake staff, at the facility and the people in the waiting room. Then there’s possibly, like, nurses or other clinicians who are doing the prep work before you get into an individual session with somebody, with your doctor or your internist or whatever. And then there’s that person. And any of those can be really bad experiences even if the rest of them are fantastic.”

— A transgender patient.²¹⁴

Another example includes the way a hospital can improve health equity by supporting all women in breastfeeding. When a hospital provides breastfeeding support in the first hours and days after birth, it increases the likelihood that mothers will continue to breastfeed when they leave the hospital. If a hospital gives formula to new families instead of adequately supporting breastfeeding efforts, this can decrease how often mothers breastfeed in the first few days, reducing milk supply and making it less likely they can continue to breastfeed.²¹⁵

- White babies and Hispanic babies are the most likely to be exclusively breastfed in the hospital — that is, they are less likely to be given formula in the hospital — while East African and, Liberian, and Hmong babies are most likely to be given formula, reducing the likelihood that their mothers will continue to breastfeed.²¹⁶

HOSPITALS ARE MORE THAN **TWICE AS LIKELY** TO GIVE FORMULA TO HMONG, EAST AFRICAN AND LIBERIAN WIC INFANTS COMPARED TO WHITE WIC INFANTS.



SOURCE: MINNESOTA DEPARTMENT OF HEALTH, WIC PROGRAM

What comes next?

This statewide health assessment has looked at a broad range of indicators of health and conditions that shape health. The assessment reveals how things are today, but this is just the first in a series of steps to improve health in Minnesota.

A statewide health assessment is the initial step in a well-defined public health process — one that follows long-established practice — to identify health issues, prioritize among those issues, and then develop a community-wide plan for action on the state’s most pressing health concerns. At its most basic level, the assessment provides the foundation for the Healthy Minnesota Partnership to develop a five-year strategic plan to improve health statewide. At another level, the assessment provides a framework for anyone in the state to identify issues of concern and focus their own efforts on those areas where they can make a difference, individually or collectively.

No single person or organization can possibly address all of the health concerns identified in this broad assessment. Collective action, focused on policies and systems, can lead to multiple avenues of change.

In 2012, the statewide health assessment led to a framework for health improvement that shaped the activities not just of the Healthy Minnesota Partnership, but of a much wider range of people and organizations concerned with equity and health.^{xliii} The improvement plan that emerged from the 2012 assessment was an important influence on the development of the *2014 Advancing Health Equity Report to the Legislature* and the Triple Aim of Health Equity at MDH.²¹⁷ A stronger, more policy-focused understanding of health issues in the assessment and plan gave rise to actions across Minnesota to improve conditions for health through income (minimum wage), transportation, paid leave, healthy food access, incarceration, and housing.

This *2017 Minnesota Statewide Health Assessment* will inform the development of the next statewide health improvement framework and other efforts to improve health across the state.

Starting with Minnesota’s strengths

Minnesota is consistently ranked high in national comparisons of health. For example, our state ranks fourth in the 2017 overall KIDS COUNT ranking of child well-being,²¹⁸ and fourth in the 2016 annual report of America’s Health Rankings.²¹⁹ Minnesota ranks third in the nation overall in a U.S. News and World Report survey.²²⁰ But as this assessment reveals that there’s more to the story once we start looking below the averages.

In fall 2016, as part of developing this statewide health assessment, MDH conducted its own open-ended public survey that asked respondents to identify what they believe are Minnesota’s strengths. Many respondents noted Minnesota provides numerous opportunities for people to be healthy, our state is committed to social inclusion, and we’ve invested in healthy surroundings. At the same time, they also urged MDH to examine each of these areas to ensure everyone can benefit. Averages do not tell the whole story. For example, many said it is essential to examine whether the same quality of education and a positive educational experience is provided

^{xliii} For both documents, see: Healthy Minnesota Partnership
<http://www.health.state.mn.us/communities/practice/healthymnpartnership/index.html>.

for every student. Others noted that not everyone has health insurance. Concerns were raised about the availability of adequate shelter and stable living conditions. It was noted that not all groups are able to exercise public leadership.

The strengths named include:

- Minnesota has a history of a strong commitment to education.
- Many people here have health insurance, compared to the rest of the country.
- The state's unemployment rate is slightly lower than the national average.
- We have programs in place to support efforts to provide stable homes for families.
- Our state and local health departments have stated their commitment to increasing the opportunity for all people in Minnesota to be healthy.
- Minnesota has a long history of civic participation and the highest rate of voter turnout in the country.
- Many people in our state recognize that our growing demographic diversity — including racial and ethnic diversity, as well as an aging population — is an opportunity as we move into the future.
- Many people who are new to Minnesota are finding their own voices and getting involved in their communities.
- Many of our faith communities and faith-based organizations are active in social justice work.
- We have a wealth of philanthropic foundations and world-class health care institutions.
- The philanthropic community, and many other organizations, put their resources to work to assure that all are welcome and know they belong in Minnesota.
- Many of our communities actively work to promote belonging, from small rural towns to urban neighborhoods to American Indian tribes.
- We have great parks and trails that provide the opportunity for people to get outside, be active, and enjoy time with one another throughout the year.
- Our lakes and rivers provide opportunities for recreation and serve many business needs. The state's commitment to water protection helps ensure everyone has access to clean drinking water.
- Many people garden during the short summer season. In addition to home gardens, many towns and neighborhoods support community gardens and farmer's markets.
- We've made progress toward equitable transportation, helping to assure access to jobs and opportunities for physical activity.

We will need to call upon all these strengths and more, and take advantage of every opportunity for change that arises, to move forward on a plan of action for health.

Moving to a state of well-being

Minnesota will need all the strength we can muster to meet the challenges identified in this assessment. In addition to the strengths already named, through the work of the Healthy Minnesota Partnership, MDH, and many partners, Minnesota has made strides to expand the understanding of what creates health and encourage alternative approaches to health improvement.^{xliv}

A growing body of evidence in Minnesota, the U.S., and around the world strengthens our knowledge of the connections among social, physical, and economic conditions and health. Despite the fact that our understanding of health and the research around health has grown over the past five years, policy-level action lags behind. MDH and the Healthy Minnesota Partnership intend that this assessment and the subsequent improvement plan will shape specific, system-level action to improve equity in health conditions and outcomes across Minnesota.

^{xliv} For more information about annual activities of the Healthy Minnesota Partnership, see: Healthy Minnesota 2020 Update: Annual Reports of the Healthy Minnesota Partnership
<http://www.health.state.mn.us/communities/practice/healthymnpartnership/resources.html>.

The Healthy Minnesota Partnership

The Healthy Minnesota Partnership brings community partners and the Minnesota Department of Health together to improve the health and quality of life for individuals, families, and communities in Minnesota.²²¹

The charge of the Healthy Minnesota Partnership is to develop public health priorities, goals, objectives and strategies to improve the health of all Minnesotans and to ensure ownership of these in communities across the state of Minnesota. Since 2010, the Healthy Minnesota Partnership has been charged with conducting a statewide health assessment and developing a five-year statewide health improvement plan. The activities of the Partnership are centered around strategic initiatives that ensure the opportunity for healthy living for all Minnesotans, and that engages multiple sectors and communities across the state to implement the plan.

The *Healthy Minnesota 2020: Statewide Health Improvement Framework* and efforts of the Healthy Minnesota Partnership are intended for the state as a whole, and thus the membership of the partnership reflects a broad spectrum of interests. The work of this group is critical to the citizens of this state and the Minnesota Department of Health mission of keeping all Minnesotans healthy.

Membership

- American Heart Association: Rachel Callanan (Alternate: Justin Bell)
- BlueCross BlueShield: Vayong Moua (Alternate: Stacy Housman)
- Boynton Health Services (University of Minnesota): Carl Anderson (Alternate: Kate Elwell)
- Council on Asian Pacific Minnesotans: Anjuli Mishra (Alternate: Dave Sukharan)
- Eliminating Health Disparities Grantees: Maria Veronica Svetaz
- ISIAH: Lars Negstad (Alternate: Alexa Howart)
- Itasca Project: Donna Zimmerman (Alternate: DeeDee Varner)
- Local Public Health Association (Metro): Gretchen Musicant (Alternate: Susan Palchick)
- Local Public Health Association (Greater Minnesota): Sarah Grosshuesch
- March of Dimes, Minnesota Chapter: Angela Thies
- Medical Consultant: Neal Holtan
- Minnesota Board on Aging: Kari Benson (Alternate: Mary Hertel)
- Minnesota Council of Health Plans: Julia Dreier
- Minnesota Council on Latino Affairs (MCLA): Rosa Tock (Alternate: Samantha Holte)
- Minnesota Department of Corrections: Kelley Heifort (Alternate: Lee Buckley)
- Minnesota Department of Health: Jeanne Ayers, Ed Ehlinger
- Minnesota Department of Human Services: Linda Davis-Johnson
- Minnesota Department of Transportation: Tim Henkel (Alternate: Amber Dallman)
- Minnesota Hospital Association: Joan Pennington (Alternate: Kristin Loncorich)
- Minnesota Housing Finance Agency: Barb Sporlein (Alternate: Katie Topinka)
- Minnesota Public Health Association: Ken Bence (Alternate: Ashlyn Christianson)
- National Rural Health Resource Center: Kami Norland (Alternate: Tracy Morton)
- Sanford Health: Warren Larson
- State Community Health Services Advisory Committee (SCHSAC): Barbara Burandt
- TakeAction Minnesota: Chris Conry
- University of Minnesota College of Design: Thomas Fisher
- University of Minnesota School of Public Health: John Finnegan (Alternate: Kathleen Call)
- Voices for Racial Justice: Brett Grant

MDH Staff to Partnership

- Dorothy Bliss
- Jeannette Raymond

End Notes

- ¹ World Health Organization. (1946; Revised 2006). *Constitution of the World Health Organization: Preamble*.
- ² World Health Organization. (1986). *The Ottawa charter for health promotion*.
- ³ World Health Organization. (n.d.). *Social determinants of health*. Retrieved July 10, 2017, from http://www.who.int/social_determinants/en. See also: Centers for Disease Control and Prevention. (n.d.). *Social determinants of health: know what affects health*. Retrieved July 10, 2017, from <http://www.cdc.gov/socialdeterminants/>
- ⁴ Robert Wood Johnson Foundation. (n.d.). *Social determinants of health*. Retrieved July 10, 2017, from <http://www.rwjf.org/en/our-focus-areas/topics/social-determinants-of-health.html>. See also: Robert Wood Johnson Foundation. (2015). *City maps*. Retrieved July 10, 2017, from <http://www.rwjf.org/en/library/articles-and-news/2015/09/city-maps.html>
- ⁵ Adelman, L. (Executive Producer). (2003). *Race: The power of an illusion* [Television series]. California Newsreel.
- ⁶ Minnesota State Demographic Center. (n.d.). *Our estimates*. Retrieved July 10, 2017, from <http://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/>
- ⁷ Minnesota State Demographic Center. (n.d.). *Our projections*. Retrieved July 10, 2017, from <https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>
- ⁸ Minnesota Department of Health (n.d.). *Children and youth with special health needs (CYSHN)*. Retrieved July 19, 2017 from <https://www.health.state.mn.us/people/childrenyouth/cyshn/index.html>
- ⁹ Minnesota Compass. (n.d.). *Children & youth: population trends*. Retrieved July 10, 2017, from <http://www.mncompass.org/immigration/population-trends-children-and-youth#1-11882-g>
- ¹⁰ Minnesota State Demographic Center. (n.d.). *Children and Families*. Retrieved July 19, 2017 from <https://mn.gov/admin/demography/data-by-topic/children-families/>
- ¹¹ United States Census Bureau. (2015). American Community Survey (ACS) [Public Use Microdata Sample, weight used: PWGTP]. St. Paul, Minnesota: Minnesota Department of Health.
- ¹² Minnesota State Demographic Center. (n.d.). *Aging*. Retrieved April 13, 2017, from <https://mn.gov/admin/demography/data-by-topic/aging/>
- ¹³ 52.5 percent of falls occur at home. DeLaquil M., Roesler J. (2016). *Falls among Adults Aged 65 Years and Older in Minnesota – Data Brief, 1999-2013*. St. Paul, MN: Minnesota Department of Health.
- ¹⁴ Minnesota Compass. (n.d.). *Volunteerism*. Retrieved June 1, 2017, from <http://www.mncompass.org/aging/volunteerism#1-11486-d>
- ¹⁵ Minnesota State Demographic Center. (2017). *Greater Minnesota: refined and revisited*.
- ¹⁶ Median household income by racial and ethnic group, 65+ head of household, Minnesota, 2011-2015: Hispanic (\$41,293), White non-Hispanic (\$40,054), Asian (\$30,000), two or more races (\$29,700), American Indian (\$29,000), black (\$18,417). Minnesota Compass. (n.d.). *Median income*. Retrieved July 26, 2017, from <http://www.mncompass.org/aging/median-income#1-11162-g>
- ¹⁷ Minnesota State Demographic Center. (n.d.). *Age, Race & Ethnicity*. Retrieved July 17, 2017 from <https://mn.gov/admin/demography/data-by-topic/age-race-ethnicity/>
- ¹⁸ Minnesota State Demographic Center. (2017). *Greater Minnesota: refined and revisited*.
- ¹⁹ Minnesota State Demographic Center. (2016). *Demographic considerations for long-range and strategic planning*.
- ²⁰ Indian Affairs Council of the State of Minnesota. (n.d.). *Overview of Indian Tribes in Minnesota*. Retrieved January 26, 2017, from <http://mn.gov/indianaaffairs/tribes.html>
- ²¹ Personal communication, Minnesota Department of Health, Director of American Indian Health.

-
- ²² Poverty rate by race/ethnicity: Black (36.5%), American Indian (36.0%), Hispanic (24.4%), other race/multiple races (23.2%), Asian (16.7%), white (8.9%). U.S. Census Bureau, American Community Survey 5-year estimates (2010-2014).
- ²³ On-time graduation rate by race/ethnicity: American Indian (51.9%), Black (62.0%), Hispanic (65.6%), Asian (82.7%), White (86.9%). Minnesota Department of Education, percent of students entering 9th grade who graduate from HS in four years, by group, 2014-15 school year.
- ²⁴ Diabetes mortality by race/ethnicity: American Indian (68.4 per 100,000 people), white (18.0). Unintentional injury mortality by race/ethnicity: American Indian (98.8 per 100,000 people), white (39.9). Minnesota Department of Health, Center for Health Statistics. (n.d.). Vital statistics [interactive online database]. Available from <https://pqc.health.state.mn.us/mhsq/>
- ²⁵ Ninth-grader attempted suicide, by race/ethnicity: American Indian (16.1%), black (9.4%), Latino (11.5%), Asian (6.8%), white (6.8%), Hmong (6.5%), Somali (5.3%). Minnesota Department of Health, Center for Health Statistics. (2016). *Minnesota Student Survey* [data file]. More information available from <https://www.health.state.mn.us/data/mchs/surveys/mss/index.html>
- ²⁶ Lung & bronchus cancer in Minnesota, by race/ethnicity, Minnesota, 2004-2013: American Indian (124.7 per 100,000 people), black (62.9), white non-Hispanic (55.9), white Hispanic (41.8), Asian/Pacific Islander (30.0). Minnesota Department of Health, Minnesota Public Health Data Access. (n.d.). *Cancer*. Retrieved June 1, 2017, from https://data.web.health.state.mn.us/cancer_lung
- ²⁷ Minnesota State Demographic Center, Department of Administration. <https://mn.gov/admin/demography/>
- ²⁸ Ibid.
- ²⁹ Minnesota State Demographic Center. (n.d.). *Immigration and language*. Retrieved June 1, 2017, from <https://mn.gov/admin/demography/data-by-topic/immigration-language/>
- ³⁰ U.S. Census Bureau (n.d.). 2011-2015 American Community Survey 5-Year Estimates. *Language spoken at home by ability to speak English for the population 5 years and over, Minnesota, 2015*.
- ³¹ Minnesota Compass. (n.d.). *Race*. Retrieved June 1, 2017, from <http://www.mncompass.org/demographics/race#1-5491-g>
- ³² Wilkerson, I. (2010). *The warmth of other suns*. New York: Random House.
- ³³ Adelman, L. (Executive Producer). (2003). *Race – The Power of an Illusion*, Episode 3: The House We Live In. https://www.pbs.org/race/000_About/002_04-about-03.htm
- ³⁴ University of Minnesota Institute for Advanced Study. (2012). *Roundtable on redlining*.
- ³⁶ Blumenthal, J. (2017, May 15). City of Philadelphia sues Wells Fargo; bank calls claims ‘unsubstantiated.’ *Philadelphia Business Journal*.
- ³⁷ Gates, G., and Newport, F. (2013, February 15). LGBT percentage highest in D.C., lowest in North Dakota. *Gallup*.
- ³⁸ Minnesota ranked 37th. Newport, F., and G. Gates. (2015, March 20). San Francisco Metro Area ranks highest in LGBT percentage. *Gallup*.
- ³⁹ Minnesota Department of Health. (2016). *2016 Minnesota Student Survey statewide tables*.
- ⁴⁰ Flunker, D. (2017). *Voices of Health: 2016 Survey Results*. Rainbow Health Initiative.
- ⁴¹ Hanson, B. (2015). *Invisible youth: The health of lesbian, gay, bisexual, and questioning adolescents in Minnesota*. Rainbow Health Initiative.
- ⁴² Krahn, G. L., Walker, D. K., & Correa-De-Araujo, R. (2015). Persons with Disabilities as an Unrecognized Health Disparity Population. *American Journal of Public Health*, 105 (Suppl 2), S198–S206.
- ⁴³ Minnesota State Demographic Center. (2017). *Minnesotans with disabilities: Demographic and economic characteristics*.
- ⁴⁴ Estimated percent (ages 18-64) with a disability, 2010-2014: Dakota (22%), Ojibwe (18%), African-American (19%), Puerto Rican (13%), Chinese (2%), Asian Indian (3%), Filipino (3%), Korean (4%), Russian (4%). Minnesota State Demographic Center. (2017). *Minnesotans with disabilities: Demographic and economic characteristics*.
- ⁴⁵ Minnesota State Demographic Center. (2017). *Minnesotans with disabilities: Demographic and economic characteristics*.

-
- ⁴⁶ Minnesota Department of Employment and Economic Development. (n.d.) *Disability employment in Minnesota*. Retrieved July 17, 2017, from <https://mn.gov/deed/newscenter/publications/review/october-2013/disability-employment.jsp>
- ⁴⁷ Robert Wood Johnson Foundation. (2013, March). *Why does education matter so much to health?*
- ⁴⁸ On-time high school graduation rates by race/ethnicity, 2016: American Indian, 51.9%, Asian, 82.7%, Black, 62%, White/non-Hispanic, 86.9%, Hispanic, 65.6%. Minnesota Compass. (n.d.). *High school graduation*. Retrieved June 1, 2017, from <http://www.mncompass.org/education/high-school-graduation#1-6084-g>
- ⁴⁹ Asian American Center for Advancing Justice. (2012). *A community of contrasts: Asian Americans, Native Hawaiians and Pacific Islanders in the Midwest*, p. 53.
- ⁵⁰ Minnesota Department of Health, Minnesota Center for Health Statistics. *Behavioral Risk Factor Surveillance System*. (2015.)
- ⁵¹ Minnesota unemployment by education status, ACS Five-Year Estimates, 2011-2015: Less than high school graduation (11.4%), high school graduate or GED (6.5%), some college or associate degree (4.7%), bachelor's degree or higher (2.7%). United States Census Bureau. (n.d.). *American Community Survey* [dataset]. Available from <https://www.census.gov/acs/www/data/data-tables-and-tools/american-factfinder/>
- ⁵² Adults (18+) diagnosed with diabetes by educational attainment, Minnesota, 2015: Less than a high school diploma (11.1%), high school diploma or GED (9.7%), some college or associate's degree (6.9%), college degree or higher (5.4%). Minnesota Compass. (n.d.). *Diabetes*. Retrieved 26 July from <http://www.mncompass.org/health/diabetes#1-4115-g>
- ⁵³ Centers for Disease Control and Prevention. (n.d.). *Pregnancy Risk Assessment Monitoring System* [dataset]. Available from <https://www.cdc.gov/prams/index.htm>
- ⁵⁴ Current smoking by education in Minnesota, 2015: Did not graduate high school (34.6%), high school graduate (21.8%), some college (15.4%), college graduate (7.1%). Minnesota Department of Health, Minnesota Public Health Data Access. (n.d.). *Smoking*. Retrieved June 1, 2017, from https://data.web.health.state.mn.us/smoking_basic
- ⁵⁵ Centers for Disease Control and Prevention. (n.d.). *About teen pregnancy: teen pregnancy in the United States*. Retrieved July 31, 2017 from <https://www.cdc.gov/teenpregnancy/about/>
- ⁵⁶ Centers for Disease Control and Prevention. (n.d.). *Pregnancy Risk Assessment Monitoring System* [dataset]. Available from <https://www.cdc.gov/prams/index.htm>
- ⁵⁷ State of Minnesota Early Childhood Longitudinal Data System. (n.d.). Retrieved June 1, 2017, from http://eclds.mn.gov/#maternalTraitsProficiency/orgId--999999000_groupType--state_FISCAL_YEAR--2015_DISABILITY_TYPE--FOC_NONE_HOME_LANGUAGE--FOC_NONE_SUBJECT--SUBJECT_R_p--1
- ⁵⁸ Household income below federal poverty level by race/ethnicity, 2010-2012: Black (36.5%), American Indian (36.0%), Hispanic (24.4%), Asian (16.6%), white (8.3%). Minnesota Compass. (n.d.). Retrieved June 1, 2017 from <http://www.mncompass.org/economy/overview> The overall poverty rate among Asian Minnesotans masks significant disparities: in the Twin Cities metropolitan area: 29 percent of Hmong households sit below the federal poverty level. See: Asian American Center for Advancing Justice. (2012). *A community of contrasts: Asian Americans, Native Hawaiians and Pacific Islanders in the Midwest*, p. 54. NOTE: The Census Bureau determines poverty thresholds for use in population statistics, and in 2015 the average poverty threshold for a family of four was \$24,257; 200% of that threshold would be \$48,514. The 2015 poverty threshold for a single individual under 65 with no children was \$12,331. See: <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html> for more information.
- ⁵⁹ Minnesota Compass. (n.d.). *Median income*. Retrieved June 1, 2017, from <http://www.mncompass.org/economy/median-income#1-12818-g>
- ⁶⁰ Lavizzo-Mourey, R. (2016, December 20). How work-life balance helps a baby's brain. *LinkedIn*. See also: Hamblin, J. (2017, January 27). Why succeeding against the odds can make you sick. *New York Times*.
- ⁶¹ Individuals below the federal poverty level by age, Minnesota, 2015: 0-4 (14.1%), 5-17 (12.7%), 18-64 (9.8%), 65+ (6.9%). Minnesota Compass. (n.d.). *Poverty*. Retrieved June 1, 2017, from <http://www.mncompass.org/economy/poverty#1-6764-g>

-
- ⁶² Minnesota children under 5 at or below 100% of the federal poverty line, 2015, by race/ethnicity: African-American or Black (36.8%), American Indian/Alaska Native (35.9%), Asian/Pacific Islander (25.1%), Hispanic (25.2%), Non-Hispanic White (7.6%), Other/Two or More Races (9.8%), All Minnesota children under 5 (13.6%). Minnesota children under 5 at or below 200% of the federal poverty line, 2015, by race/ethnicity: African-American or Black (70.4%), American Indian/Alaska Native (55.7%), Asian/Pacific Islander (44.2%), Hispanic (61.1%), Non-Hispanic White (24.3%), Other/Two or More Races (32.3%), All Minnesota children under 5 (34.1%). U.S. Census, American Community Survey, Public Use Microdata Sample, 2015.
- ⁶³ Minnesota Department of Health, Minnesota Center for Health Statistics (2016). *Minnesota Student Survey*.
- ⁶⁴ Amherst H. Wilder Foundation. (2010). *The unequal distribution of health in the Twin Cities*. NOTE: this study has not been repeated since 2010.
- ⁶⁵ Minnesota State Demographic Center. (2017). *Greater Minnesota: Refined & revisited*, p. 2.
- ⁶⁶ Minnesota Department of Employment and Economic Development. (n.d.) *Disability employment in Minnesota*. Retrieved July 17, 2017, from <https://mn.gov/deed/newscenter/publications/review/october-2013/disability-employment.jsp>
- ⁶⁷ Centers for Disease Control and Prevention. (2016). Behavioral Risk Factor Surveillance Survey. St. Paul, MN: Minnesota Department of Health.
- ⁶⁸ Minnesota Department of Health, Minnesota Center for Health Statistics. (2015) *Behavioral Risk Factor Surveillance Survey*.
- ⁶⁹ Minnesota Department of Health. (2016). *Income, employment and diabetes*. Retrieved June 1, 2017, from <https://www.health.state.mn.us/diseases/diabetes/data/diabetesincome.html>
- ⁷⁰ Minnesota Department of Health. (2016). *Community Voices: Reducing Tobacco-Related Health Inequities*. Available online, <https://www.health.state.mn.us/communities/tobacco/initiatives/voices/index.html>
- ⁷¹ 9th graders getting sleep: 27% compared to 51%. 9th graders bullied: 39% vs. 14% a week. 9th graders bullying others: 49% vs. 28%. 9th graders attempting suicide: 24% vs. 5%. Minnesota Department of Health, Minnesota Center for Health Statistics. (2016). *Minnesota Student Survey*.
- ⁷² Minnesota State Demographic Center. (2016). *The economic status of Minnesotans*.
- ⁷³ Ibid.
- ⁷⁴ Minnesota Department of Health. (2015). *White paper on paid leave and health*.
- ⁷⁵ Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. (n.d.). *Poultry industry workers*. Retrieved June 1, 2017, from <https://www.cdc.gov/niosh/topics/poultry/default.html>
- ⁷⁶ Minnesota State Council on Disability. (n.d.). *Employment Fact Sheet*. Retrieved July 18, 2017 from <http://www.disability.state.mn.us/employment/employment-fact-sheet/>
- ⁷⁷ Mourssi-Asfash, M. (2013, October). Disability Employment in Minnesota. *Minnesota Employment Review*.
- ⁷⁸ U.S. Department of Labor, Bureau of Labor Statistics. (2017.) *Persons with a Disability: Labor Force Characteristics Summary*. Economic News Release, 6-21-2017.
- ⁷⁹ Employment status by disability status and type, Minnesota, 2015: Employed without a disability (83.8%), employed with a disability (47.5%); not in workforce without a disability (13.0%), not in workforce with a disability (47.5%); unemployed without a disability (3.7%), unemployed with a disability (9.6%). American Community Survey (ACS). (2015.) *Employment Status by Disability Status and Type*. Retrieved July 19, 2017 from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_1YR_B18120&prodType=table
- ⁸⁰ Days mental health not good out of last 30, Minnesota, 2015: 14+ days out of work (19.5%), some other category (8.2%). Minnesota Department of Health, Minnesota Center for Health Statistics. *Behavioral Risk Factor Surveillance System*. (2015.)
- ⁸¹ Minnesota Department of Health, Center for Health Equity. *White paper on paid leave and health* (2015).
- ⁸² Ibid.
- ⁸³ Ibid.

-
- ⁸⁴ Van Giezen, R.W. (2013). Paid leave in private industry over the past 20 years [Electronic version]. *Beyond the Numbers: Pay & Benefits 2*(18). U.S. Bureau of Labor Statistics.
- ⁸⁵ Residents under age 65 without health insurance, by race/ethnicity, 2013: White non-Hispanic (7.4%), two or more races (8.8%), Asian (other) (10%), black U.S.-born (13.1%), Southeast Asian (14.6%), Hispanic (28.6%), black foreign-born (29.5%), American Indian (29.7%), Other race (30%). Minnesota Compass. (n.d.). *Health care coverage*. Retrieved June 1, 2017, from <http://www.mncompass.org/health/health-care-coverage#1-6912-g>
- ⁸⁶ Uninsured by education, Minnesota, 2015: Less than high school (12.0%), high school graduate (6.5%), some college (3.6%), college graduate (2.6%), postgraduate (1.1%). Minnesota Department of Health, *2015 Minnesota Health Access Survey*. For more information, see <https://www.health.state.mn.us/data/economics/hasurvey/index.html>
- ⁸⁷ Did not see a doctor when needed to because of cost, 2015: Disability (15.8%), No disability (6.7%). Minnesota Department of Health, Minnesota Center for Health Statistics. *Behavioral Risk Factor Surveillance System*. (2015.)
- ⁸⁸ The Minnesota Vaccines for Children Program is an enhanced version of the federal program. See <https://www.health.state.mn.us/people/immunize/hcp/mnvfc/index.html> for the state program and <https://www.cdc.gov/vaccines/programs/vfc/index.html> for the federal program.
- ⁸⁹ Minnesota Department of Health. (n.d.) *Immunizations*. Minnesota Public Health Data Access. Retrieved July 17, 2017 from <https://data.web.health.state.mn.us/immunization>
- ⁹⁰ Ibid.
- ⁹¹ Minnesota Department of Health. Email communication July 19, 2017 from the Infectious Disease Epidemiology and Control Division.
- ⁹² Minnesota Department of Health (n.d.). *Minnesota Immunization Information Connection*. Data queries were run from 5/1/2017 to 7/21/17 for this report. For more information about MIIC, see <https://www.health.state.mn.us/people/immunize/miic/index.html>
- ⁹³ Asian American Center for Advancing Justice. (2012). *A community of contrasts: Asian Americans, Native Hawaiians and Pacific Islanders in the Midwest*, p. 57.
- ⁹⁴ Minnesota Community Measurement. (2017). *2016 Health Equity of Care Report*.
- ⁹⁵ Minnesota Department of Health, Minnesota Cancer Alliance, & American Cancer Society. (2016) *Minnesota Cancer Facts & Figures 2015*, p. 18.
- ⁹⁶ Minnesota Department of Health, Minnesota Cancer Alliance, & American Cancer Society. (2016) *Minnesota Cancer Facts & Figures 2015*.
- ⁹⁷ United States Office of the Surgeon General, Centers for Disease Control and Prevention, and Office on Women's Health. (2011). *The Surgeon General's call to action to support breastfeeding*. Rockville (MD): Office of the Surgeon General. See also National Center for Biotechnology Information (NCBI). (2011). *Barriers to breastfeeding in the United States*.
- ⁹⁸ Johnson, A., Kirk, R., Rosenblum, K. L., & Muzik, M. (2015). Enhancing breastfeeding rates among African American women: A systematic review of current psychosocial interventions. *Breastfeeding Medicine*, 10(1), 45–62.
- ⁹⁹ Li X, Kolltveit KM, Tronstad L, and Olsen I. (2000). *Systemic Diseases Caused by Oral Infection*. *Clinical Microbiology Reviews*. 2000, 13(4): 547-558.
- ¹⁰⁰ Centers for Disease Control and Prevention (n.d.). *Children's oral health* [web page]. Retrieved June 28, 2017 from https://www.cdc.gov/oralhealth/children_adults/child.htm
- ¹⁰¹ Minnesota Department of Health. (2016). *Minnesota's dentists workforce, 2014-2015: highlights from the 2014-2015 dentist workforce survey*. Office of Rural Health and Primary Care.
- ¹⁰² Minnesota Department of Health, Oral Health Program. (2015). *Third Grade Basic Screening Survey*. Collected by the Minnesota Oral Health Program. St. Paul, Minnesota: Accessed from MN Public Health Data Portal. Retrieved July 19, 2017 from <https://data.web.health.state.mn.us/tooth-decay>

- ¹⁰³ Minnesota Compass (n.d.). Cost-burdened households. Retrieved June 28, 2017, from <http://www.mncompass.org/housing/cost-burdened-households#1-6930-g>
- ¹⁰⁴ Minnesota Housing Partnership (2017.). *State of the state's housing 2017*. This report shows regional differences in cost burden, rents, and more on a regional basis for Minnesota.
- ¹⁰⁵ Minnesota Housing Partnership. (2017.) *Out of reach: the growing gap between wages and rent*.
- ¹⁰⁶ Home ownership by household type, 2015: Married couples with children (83.5%), married couples with no children (89.8%), single females with children (39.5%), single males with children (61.8%), individuals living alone (55.4%), other household types (56.0%), all Minnesota (70.9%). Minnesota Housing Partnership. (2017.) *Out of reach: the growing gap between wages and rent*.
- ¹⁰⁷ Homeownership rate by racial and ethnic group of the householder, Minnesota, 2015: white (76.0%), Asian (56.6%), American Indian (48.9%), two or more races (47.9%), black (21.7%), Hispanic (41.2%), other race (35.6%). Minnesota Compass (n.d.). *Homeownership gap*. Retrieved July 10, 2017, from <http://www.mncompass.org/housing/homeownership-gap#1-6923-g>
- ¹⁰⁸ Rugh, J.S. & Massey, D.S. (2010). Racial segregation and the American foreclosure crisis. *American Sociological Review* 75(5).
- ¹⁰⁹ Minnesota GO: A collaborative vision for transportation (n.d.) Available at <http://minnesotago.org/>
- ¹¹⁰ Minnesota Department of Health. *Trauma Registry Annual Report, 2017*. Forthcoming.
- ¹¹¹ Minnesota Department of Public Safety. (2016). *Minnesota motor vehicle crash facts 2015*, p. i.
- ¹¹² Minnesota Department of Public Safety. (2016). *Minnesota motor vehicle crash facts 2015*, p. 39.
- ¹¹³ Minnesota Department of Health. (n.d.). MN Public Health Data Access. *Traffic*. Retrieved July 17, 2017 from <https://data.web.health.state.mn.us/traffic>
- ¹¹⁴ Minnesota Department of Health and Minnesota Department of Transportation (2016.) *Minnesota Walks: A framework for action for creating safe, convenient and desirable walking and rolling for all*. Available at <http://www.dot.state.mn.us/peds/plan/pdf/minnesota-walks-2017-final.pdf>
- ¹¹⁵ Minnesota Department of Transportation (n.d.). Minnesota GO: *Greater Minnesota Transit Investment Plan, 2017-2037*. Retrieved October 13, 2017 from <http://minnesotago.org/index.php?cID=435>
- ¹¹⁶ Norrgard, L., producer/ director. *Waasa-inaabidaa, "we look in all directions."* [Television documentary.] Episode three: Gaa miinigooyang, "that which is given to us." Retrieved June 28, 2017 from <http://www.ojibwe.org/home/episode3.html>
- ¹¹⁷ Luber, G., Knowlton, K., Balbus, J., Frumkin, H., Hayden, M., Hess, J., et al. (2014). *Ch. 9: Human Health. Climate Change Impacts in the United States: The Third National Climate Assessment*. Retrieved July 19, 2017 from <http://nca2014.globalchange.gov/report/sectors/human-health>
- ¹¹⁸ Minnesota Department of Health (n.d.) *Heat-related illness*. MN Public Health Data Access. Retrieved July 10, 2017 from <https://data.web.health.state.mn.us/heat>
- ¹¹⁹ Minnesota Department of Health & Minnesota Pollution Control Agency (n.d.). *Outdoor air pollutants and their sources*. Retrieved June 10, 2017 from <https://www.beairawaremn.org/pollutants-and-their-sources/outdoor-pollutants>
- ¹²⁰ Minnesota Department of Health (n.d.). *Air quality*. MN Public Health Data Access. Retrieved July 10, 2017 from <https://data.web.health.state.mn.us/air>
- ¹²¹ Ibid.
- ¹²² American Lung Association. (n.d.). *Healthy air at home*. Retrieved July 10, 2017 from <http://www.lung.org/our-initiatives/healthy-air/indoor/at-home/>
- ¹²³ Minnesota Department of Health & Minnesota Pollution Control Agency. (2015). *Life and breath*.
- ¹²⁴ Currently have asthma, 2015: Children (6.4%), adults (7.4%). Minnesota Department of Health (n.d.). *Asthma program: quick facts – asthma in Minnesota*. Retrieved July 10, 2017, from <https://www.health.state.mn.us/diseases/asthma/data/quickfacts.html>
- ¹²⁵ Lindgren, P., Johnson, J., Williams, A., Yawn, B. & Pratt, G.C. (2016, November 3). Asthma exacerbations and traffic: examining relationships using link-based traffic metrics and a comprehensive patient database. *Environment Health* 15(102).

-
- ¹²⁶ Minnesota Department of Health (n.d.). *Asthma in Minnesota – asthma emergency department visits: facts & figures*. MN Public Health Data Access. Retrieved July 10, 2017, from https://data.web.health.state.mn.us/asthma_ed
- ¹²⁷ Average radon level, Minnesota and U.S., 2010-2014: Minnesota (4.6 pCi/L), U.S. (1.3 pCi/L). Minnesota Department of Health (n.d.). *Radon*. MN Public Health Data Access. Retrieved July 10, 2017, from <https://data.web.health.state.mn.us/radon>
- ¹²⁸ Minnesota Department of Health (n.d.). *Radon in Minnesota*. MDH Indoor Air Unit fact sheet. Retrieved July 17, 2017 from <https://sosradon.org/files/sosradon/MN%20Radon%20Facts.pdf>
- ¹²⁹ Minnesota Department of Natural Resources. (n.d.) Total water area: 7,328.79 sq. miles; total area of Minnesota: 86,938.87 sq. miles. Retrieved August 8, 2017 from <http://www.dnr.state.mn.us/faq/mnfacts/land.html>
- ¹³⁰ Minnesota Pollution Control Agency (n.d.). *How's the water? The health of water resources in Minnesota*. Retrieved July 10, 2017, from <https://www.pca.state.mn.us/water/how-water>
- ¹³¹ Minnesota Department of Health. (2017). *Minnesota drinking water 2017 annual report for 2016*.
- ¹³² Ibid.
- ¹³³ Minnesota Department of Agriculture. (2017). *Nitrate testing for private wells: results as of August 10, 2017*. Retrieved November 27, 2017 from <http://www.mda.state.mn.us/~media/Files/chemicals/nfmp/allcityresults.pdf>.
- ¹³⁴ Minnesota Clean Water Fund. (2016). *Clean Water Fund performance report*. Retrieved November 27, 2017 from <https://www.pca.state.mn.us/sites/default/files/lrp-f-3sy16.pdf>.
- ¹³⁵ Minnesota Department of Health. (n.d.) *Arsenic in Minnesota's well water*. Retrieved June 1, 2017 from <https://www.health.state.mn.us/communities/environment/water/wells/waterquality/arsenic.html>
- ¹³⁶ Metropolitan Council. (2016, November). *Metropolitan Council: regional parks system visitor study report*.
- ¹³⁷ Physical activity by race/ethnicity, 2016: White (55.0%), American Indian (48.5%), black (43.7%), Latino (40.3%), Asian (38.2%), Somali (37.3%), Hmong (34.5%), questioning (33.7%), gay or lesbian (32.6%), bisexual (29.6%). Minnesota Department of Health, Minnesota Center for Health Statistics. (2016). *Minnesota Student Survey* [data file]. More information available from <https://www.health.state.mn.us/data/mchs/surveys/mss/index.html>
- ¹³⁸ Minnesota Department of Transportation (2016). Qian, X., Linscheid, N., Tuck, B., Lindsey, G., Schoner, J., Pereira, M., & Berger, A. *Assessing the economic impact and health effects of bicycling in Minnesota*.
- ¹³⁹ Ibid. Estimates of bicycle trips and bicycle miles traveled in Minnesota from ACS and TBI: Core Cities (12.6%), seven-county metro area (53.9%), exurban/ring county Twin Cities metro area (9.3%), Greater Minnesota (36.8%), p. 23.
- ¹⁴⁰ U.S. Department of Health and Human Services and U.S. Department of Agriculture (2015, December). *Dietary guidelines for Americans 2015-2020, 8th edition*. Retrieved July 10, 2017, from <http://health.gov/dietaryguidelines/2015/guidelines/>
- ¹⁴¹ Students who ate fruit one or more times per day in the last seven days, 2016: Asian (48.7%), white (47.7%), Somali (47.2%), black (44.4%), Latino (43.4%), Hmong (43.3%), American Indian (42.21%). Minnesota Department of Health, Minnesota Center for Health Statistics. (2016). *Minnesota Student Survey* [data file]. More information available from <https://www.health.state.mn.us/data/mchs/surveys/mss/index.html>
- ¹⁴² Nutrition by race/ethnicity, 2016: American Indian (35.7%), Asian (41.5%), black (34.7%), white (41.3%), Latino (33.8%), Hmong (33.1%), Somali (37.7%). Minnesota Department of Health, Minnesota Center for Health Statistics. (2016). *Minnesota Student Survey* [data file]. More information available from <https://www.health.state.mn.us/data/mchs/surveys/mss/index.html>
- ¹⁴³ Rausch, E. J., & Mattessich, P. W. (2016, April). *Healthy food access: a view of the landscape in Minnesota and lessons learned from healthy food financing initiatives*.
- ¹⁴⁴ Minnesota Food Charter. (n.d.). *Food access planning guide*, p. 2. Retrieved June 27, 2017 from http://mnfoodcharter.com/wp-content/uploads/2014/10/FAPG_PlanGuide_D9_LINKS_LR.pdf
- ¹⁴⁵ United States Department of Health and Human Services (2007, April). *Obesity and American Indians/Alaska Natives*. Office of the Assistant Secretary for Planning and Evaluation.

- ¹⁴⁶ Obesity rate by race/ethnicity, Minnesota, 2015: American Indian (40.9%), Hispanic (29.4%), black (25.2%), white (26.7%), Asian (10.6%), all Minnesota (26.1%). Minnesota Department of Health, Minnesota Center for Health Statistics, *Behavioral Risk Factor Surveillance Survey*.
- ¹⁴⁷ Minnesota Department of Health. (2016). Minnesota Center for Health Statistics, *Minnesota Student Survey*.
- ¹⁴⁸ Child and Adolescent Health Measurement Initiative. (n.d.) *The National Survey of Children's Health 2007: Minnesota*. Retrieved July 1, 2017 from <http://childhealthdata.org/browse/data-snapshots/nsch-profiles/cshcn-in-context?geo=25>
- ¹⁴⁹ powell, j.a. (2012, April). Poverty and race through a belongingness lens. *Policy Matters* 1(5).
- ¹⁵⁰ Minnesota Department of Health (2011). *Adverse childhood experiences in Minnesota: findings & recommendations based on the 2011 Minnesota Behavioral Risk Factor Surveillance System*.
- ¹⁵¹ Minnesota Department of Health, Minnesota Center for Health Statistics. (2017) Birth and infant death records, 2012-2016.
- ¹⁵² Zero to Three. (n.d.). Retrieved July 10, 2017, from <https://www.zerotothree.org/>
- ¹⁵³ Gray, D. (2012). *Nurturing adoptions: creating resilience after neglect and trauma*. London: Jessica Kingsley Publishers.
- ¹⁵⁴ Minnesota Department of Health (n.d.). *Pregnancy Risk Assessment Monitoring System (2009-2013)*. Centers for Disease Control and Prevention.
- ¹⁵⁵ Zeanah, C.H. & Gleason, M.M. (2015). Annual research review: Attachment disorders in early childhood – clinical presentation, causes, correlates, and treatment. *Journal of Child Psychology and Psychiatry* 56(3): 207-222.
- ¹⁵⁶ Stahl, B., & Webster, M. (2016, August 21). *Indian kids in foster crisis*. Minneapolis Star Tribune.
- ¹⁵⁷ In 2013, the disproportionality rate for American Indian children in foster care in Minnesota was seven times higher than the U.S. average. (Disproportionality is defined as the level at which groups of children are present in the child welfare system at higher or lower percentages or rates than in the general population.) See Summers, A. (2015). *Disproportionality rates for children of color in foster care (fiscal year 2013)*. National Council of Juvenile and Family Court Judges, Technical Assistance Bulletin, [Summers, A. \(2015\). Disproportionality rates for children of color in foster care \(PDF\)](#).
- ¹⁵⁸ Minnesota Department of Health. (n.d.). Minnesota Center for Health Statistics. *Minnesota student survey health equity reports*. Retrieved June 28, 2017, from <https://www.health.state.mn.us/data/mchs/surveys/mss/specialreports/index.html>
- ¹⁵⁹ Moore, K., Sacks, V. Bandy, T. & Murphey, D. (2014). Fact Sheet: Adverse childhood experiences and the well-being of adolescents. *Child Trends*. Retrieved July 17, 2017 from https://www.childtrends.org/wp-content/uploads/2014/07/Fact-sheet-adverse-childhood-experiences_FINAL.pdf
- ¹⁶⁰ Minnesota Department of Health. (n.d.) Tobacco prevention and control (website). Retrieved July 1, 2017 from <https://www.health.state.mn.us/communities/tobacco/index.html>
- ¹⁶¹ Minnesota Department of Health (2011). *Adverse childhood experiences in Minnesota: findings & recommendations based on the 2011 Minnesota Behavioral Risk Factor Surveillance System*.
- ¹⁶² Ibid.
- ¹⁶³ Centers for Disease Control and Prevention (n.d.). *Fact sheets: binge drinking*. Retrived June 28, 2017, from <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>
- ¹⁶⁴ For the definition of ACEs, see <https://www.health.state.mn.us/communities/ace/definition.html>
- ¹⁶⁵ Centers for Disease Control and Prevention (n.d.). *Alcohol and public health/excessive drinking*. Retrieved June 28, 2017, from <https://www.cdc.gov/alcohol/data-stats.htm>
- ¹⁶⁶ Minnesota Department of Health, Minnesota Center for Health Statistics. *Behavioral Risk Factor Surveillance System*. (2015.)
- ¹⁶⁷ Ibid.
- ¹⁶⁸ Minnesota Department of Health, Minnesota Center for Health Statistics. *Minnesota Student Survey*. (2016.)
- ¹⁶⁹ The Sentencing Project (n.d.). *Criminal justice facts*. Retrieved June 28, 2017, from <http://www.sentencingproject.org/criminal-justice-facts/>

-
- ¹⁷⁰ Minnesota Department of Corrections (2017). *Adult prison population summary*. White 52.9%, Black 34.4%, American Indian 9.6%, Asian, 2.7%, Unknown/other 0.4%; 5.9% of all the above are of Hispanic ethnicity. Retrieved August 30, 2017 from https://mn.gov/doc/assets/Minnesota%20Department%20of%20Corrections%20Adult%20Prison%20Population%20Summary%207-1-2017_tcm1089-303705.pdf
- ¹⁷¹ Minnesota Department of Health & the Healthy Minnesota Partnership (2012, December). *Healthy Minnesota 2020: Statewide health improvement framework*. Retrieved June 28, 2017, from <http://www.health.state.mn.us/communities/practice/healthymnpartnership/framework.html>
- ¹⁷² Amherst H. Wilder Foundation (n.d.). *MN strengthening families affected by incarceration collaborative*. Wilder Research/incarceration. Retrieved June 28, 2017, from <http://www.wilder.org/Wilder-Research/Research-Areas/Pages/incarceration.aspx>
- ¹⁷³ Ibid.
- ¹⁷⁴ Ibid.
- ¹⁷⁵ American Psychological Association (n.d.). *Effects of poverty, hunger and homelessness on children and youth*. Retrieved July 17, 2017 from <http://www.apa.org/pi/families/poverty.aspx>
- ¹⁷⁶ National Health Care for the Homeless Council (2011). *Homelessness & health: what's the connection?* Fact sheet.
- ¹⁷⁷ Wilder Research (2015). *Homelessness in Minnesota*. Retrieved June 1, 2017, from <http://mnhomeless.org/minnesota-homeless-study/homelessness-in-minnesota.php>
- ¹⁷⁸ Ibid.
- ¹⁷⁹ Wilder Research. (2016). *Homelessness in Minnesota: summary of the findings from the 2015 Minnesota Homeless Study*.
- ¹⁸⁰ Wilder Research (2015). *Homelessness in Minnesota*. Retrieved June 1, 2017, from <http://mnhomeless.org/minnesota-homeless-study/homelessness-in-minnesota.php>.
- ¹⁸¹ Wilder Research. (2016). *Homelessness in Minnesota: summary of the findings from the 2015 Minnesota Homeless Study*.
- ¹⁸² Wilder Research. (2015.) *Homelessness in Minnesota*. Retrieved June 1, 2017, from <http://mnhomeless.org/minnesota-homeless-study/homelessness-in-minnesota.php>
- ¹⁸³ Flunker, D. (2017). *Voices of health: 2016 survey results*. Rainbow Health Initiative.
- ¹⁸⁴ Minnesota Board on Aging. (2014). *Minnesota Board on Aging state plan FFY 2015-2017*, pp. 7-8.
- ¹⁸⁵ People in Minnesota living with HIV/AIDS, 2016: 4,575 living with HIV infection (non-AIDS); 3,979 living with AIDS. Minnesota Department of Health. (2016). *HIV/AIDS prevalence and mortality report*.
- ¹⁸⁶ HIV diagnosis rate, Minnesota, 2016: MSM (168.1 per 100,000 people), other men (2.7), women (2.5). Minnesota Department of Health (n.d.). *STD annual data release 2016: summary*. Retrieved June 28, 2017, from <https://www.health.state.mn.us/diseases/stds/stats/index.html>
- ¹⁸⁷ Minnesota Department of Health. *HIV Surveillance Report, 2015*. Retrieved August 30, 2017, from <https://www.health.state.mn.us/diseases/hiv/stats/index.html>
- ¹⁸⁸ Gonorrhea by race/ethnicity, 2015: African-American 16x, American Indian 7x, Hispanic 2x. Source. Indicator (chlamydia), Minnesota, Year: African-American 9x, American Indian 4x, Hispanic 3x. Minnesota Department of Health, Infectious Disease Prevention and Control Division surveillance.
- ¹⁸⁹ Minnesota Department of Health. (n.d.) *STD statistics and reports*. Retrieved August 28, 2017, from <https://www.health.state.mn.us/diseases/stds/stats/index.html>
- ¹⁹⁰ World Health Organization. (n.d.) *Violence against adults and children with disabilities*. Retrieved July 19, 2017 from <http://www.who.int/disabilities/violence/en/>
- ¹⁹¹ Minnesota Department of Health. (2015). *Sexual violence prevention: legislative report*.
- ¹⁹² Minnesota Women's Consortium. (n.d.) *Native women*. Retrieved July 7, 2017 from <http://www.mnwomen.org/native-women/>
- ¹⁹³ Experienced rape in her lifetime, by race/ethnicity, 2010: American Indian (28%), African-American (21%), white (21%), Hispanic (14%). Minnesota Department of Health. (2015). *Sexual violence prevention: legislative report*.

¹⁹⁴ Between 2009 and 2013, 8% of women in Minnesota with an income at the poverty threshold or below reported experiencing intimate partner violence before or during pregnancy compared with 2% of women with an income above the federal poverty threshold. Minnesota Department of Health and the Centers for Disease Control and Prevention. (2016.) *Pregnancy Risk Assessment Monitoring System* (PRAMS). PRAMS defines poverty thresholds using guidelines set by the U.S. Department of Health and Human services. In 2013, the poverty threshold was \$11,490 for an individual; add \$4,020 for each additional family member. For more information, see <https://aspe.hhs.gov/poverty-guidelines>.

¹⁹⁵ Ibid.

¹⁹⁶ Includes percent answering “yes” to (1) Has any adult or other person outside the family ever touched you sexually against your wishes or forced you to touch them sexually? OR (2) Has any adult or other person inside the family ever touched you sexually against your wishes or forced you to touch them sexually? (2016): Bisexual (18.7%), gay or lesbian (16.8%), skipped meals in past 30 days (16.9%), students with a physical or mental, emotional, or behavioral disability (9.9%), American Indian (9.4%), Latino (8.4%), questioning (8.8%), Black (6.7%), Somali (5.5%), white (4.4%), Hmong (4.7%), Asian (3.9%), heterosexual (3.5%). Minnesota Department of Health, Minnesota Center for Health Statistics. *Minnesota Student Survey*. (2016.)

¹⁹⁷ Percent of 9th grader students who agree or strongly agree that “Most teachers at my school are interested in me as a person” (2016): American Indian (60.4), Asian (68.7), Black (63.6), White (67.8), Latino (65.4), Hmong (69.0), Somali (65.5), Skipped meals in past 30 days (50.6), Did not skip meals (68.6), Heterosexual (69), Bisexual (50.9), Gay/Lesbian (56.6), Not sure/Questioning (63.9). Minnesota Department of Health, Minnesota Center for Health Statistics. *Minnesota Student Survey*. (2016.)

¹⁹⁸ Percent of 9th grade students who have ever actually attempted suicide (2016). American Indian (16.1), Asian (6.8), Black (9.4), White (6.8), Latino (11.5), Hmong (6.5), Somali (5.3), Skipped meals in past 30 days (25.8), Did not skip meals (6.3), Heterosexual (5.1), Bisexual (34.2), Gay/Lesbian (31.2), Not sure/Questioning (11.2). Minnesota Department of Health, Minnesota Center for Health Statistics. *Minnesota Student Survey*. (2016.)

¹⁹⁹ These categories come from the Centers for Disease Control and Prevention, National Violent Death Reporting System, retrieved July 18, 2017 from <https://www.cdc.gov/violenceprevention/nvdrs/index.html>.

²⁰⁰ Minnesota Department of Health, Injury and Violence Prevention Unit. Unpublished data, compiled from Minnesota Certificate of Death Data, September 23, 2016.

²⁰¹ Minnesota Department of Health Center for Health Statistics. (2017). Key Indicators of Health and Educational Equity. Retrieved July 27, 2017 from <https://www.health.state.mn.us/data/mchs/surveys/mss/specialreports/2016.xlsx>. For more information about risk and protective factors related to suicide for American Indian communities, see: Suicide Prevention Resource Center. (2013). *Suicide among racial/ethnic populations in the U.S.: American Indians/Alaska Natives*. Waltham, MA: Education Development Center, Inc.

²⁰² Heissel, J.A., Sharkey, P.T., Torrats-Espinosa, G., Grant, K. & Adam, E.K. (2017). Violence and vigilance: the acute effects of community violent crime on sleep and cortisol. *Child Development*, 2017; DOI: 10.1111/cdev.12889.

²⁰³ Centers for Disease Control and Prevention. (n.d.). WONDER Online Database. St. Paul, MN: Minnesota Department of Health, unpublished data. For more information, see <https://wonder.cdc.gov/>

²⁰⁴ Centers for Disease Control and Prevention. (n.d.). Web-based Injury Statistics Query and Reporting System (WISQARS). St. Paul, MN: Minnesota Department of Health, unpublished data. For more information, see <https://www.cdc.gov/injury/wisqars/index.html>

²⁰⁵ Community conversation.

²⁰⁶ Minnesota Department of Health (2017). *Drug overdose deaths among Minnesota residents, 2000-2016*.

²⁰⁷ Ibid.

²⁰⁸ Ibid. Age-adjusted mortality from drug overdose, Minnesota, 2016: American Indian (61.6 per 100,000 people), African-American (24.3), white (10.8).

²⁰⁹ Minnesota Department of Health. (2016.) Infectious Disease Epidemiology, Prevention, and Control Division.

-
- ²¹⁰ Minnesota Department of Health. (2017). Injury and Violence Prevention Section (2017). *Minnesota death certificates, 2000-2016*.
- ²¹¹ Minnesota physicians by race, Minnesota, 2015: White (83.9%), Asian (10.7%), black (2.9%), Hispanic (2.8%), American Indian (0.6%), Native Hawaiian or Pacific Islander (0.3%), other (3.2%). Minnesota Department of Health. (2016). *Minnesota's physician workforce, 2015: highlights from the 2015 Physician Workforce Survey*.
- ²¹² Minnesota Department of Health. (2016). *Minnesota's physician workforce, 2015: highlights from the 2015 physician workforce survey*, p. 5.
- ²¹³ Minnesota Department of Health, Office of Rural Health and Primary Care. (n.d.) *Health professional shortage areas: primary care, dental care, and mental health geographic HPSA designations*. Retrieved August 29, 2017, from <https://www.health.state.mn.us/facilities/underserved/designation.html>
- ²¹⁴ Wilkerson, M., Rybicki, S., Barber, C. (2009). *Results of a Qualitative Assessment of LGBT Inclusive Healthcare in the Twin Cities*. Division of Epidemiology & Community Health, University of Minnesota School of Public Health, p. 4.
- ²¹⁵ Minnesota Department of Health. (2017). *The importance of exclusive breastfeeding during the hospital stay*. Minnesota WIC Program.
- ²¹⁶ Breastfed Minnesota WIC infants given formula during the hospital stay, Minnesota, 2015: East African (76%), Hmong (71%), Liberian (70%), other Asian (61%), Black (52%), American Indian (52%), Hispanic (38%), White (34%). Minnesota Department of Health (2017, April). *The importance of exclusive breastfeeding during the hospital stay*. Minnesota WIC Program.
- ²¹⁷ Ehlinger, E. (2015). We need a triple aim for health equity. *Minnesota Medicine*, pp. 28-29. See also: Ehlinger, E. (n.d.). Advance health equity and optimal health for all [blog post]. *2016 Presidents Challenge*.
- ²¹⁸ KIDS COUNT. (n.d.). *KIDS COUNT overall rank*. Retrieved July 19, 2017 from <http://datacenter.kidscount.org/data/tables/9541-kids-count-overall-rank?loc=1&loct=2#detailed/2/2-9,11-52/false/871/any/18716>
- ²¹⁹ United Health Foundation. (n.d.). *America's Health Rankings: Minnesota*. Retrieved July 19, 2017 from <http://www.americashealthrankings.org/explore/2016-annual-report/state/MN>
- ²²⁰ U.S. News and World Report. *Best States Rankings: Measuring outcomes for citizens using more than 60 metrics*. (n.d.) Retrieved July 19, 2017 from <https://www.usnews.com/news/best-states>
- ²²¹ Healthy Minnesota Partnership. (n.d.). Retrieved August 3, 2017 from <http://www.health.state.mn.us/communities/practice/healthymnpartnership/index.html>