Achieving health equity in Minneapolis

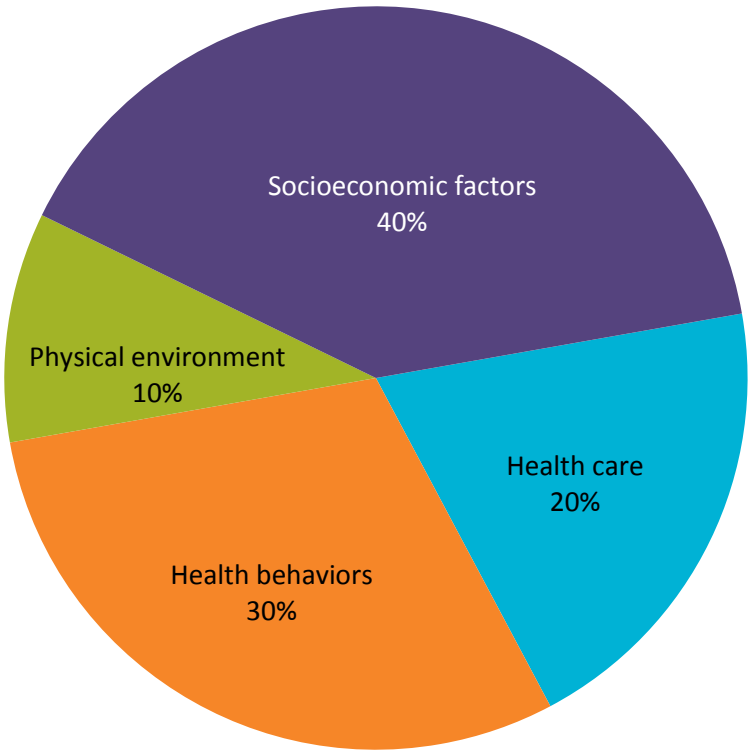
Minneapolis Health Department, October 2014

Healthy lives, health equity, and healthy environments are the foundation of a vibrant Minneapolis now and into the future

The Minneapolis-Saint Paul metropolitan area ranked second highest among the 50 largest metropolitan areas in the U.S. in 2014, based on the ACSM American Fitness Index. This index is a composite of measures that include preventive health behaviors, levels of chronic disease conditions, and community resources and policies that support physical activity. However, good health is not shared equally among subpopulations. These differences are called health disparities. Disparities refer to differences in health status among distinct population subgroups defined by gender, race or ethnicity, education, income, disability, or geographic area of residence. The term "health inequity" goes a step further, attributing health disparities to systemic, avoidable, and unjust social and economic policies and practices that create barriers to opportunity.

While individual health behaviors, such as tobacco, alcohol, and drug use, diet, and exercise, are often assumed to be the primary determinant of individual health, that is not the case. The chart below illustrates the impact of different contributors to health status defined as a combination of length of life and quality of life. Socioeconomic factors include education, employment, income, social support and community safety. The physical environment includes air and water quality as well as transit and housing. Collectively, these broader factors are referred to as the social determinants of health.

Determinants of health

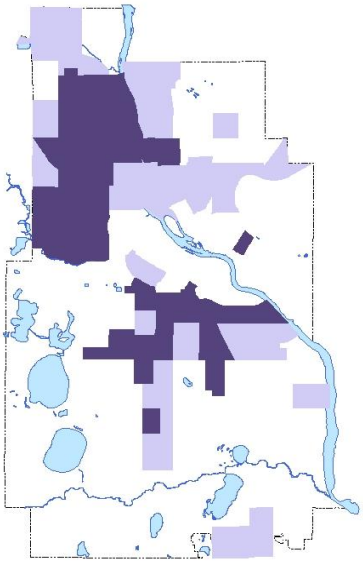


Source: University of Wisconsin Population Health Institute

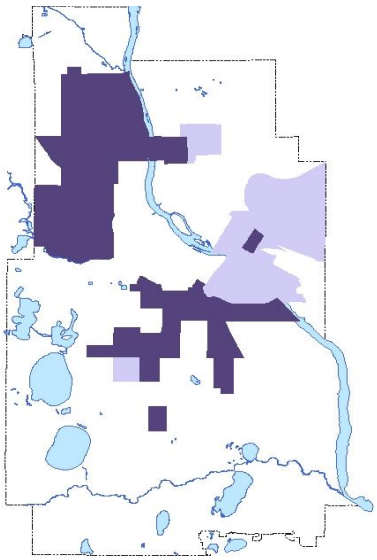
Minority populations, poverty, age, and country of origin

Within Minneapolis, areas of poverty and racial segregation are of particular concern with respect to health inequities. The maps below show the geographic areas where people of color and low-income households are concentrated and how they overlap. The dark shading represents areas with the highest concentrations of both people of color and poverty. The lighter shading on each map shows where one factor exists but not both. When measures related directly to health status or well-being are mapped, they tend to concentrate in the same areas. These include infant mortality, child lead poisoning, and violence.

Concentrations of people of color

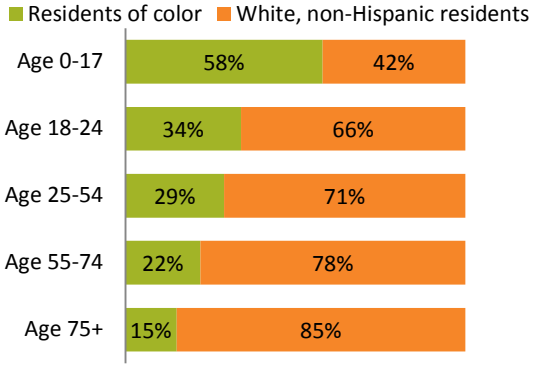


Concentrations of poverty



Source: 2010 U.S. Census

Race/ethnicity by age



Source: 2010 U.S. Census

Racial/ethnic diversity is increasing among younger residents. Children are four times as likely as seniors age 75 or older to be non-white. These changing demographics will have an overall impact on population health unless health inequities are addressed.

County of birth for Minneapolis residents

Source: 2010 U.S. Census

The Minneapolis population is also diverse in terms of country of origin. An estimated 16% of Minneapolis residents in 2010 reported a birthplace in a country other than the United States. Africa and Asia were reported nearly equally as the two most common continents of origin. The next most common origins were areas in Latin America and the Middle East, which reported very similar numbers. People born in Europe reported the greatest variety of countries or regions on a single continent, while people born in Oceania represented the smallest numbers overall.

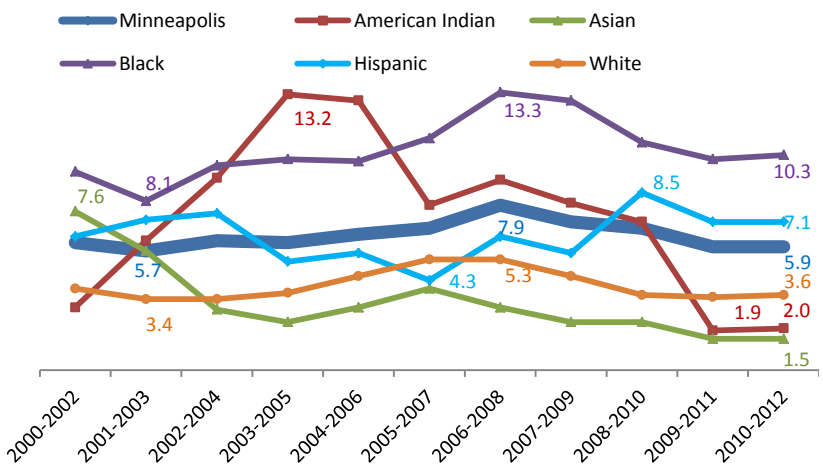
Areas of focus for reducing health inequity

The Minneapolis Health Department works with community partners to address some of the greatest health inequities in the city. The following sections illustrate some key health measures and describe some of the challenges to improving health and efforts to overcome these. Topics include infant, child, adolescent, and young adult health, food safety, access to nutritious food, and air quality,

Infant mortality

The infant mortality rate is a critical indicator of population health. This rate is often used as an indicator to measure the health and well-being of a nation, because factors affecting the health of entire populations can also affect the mortality rate of infants. The most common causes of infant mortality are serious birth defects, babies being born too early or too small, maternal complications of pregnancy, and unsafe sleep environments. Women's health even before pregnancy has an impact on infant health. Chronic lifetime stressors, disproportionately prevalent among women of color and women who have experienced poverty, are associated with infant mortality and other adverse birth outcomes. Historically, babies born to black and American Indian women have had higher rates of death before their first birthday than babies born to Asian, white and Hispanic women. In Minneapolis, however, infant mortality among American Indians has been declining over the past decade. The decline among blacks is attributable to the greater proportion of births to women born in Africa; the rate among U.S.-born blacks remains high. Providing easy access to prenatal and other health care and contraception, intensive home visiting and case management for higher-risk pregnant women, and education regarding safe infant sleep are strategies known to reduce infant mortality.

Infant deaths per 1000 live births by race/ethnicity

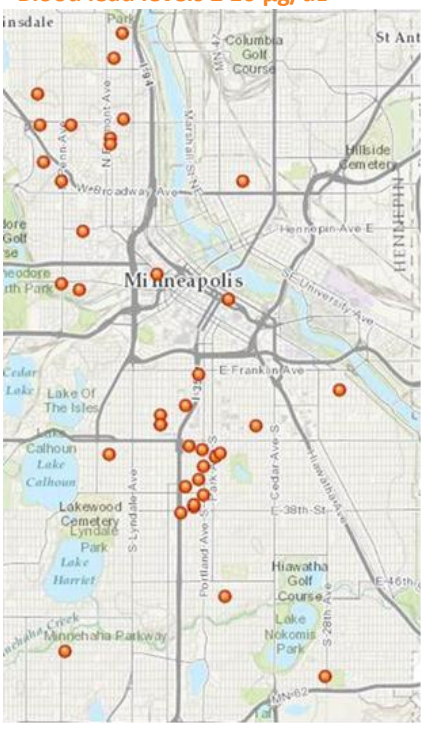


Child blood lead poisoning

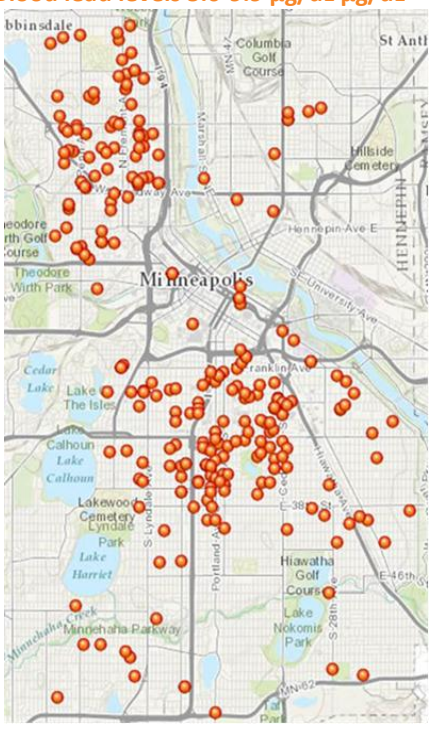
Lead poisoning cases cluster in areas with high concentrations of both poverty and people of color; the outcomes of lead poisoning further exacerbate health inequities. Adverse effects of elevated blood lead levels in children include nervous system and kidney damage, decreased muscle and bone growth, and hearing damage. Children with lead poisoning are more likely to have trouble in school due to learning disabilities, attention deficit disorder, decreased intelligence, and language and behavior problems. Lead poisoning inhibits control of impulsive behavior. Studies have linked childhood lead exposure to adolescent and adult criminal activity and unintended pregnancies. In 2012, recognizing that any amount of lead poisoning is harmful to children under six years old, the Centers for Disease Control and Prevention lowered its definition of blood levels of concern to greater than or equal to 5 micrograms per deciliter, resulting in six times as many local reports of children with lead poisoning.

Cases of child elevated blood lead levels detected in 2013

Blood lead levels ≥ µg/dL



Blood lead levels 5.0-9.9 µg/dL µg/dL



Source: Vital Statistics, Minnesota Department of Health

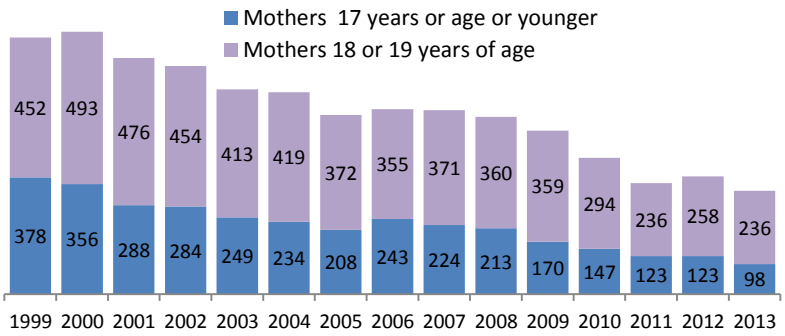
Teen birth rate

The number of births to teens has steadily declined as more young women delay sexual activity and use long-term contraceptives. Among teens age 15-17, Asians and whites have lower rates than blacks, American Indians, and Hispanics, although rates for all groups have decreased. Lifelong adverse effects of teen pregnancy include increased likelihood that the mother will not finish high school and live in poverty. Children of teen mothers are more likely to have low academic achievement, drop out of school, have more health problems, be incarcerated during adolescence, give birth as a teen themselves, and face unemployment as an adult. The School Based Clinics prevent pregnancy through health education and easy access to effective contraception. Home visiting programs for teen mothers work to prevent a second pregnancy while assisting the mother to complete school and work toward self-sufficiency.

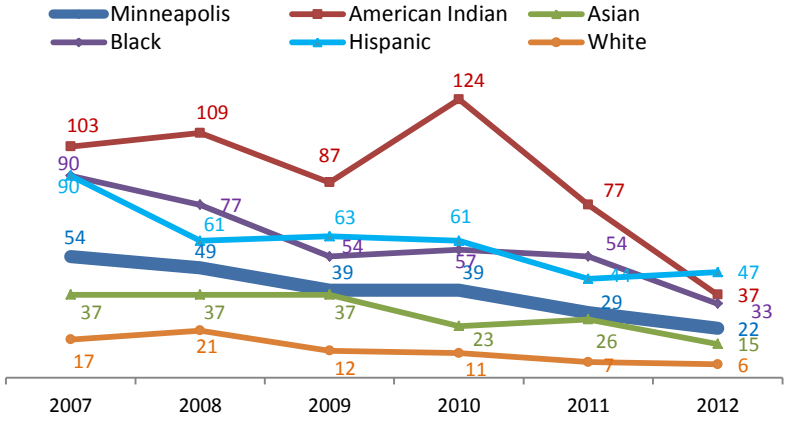
Sexually transmitted diseases

Gonorrhea, like other sexually transmitted diseases, is more prevalent and harder to eradicate in segregated communities where people tend to associate primarily with others within their community. Studies have found that even when blacks and whites engage in the same levels of risk behavior, such as having multiple partners or using alcohol or drugs, blacks are much more likely to get an STD. This pattern persists across socioeconomic levels. Infection rates among Asian, white, and Hispanic residents have remained very low. American Indian and black communities disproportionately bear the health burden of sexually transmitted diseases. The Health Department works with teens and young adults to reduce individual risky behaviors and promote consistent condom use. Health Department approaches have focused on aggressive outreach strategies to young adults of color, including awareness campaigns, strategies to reduce the stigma associated with testing and diagnosis, promotion of consistent condom use, availability of free condoms at various locations, and encouraging young adults to be tested and treated. Information and specimen collection has been offered in nontraditional venues, such as barbershops, as well as through more familiar institutions, including school- and community-based clinics.

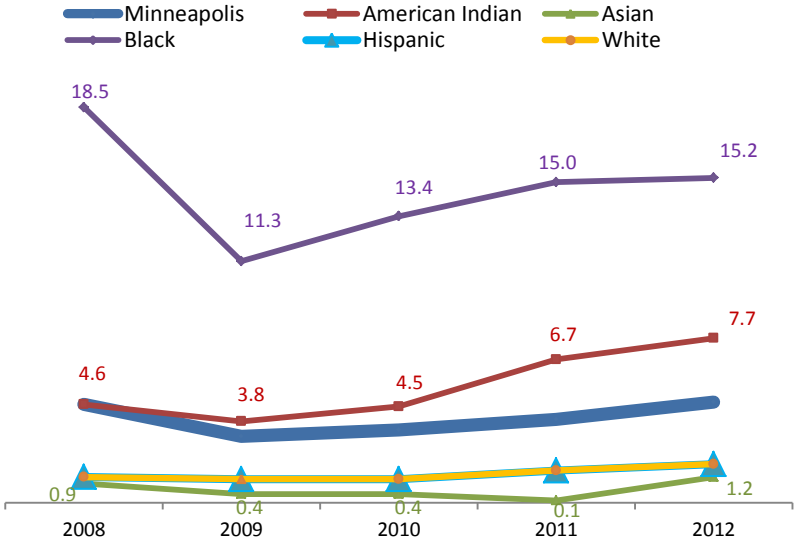
Number of births to teen mothers



Birth rate per 1000 girls age 15-17



Gonorrhea rate per 1000 residents age 15-44

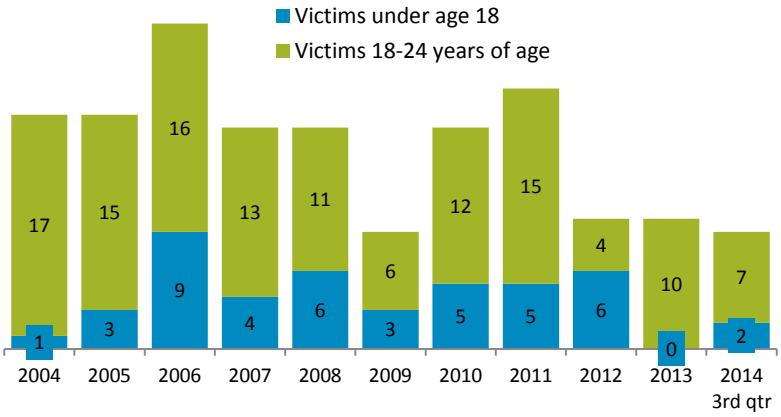


Source: Vital Statistics, Minnesota Department of Health

Youth violence prevention

The numbers of youth and young adult victims of homicide represent deaths within Minneapolis borders, regardless of the victim's residence. Local programs benefit only residents, and the transience of young people ages 18 – 24 has been an on-going challenge. The complex relationship between social determinants of health and youth violence particularly highlights health equity concerns and frames our work on youth violence. Major programs to reduce youth involvement with homicides concentrate on community engagement, stress management, and positive life skill building. These approaches are designed to give high risk youth and young adults mental, emotional, and behavioral resources to cope with and avoid involvement in violent crimes. The next step is to consider environmental and policy changes that reduce youth and young adult exposure to or opportunity for violent crime.

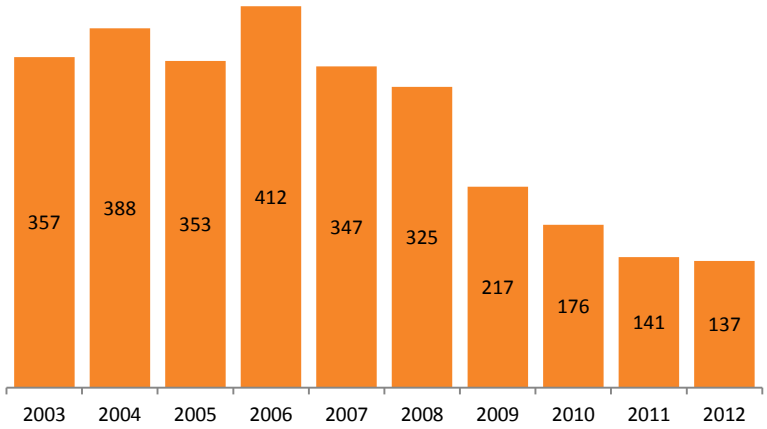
Homicides occurring within Minneapolis among youth and young adults



Youth tobacco use

Smoking rates are highest among people of color, LGBTQ communities and low-income populations. Preventing tobacco use among youth is essential since 81% of adult smokers started smoking before they were 18 years-old. The Minneapolis Health Department engaged the Minneapolis Youth Congress and youth from community-based organizations to research youth tobacco use and tobacco marketing techniques and develop strategies for reducing youth access to popular tobacco products. In June 2014, the Youth Congress presented four recommendations to City Council: expand Clean Indoor Air laws to prohibit e-cigarette use in all places where cigarette smoking is prohibited; increase the price of little cigars and cigarillos through minimum price/pack size strategies; restrict the sale of flavored products to adult-only tobacco retailers; and eliminate coupons and discounts for tobacco products.

Number of incidents in Minneapolis involving guns and juveniles as victims, suspects, or arrestees

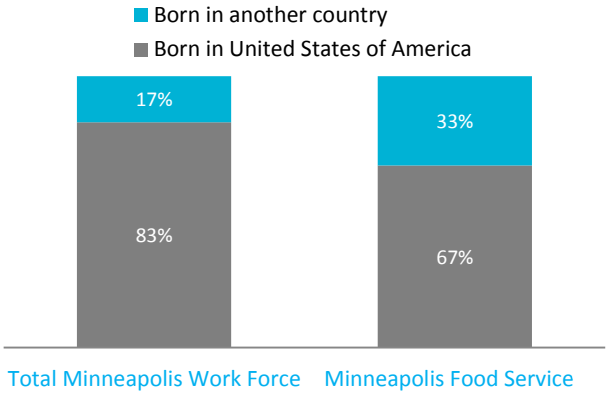


"I wanted to show you what I've learned, the effects it can have on your health and that really, tobacco is smoking you." – Minneapolis Youth Congress member/mural artist

Food safety

In Minneapolis, individuals working in food service are two times more likely to be foreign-born than individuals in the general work force. Food service includes all the jobs in the food service sector excluding managers, chefs, and bartenders. Immigrants comprise a key component of the food service workforce and assurance of food safety. In 2014, the Health Department worked with immigrant communities to develop recommendations to reduce foodborne infections. Recommendations include creativity and sensitivity in delivery mode of food safety information, including awareness of potentially limited English literacy; long term and strategic trust-building efforts to mitigate the effects of distrust or fear of authorities which may be rooted in previous political experiences elsewhere; and ongoing involvement of minority-led organizations serving their communities in creating effective communication plans on food safety topics including hand-washing, cooking temperatures, and pathogen transmission. In addition to engaging communities, there is a need to return to these communities and reevaluate attitudes and practices as they change and evolve.

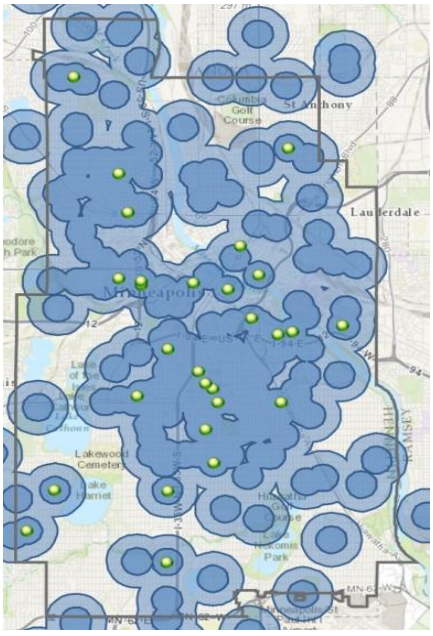
Birth area of individuals who work in food service occupations versus the general work force



Access to healthy food

Local governments and community members recognize the need to improve the health of communities by improving access to affordable and healthy foods. Backyard and community gardening is a strategy that provides space for community members to grow healthy food and improve the nutrition of their communities, provides opportunities for physical activity, and increases civic engagement and social connectedness.

Healthy food outlets

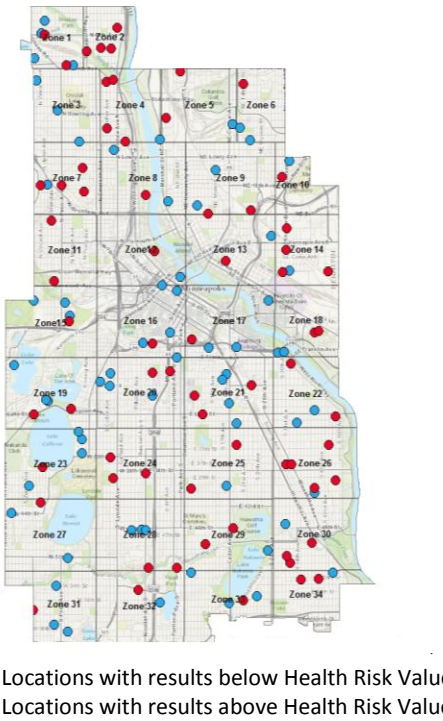


To increase access to healthy food in community settings, the Health Department partnered with the nonprofit organization Gardening Matters to launch the Local Food Resource Hubs Network Hubs Network in 2010. The Hubs Network connects individuals to resources in their community to help them grow, consume, preserve, and compost their own fresh produce. In its first year, more than 600 people obtained memberships. However, the Hubs Network did not engage many low-income residents or persons from communities of color, who are most at risk for obesity and related chronic diseases. In response, the Health Department developed the *Cultural Liaison Model* as a community engagement strategy to reach priority populations with limited access to fresh, healthy food and connect them to the Hubs Network. Between 2012 and 2014, *cultural liaisons* identified by Gardening Matters established relationships with residents of their communities, introduced and recruited 373 new members from the African American, Latino, Southeast Asian, and American Indian communities to the Hubs Network, and connected them to gardening and urban agriculture resources in their neighborhood. The resulting partnerships and cultural connections contributed to increased capacity for food production among priority populations, and greater diversity in the Hubs Network and in the City's gardening and urban agriculture movement.

Air quality

Environmental justice seeks to resolve inequitable environmental burdens, such as pollution, industrial facilities, and other health hazards. A core principle of environmental justice as defined by the Environmental Protection Agency is the fair treatment and meaningful involvement of all people in the development, implementation, and enforcement of environmental laws, regulations, and policies. People living in poverty and people of color in Minneapolis have historically been disproportionately affected by policies and plans that have resulted in exposures to hazardous materials, such as gas stations releasing gasoline vapor and small industrial operations releasing toxins into neighborhoods, or construction projects next to daycare facilities. A major component of environmental justice is that all people have the same degree of protection from such health hazards, and equal access to decision-making processes, including access to the data and interpretations of data by experts. Another common characteristic of environmental justice projects is multi-stakeholder partnerships.

Air quality testing results, 2014



Locations with results below Health Risk Values
Locations with results above Health Risk Values

Projects such as *Minneapolis Air Quality: A Neighborhood Approach* (scheduled to collect data through August 2015) seek to respond to comments from the public by analyzing air quality data in a way that incorporates social determinants of health. This study is determining whether chronic exposure through poor air quality is present in the collection areas. This is expressed as a Health Risk Value. If the concentration of chemicals or a defined mixture of chemicals poses little or no risk to human health, the risk value is symbolized by a blue dot. If the air quality canister detected one or more chemical above the Health Risk Value, measure is symbolized by a red dot. The health outcomes of concern are chronic health disorders, including cancer, upper respiratory system problems, and other organ system concerns. Air quality concerns can cluster in areas with higher concentrations of people of color and people living in poverty, but most studies don't capture that level of detail. The challenge to health equity is ensuring all people living in areas of risk have the opportunities to be involved in making decisions about the results of this study, and that any policy recommendations that this study generates are reported back to the community and ensure the equal application of mitigation and resolution for all.

Conclusion

Achieving health equity requires coordinated efforts to address the social determinants of population health. This means engaging many partners in the public and private sectors. While the Minneapolis Health Department is capable and experienced in convening others, developing plans for action, and in some cases regulating, other agencies in local government often have primary responsibility for overseeing and impacting a number of determinants of health. As a local health department, we are well positioned to help leverage the influence of our fellow departments including Public Works, Community Planning and Economic Development, and Regulatory Services. Other municipal public partners such as the Park and Recreation Board, Public Housing, and the Public Schools also exert influence over social determinants in Minneapolis. We will continue working with, and align the efforts of public partners and non-governmental organizations and enterprises and aligning our efforts so that systems and opportunities are increasingly more equitable – which is key to achieving a higher degree of health equity in Minneapolis.

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City of Minneapolis
Health Department

This brief report was adapted from the Health Commissioner's presentation on health equity to the City Council Health, Environment, and Community Engagement Committee meeting on September 5, 2014. For more information, please contact health@minneapolismn.gov.