Using Data to Identify Health Inequities

A GUIDE FOR LOCAL HEALTH DEPARTMENTS IN MINNESOTA

VERSION 1.0

Minnesota
Department *of* Health

MINNESOTA CENTER FOR HEALTH STATISTICS

Using Data to Identify Health Inequities:
A Guide for Local Health Departments in Minnesota

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This version of the Data Guide (March 2016) is being pilot tested by several local health departments in Minnesota. A final version of the Guide will be developed when the pilot is complete.

Contents

Introduction

> Assessment with a health equity perspective identifies health status and trends, but it also indicates where health differences that are the result of differences in the opportunity for health exist between population groups. This adjustment in the assessment process can disclose health differences between population groups that are addressed through changes in policy, programs, or practices.
>
> WHO (2013). Handbook on health inequality monitoring: with a special focus on low-and middle-income countries. Geneva: World Health Organization. Retrieved from: www.who.int

The 2014 *Advancing Health Equity* report[1] expands understanding in Minnesota of what constitutes and what influences health. The report summarized a growing body of literature that asserts that health is not the product of individual behaviors and choices alone, but is determined as well by the influences of social and community networks, living and working conditions, and policies, systems and environments.[2] When health disparities are present, their cause may be due to inequities in the conditions that create health. Without addressing these inequities, it becomes impossible to eliminate health disparities and advance health equity.

What are health inequities?

The language of health equity and the various terminology used to describe these phenomena can be confusing. Below are the key concepts of health equity that are commonly used by the Minnesota Department of Health and are referenced in this Data Guide.

Health disparity

A health disparity is a population-based *difference* in a health outcome or health risk behavior. This definition is merely a mathematical comparison; it says nothing about any possible *causes* of such a difference in health.

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[1] Minnesota Department of Health, "Advancing Health Equity in Minnesota: Report to the Legislature." 2014.

[2] These conditions in the community are sometimes referred to as the social determinants of health, especially in public health circles, but other phrases can be used to mean roughly the same thing, e.g., the conditions that create health, social and economic factors in the community, the opportunity to be healthy, what shapes health, etc. A multiplicity of terms is necessary to communicate the importance and scope of this approach to health and health equity to a wide range of audiences.

Health inequity

In contrast to health disparities, the concept of health inequity does include notions of causality. A health inequity is a difference (disparity) in a health outcome between more and less socially and economically advantaged groups that is *caused by* systemic differences in the social conditions and processes that determine health (i.e., social determinants of health). **Structural differences in opportunities to be healthy result in health inequities**. Health inequities, in other words, are socially determined; they are beyond the control of individuals. That means that they are avoidable and have the potential to be changed.

Inset 1: Health disparity vs. health inequity: an example

Male babies are generally born at a heavier birth weight than female babies. This is a health <u>disparity</u> - a simple mathematical difference. At a population level, this difference is unavoidable and is rooted in genetics; therefore, this difference is not a health <u>inequity</u>. On the other hand, babies born to Black women are more likely to die in their first year of life than babies born to White women. Differences exist between the health of Black and White mothers and babies even if Blacks and Whites are compared within the same income level (residual difference). Many scientists believe that racism experienced by Black women explains the residual difference in infant mortality. Regardless of income, racism creates stress, and too much stress creates a risk for mothers and babies. This health difference is a health <u>inequity</u> because the difference between the groups is unfair, avoidable and rooted in social injustice in the form of racism. Boston Public Health Commission, Center for Health Equity and Social Justice. http://www.bphc.org/chesj/about/Pages/WhatisHealthEquityDisparities.aspx

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To illustrate the difference between health disparity and health inequity, consider that women have higher rates of breast cancer than men. That health disparity is largely a result of genetic differences between males and females, and would not be considered to be unfair or unjust. However, African American women are more likely to be diagnosed at later stages of breast cancer and to die from this disease than White women, and these differences are unfair and unjust; these differences are health inequities. Another example of the difference between health disparity and health inequity can be seen in inset 1.

Health equity

Identifying health inequities is a necessary step to advance health equity. Health equity is a state where all persons, regardless of race, creed, income, sexual orientation, gender

identification, age or gender have the opportunity to reach their full health potential.[3] To achieve health equity, people need:

- Healthy living conditions and community space
- Equitable opportunities in education, jobs and economic development
- Reliable public services and safety
- Non-discriminatory practices in organizations[4]

The role of data for health equity

An expanded understanding of health and what creates health calls for a new approach to addressing health disparities and an expanded approach to public health data. Instead of focusing solely on disease and injury outcomes, or emphasizing health behaviors and access to health care, this new approach moves "upstream" to identify the conditions that are required if all people in the state are to be healthy. This expanded approach calls for:

- Looking not only at individuals *but also* at how health varies between groups of people.
- Looking not only at individual behavior *but also* at social and economic conditions.
- Examining the policies and systems that influence the environment for health.

Health equity can be advanced by using the knowledge gained from this expanded approach to educate potential partners who are involved in the design of systems and the allocation of resources – such as policy makers, community leaders, community members, advocacy groups, employers, schools, and health care organizations. Findings may support efforts to advocate for changes that will intentionally benefit populations that are experiencing health inequities.

To implement this expanded approach and incorporate the concept of what *creates* health, the questions asked about the health of populations must be broader than simply asking what actions individuals are or are not taking with regard to their health (i.e., health behaviors). A way to understand this new approach is to think about what the answers imply about what action is needed and who the actor is. For example, a traditional public health question might be:

Question 1: What behaviors contribute to/or reduce the risk of diabetes?

This familiar question focuses on individual lifestyle behaviors; based on the answers, the direction for action also will tend to be focused on individual behaviors (e.g., diet and exercise). To broaden the focus of public health to include social and economic factors, additional questions need to be asked. These questions are needed to engage a broader range of actors

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[3] Minnesota Department of Health, "Advancing Health Equity in Minnesota: Report to the Legislature." 2014.

[4] Washington State Department of Health, "Health Equity Review Planning Tool." 2014.

than just the individual to address the factors that have created health inequities. For example, questions that change the direction of action might be:

Question 1: What behaviors contribute to/or reduce the risk of diabetes?

AND

Question 2: What systems, structures and policies create the *conditions* in which some groups of people have higher rates of diabetes than other groups?

These questions help to identify which differences in health outcomes among populations are caused by inequitable conditions in the community. Health equity-based directions for action include **both** Questions 1 and 2. Question 1 still focuses on individual actions; Question 2 focuses on an expanded set of actors (e.g., community leaders and other government entities) and actions that involve living and working conditions, social class, community networks, and the policies and systems that shape the social, economic, and physical environments.

Organization of the Guide

This Guide serves as a starting point for action on health equity by documenting health inequities and their causes in Minnesota. The Guide does not go into the intricate details of actually conducting data analysis, nor is the framework laid out here intended to be the sole method for identifying health inequities. This also is not a Guide on how to *address* health inequities and their causes. (MDH will be developing an action guide to support local public health to move from analysis to action.) Rather, the Guide is intended to introduce health equity and inequity data-related concepts and provide a general framework for how to use data to identify health inequities and their causes.

The Guide is organized into the following sections:

    I.   Layers of Influence on Health: A Framework for Understanding, Identifying and Taking Action on Health Inequities

    II.   Process for Identifying Health Inequities

    III.   Data Challenges

    IV.   Moving from Analysis to Action

Layers of Influence on Health: A Model for Understanding, Identifying and Taking Action on Health Inequities

One of the key findings from the many studies that have examined the determinants of health is that biological factors and medical care contribute much less to health outcomes than do social and economic factors. These other factors, such as education, income, housing, social connectedness, and safe physical environments are what actually create the conditions in which health can flourish (or not). The relative impacts of various factors on health are illustrated in Figure 1 below.

Figure 1: Determinants of Health
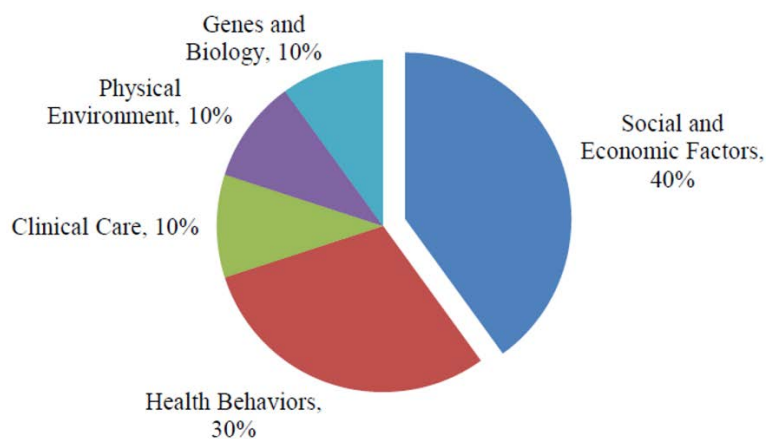
Source: Frameworks developed by Tarlov, 1999 and Kindig, Asada and Booske, 2008.

This section describes the conditions that create health in more detail using a model developed by Dahlgren and Whitehead (1991; see Figure 2). Since the fall of 2014, the Minnesota Center for Health Statistics (MCHS) has introduced the Dahlgren and Whitehead model to illustrate the use of data and data analysis in the advancement of health equity. The Dahlgren and Whitehead model of "layers of influence on health" has been cited many times in the literature on social determinants of health.[1] A more recent model or framework, developed by the World Health Organization (WHO), adds refinements to the "layers" identified by Dahlgren and Whitehead and shows interactions among the parts (see Figure 3, p. 9).

The use of a model is intended to illustrate that differences in health are due not just to differences in individual characteristics and choices but also to differences in larger social, economic and political forces. Both models illustrate that there are many factors that influence health and many pathways by which this influence occurs.

Figure 2: Dahlgren and Whitehead Model of the Layers of Influence on Health
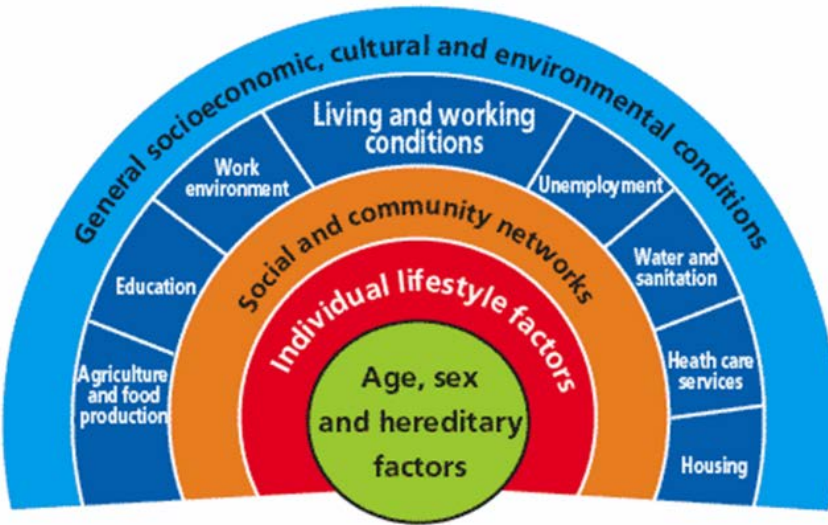
Source: Dahlgren and Whitehead, 1991

Layer Zero (green): Biological factors

"Layer Zero" includes the characteristics of individuals that are largely fixed and unchanging. Examples of these characteristics include genetic or hereditary factors, such as age, race and biological sex. [5] These characteristics are measured by **demographic variables** in most datasets, and frequently are used to create population categories for comparison purposes. Comparing these categories on other variables (such as health outcomes) is one way to identify populations experiencing health inequities. In public health, differences in health status or behavior are frequently identified by these population groups: e.g., causes of death by age, infant mortality by race, or alcohol use by sex.

Layer 1 (red): Individual behaviors and lifestyle factors

The individual is the focus of "Layer 1," which includes individual lifestyle factors such as attitudes and health behaviors (e.g., smoking, weight status, alcohol use, poor diet, or lack of physical activity). Traditionally, Layer 1 has been the primary focus of assessment activities in

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[5] NOTE: Race is almost always included among demographic variables; nonetheless it is important to understand that while based on biological factors (physical appearance, such as skin color or eye shape), there are no clear genetic distinctions among groups of people based on these characteristics. The categories of race are socially determined – in other words, these are not fixed categories but are defined differently from time to time and place to place. Gender is another category that is socially defined and currently in flux.

public health; Layer 1 factors frequently are examined by Layer Zero characteristics (e.g., smoking rates by race, obesity rates by sex, physical activity by age).

Layer 2 (orange): Social and community networks

"Layer 2" contains a set of socially-determined influences on health, including social and community networks (the network of family, friends and the wider social circles around the individual) and social class, gender, and race/ethnicity. Layer 2 refers to how individuals interact with other individuals, with their communities, and with the broader social structures and systems that shape opportunity. Concepts such as "social norms" (formal or informal rules of behavior that are considered acceptable in a group or society), efforts at social exclusion such as realities such as racism, sexism and other "isms," and factors such as "social cohesion" (the perceived connectedness between and among neighbors and their willingness to intervene for the common good) are found in this layer. Examples of these factors include: data that show that youth who live with someone who smokes or who have friends who smoke are more likely to be smokers themselves than youth who do not live in these circumstances; that Black women of the same educational and economic backgrounds as White women nonetheless have higher infant mortality rates, which studies have linked to chronic stress caused by consistent exposure to racism; or that women continue to earn, on average, less than men of the same social position because of gender bias in hiring and job classifications.

Layer 3 (dark blue): Material circumstances

"Layer 3" refers to the material and social conditions in which people live and work, which are represented by various indicators of housing, education, occupation, income, and employment. This layer also includes amenities such as public transportation, community spaces such as public squares, parks and beaches, facilities like running water and sanitation, and having access to health care and essential goods like food, clothing and fuel. Layer 3 factors can be used to begin to identify populations that may be experiencing health inequities (e.g., percent of the population living in poverty or in poor housing conditions); these factors may also be examined for how they intersect with health outcomes (e.g., income and diabetes).

Layer 4 (light blue): Policies, governance, culture, societal values, and environmental conditions

"Layer 4" refers to the policies, systems, structures, and environments that shape the other layers. These are the conditions that prevail in society as a whole and include vast interconnected processes such as economic activity, government policies and structural discrimination. Examples of these conditions might include:

▪ Home ownership: Federal, state, and local government housing policies, banking lending policies, realtor practices, and exclusionary zoning laws have been shown to support segregation, which in turn can impact health.

- Hiring practices: Practices that employers use to recruit, train and promote workers can increase or decrease health disparities.
- Family-friendly policies: paid leave, flexible work hours, pay equity and childcare subsidies all improve the health of children, families and communities.
- Collective bargaining: Structures that discourage effective worker organizing can impact workers' income, benefits and other conditions of employment that can improve conditions for health.
- Workplace policy: The health of women and children is affected by policies that strengthen workplace protections and provide flexibility for pregnant women and nursing mothers, expand employment opportunities for women in high-wage, high-demand occupations; reduce the gender pay gap through increased enforcement of equal pay laws.
- Immigration policy: The health of U.S.-citizen children of undocumented immigrants is negatively affected by a policy of immediate deportation that results in family separation and creates stress from the constant threat of parental deportation.
- Financial Policy: Decisions that govern banking, financial regulation, financial cybersecurity and other issues, may have an exclusionary impact for low income communities related to access to credit, savings, investment and other financial instruments essential for a family's financial stability. These policies can also help protection those most vulnerable from financial exploitative practices.
- Environmental Policy: Decisions about waste disposal and pollution often disproportionally affect particular geographic areas and populations, with negative impacts on the health of those populations more than others.
- Media: Media outlet decisions about which issues are newsworthy and how to portray different groups of people may affect how health issues in populations experiencing inequities receive attention.

The descriptions presented above suggest that there are clear distinctions between the layers and between the components of each layer. However, in real life these distinctions are not always so neat, and the direction of influence is not always clear. The layers of health and the health determinants interact in complex, interdependent and multi-directional ways. For example, low income is linked to higher rates of diabetes development AND diabetes is linked to lower income (people leave the workforce because they have diabetes).

Dahlgren and Whitehead Model

As mentioned above, the Dahlgren and Whitehead model was developed in 1991 and has been citied many times in the literature on social determinants of health. However, MDH has transitioned to using the more recent WHO framework in its discussions of health equity and of social and structural determinants of health (Figure 3).

While the Dahlgren and Whitehead model is easy to understand and visualize, and has contributed greatly across international communities to the expanding of understanding in public health of the factors that create health, it is not without limitations. The greatest challenge or limitation of the Dahlgren and Whitehead model is that it is rooted in an individual

frame: it begins with the individual and individual outcomes, and looks at the other factors as layers of influence on the *individual*. This means that it is not as helpful for understanding population-level health inequities, except as aggregate outcomes of individuals. The model also does not really show order or relationships among the various factors, i.e., which factors are more powerful, and thus does not give an clear indication of where interventions could or should be focused.

Figure 3: WHO Conceptual Framework of Structural Determinants of Health
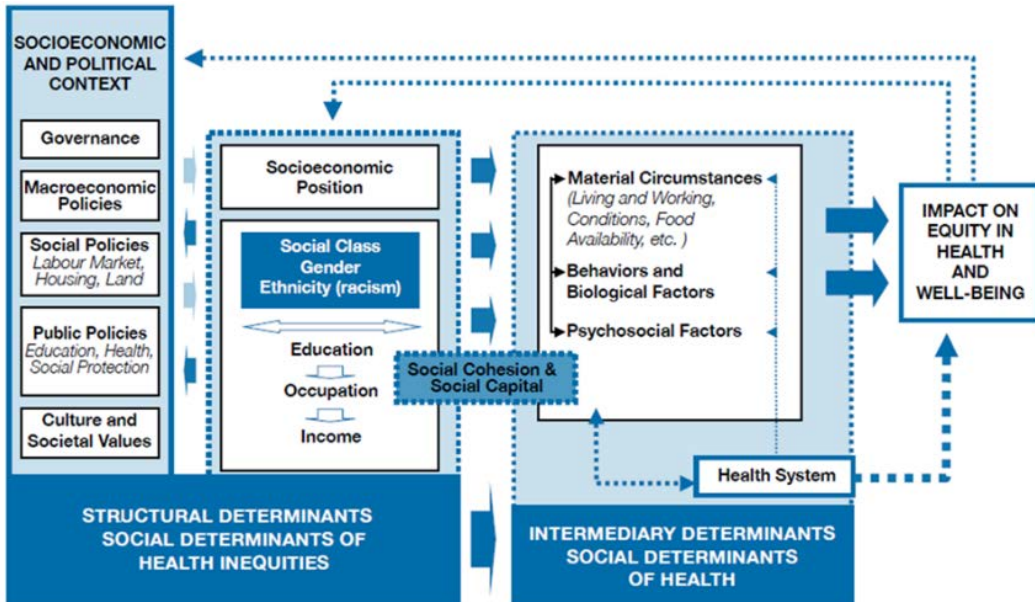
Source: WHO/Solar and Irwin, 2010

WHO Conceptual Framework

The WHO "conceptual framework for action on the social determinants of health" was developed in 2007. The WHO conceptual framework is a logic model that traces health inequities back from "health-compromising conditions" (e.g., living and working conditions) experienced by *populations* to the social, economic, and political factors that in essence "assign" groups to different socio-economic positions. According to the report,[1] "The framework shows how social, economic and political mechanisms give rise to a set of socioeconomic positions, whereby populations are stratified according to income, education, occupation, gender, race/ethnicity and other factors; these socioeconomic positions in turn shape specific determinants of health status (intermediary determinants), reflective of people's place within social hierarchies; based on their respective social status, individuals experience differences in exposure and vulnerability to health-compromising conditions." Another way to think about this is that people are not randomly poor; policy decisions are made that create poverty for some groups and provide benefits for others.

The WHO framework provides a much clearer impetus for action at the "macro-economic" level by tracing health inequities to these powerful forces. It can be helpful as a "map" for selecting indicators, for identifying where public health efforts are currently focused, and where public health could form partnerships to intervene and influence the socio-economic factors that shape health inequities across populations. It also more clearly calls out socio-economic position as a structural determinant of health inequities and social cohesion as a cross cutting factor.

The WHO framework challenges public health to move into new and less familiar territory and highlights the need for policy changes that impact the structural determinants of health inequities. It also clarifies the areas where the healthcare sector has the greatest influence on individual health outcomes.

The use of each of these models is intended to introduce concepts of the determinants of health in relation to data activities that are meant to advance health equity. The Dahlgren and Whitehead model is used in this Guide due to its greater familiarity among local public health practitioners. As the public health field becomes more familiar with the WHO model, future versions of this Guide will incorporate the WHO model more fully.

Process for Identifying Health Inequities

Engage the community[6]

A key component of any effort to identify health inequities is community engagement. The *Advancing Health Equity in Minnesota Report to the Legislature* recommends that public health in Minnesota build deep, meaningful relationships with populations affected by health inequities and create avenues for participation in public health decision-making processes for these populations. Local communities need to be engaged in all aspects of the effort to identify health inequities, including determining what data need to be collected and in planning and conducting the analysis, interpretation and application of the data. Community engagement will (1) increase awareness of health inequities, (2) ensure that the health inequities data are responsive to community needs, (3) create a sense of ownership of the data, and (4) facilitate a collaborative, equitable partnership in creating health equity policies, programs and practices.

Identify data sources

The "layers of influence" on health can be measured by using both *quantitative* and *qualitative* data. Layers Zero, 1 and 2 are often measured using quantitative data, while Layers 3 and 4 more commonly require qualitative data. Both types of data are essential to understanding health inequities. This section defines these different types of data and describes how they can be used to identify health inequities (Table 1).

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[6] For more help with community engagement, visit the MDH website: http://www.health.state.mn.us/communityeng/

Quantitative data

Quantitative data are those that express their results in *numbers*. They tell us the "who, what, where, when, how many, how much or how often." Examples of quantitative data are infant death rates, number of hours exercised or birth weight. These are the types of data that are usually used for statistical analyses. Common research methods used to collect quantitative data include surveys or census data collection.

Quantitative data are used to describe the size or *magnitude* of a health inequity. For example, quantitative data are used to describe the difference in diabetes prevalence between low income and high income populations.

Table 1: Examples of Qualitative and Quantitative Data

Quantitative	Qualitative
Deals with numbers such as counts or rates. Data which can be measured using numbers. Height, age, volume, weight, cost, etc.	Deals with descriptions. Data can be observed but not easily measured using numbers. Perception, cohesion, emotions, racism, etc.
Class of Students 672 students 394 girls and 278 boys 85.2% graduation rate	Class of Students Civic minded Environmentalists Positive school spirit

Many existing sources of quantitative data are available to local public health; see the Appendix for a list of existing sources, or visit the MCHS Data Guide website.

Qualitative data

Qualitative data yield results that cannot easily be measured by or translated into numbers. They tell us "the how and the why" and bring to life the "real" experiences of people. Qualitative data are often used in conjunction with quantitative data to help tell a more compelling story than could be accomplished with quantitative data alone. Qualitative data are essential to health equity because they have a rich tradition of giving voice to those who are experiencing inequities; they strengthen and provide context to quantitative data. For example, quantitative analysis may show that low income school children are more likely to suffer from asthma than higher income children. This finding could be illuminated by qualitative information gathered from focus groups or key informant interviews, learning that most low income families in the area live in substandard rental housing with roofs that leak when it rains, leading to mold growth that exacerbates the children's asthma. Further investigation reveals that some of these families have undocumented members, and so the leaking roofs will not be reported for fear of deportation and family separation. This additional qualitative information provides direction for actions to address this health inequity that the quantitative data alone could not, and provides valuable insight into what actions will have the most impact.

Qualitative data for the analysis of health inequities will likely have to be collected specifically for this purpose. Common qualitative research methods include key informant interviews, focus groups, document and artifact reviews, and observations. For more information on qualitative methods for data collection, see the MCHS Data Guide website.

Analyze data by the layers of influence: the steps

The "layers" described above help to identify the factors that influence health and to find data on these factors. The next stage in the process of identifying health inequities is to analyze these data, a process which involves five distinct steps, named here as **Connection, Population, Differences, Conditions** and **Causes**. These steps build on the work of other states, nations and organizations, and involve analyzing data from each of the "layers of influence" on health. There is no specified order in which these steps are to be completed, although the Connection, Population and Differences steps will almost certainly be completed before the Conditions and Causes steps. Still, the steps are not necessarily sequential: some steps may be worked on simultaneously or revisited.

Five Steps to Identify Health Inequities

Connection: Understanding the connections between social and economic factors and health

Population: Description of community and identification of populations that may experience health inequities

Differences: Description of health differences between population groups

Conditions: Description of the living conditions that create the health differences between population groups

Causes: Description of what causes differences in living conditions – policies, systems, structures

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The identification of health inequities should incorporate all of the "layers of influence" on health. The analysis will identify the differences in health outcomes between population groups

as defined by social and economic factors, and describe the broader policy and systems factors (the conditions and causes) that are significant contributors to those health disparities.

Identifying health inequities requires using both quantitative and qualitative data and analysis methods. Analyzing health inequities requires a process that actively engages the community and uses data to identify health differences between population groups instead of only examining the population as a whole. The process continues by identifying and examining the causes of these population differences in health.

> At its core, identifying health inequities involves recognizing when differences in health outcomes among population groups are rooted in social and economic conditions, and then working to determine which policy and systems factors are contributing to the differences in health outcomes, in order to change those conditions.

This is not an entirely new approach to data, but rather an enhancement of the data activities that have always been done in public health; it is a reframing of data activities to include all of the "layers of influence[7]" on health and to incorporate voices from the community that can speak to the social forces that shape opportunities in the community to be healthy. This reframing of data activities starts with the questions about the health of populations. For example, the traditional approach to public health data analysis might include initial questions such as:

Question 1: What is the overall diabetes rate in the jurisdiction? How has this rate been changing over time?

Question 2: What population groups in the jurisdiction have higher rates of diabetes than others?

This approach focuses on individual factors such as age, gender, geography and on occasion, other individual characteristics such as income or race/ethnicity. To identify inequities, the approach must move beyond these factors to identify and uncover the causes of differences in health that appear in ALL of the "layers of influence":

Question 1: What is the overall diabetes rate in the jurisdiction? How has this rate been changing over time?

Question 2: What population groups in the jurisdiction have higher rates of diabetes than others?

Question 3: **Why** do these groups have higher rates of diabetes than other groups?

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[7]CHBs are free to but not expected to refer to "layers" in the assessment of health inequities.

Question 4: What are the **conditions** that create the difference in diabetes between population groups?

Question 5: How do these conditions differ for different groups? How are these conditions created by policies or systems? Are these conditions **fair and equitable**?

Connection Step: Connecting health outcomes to conditions that create health

This step creates familiarity with and builds the capacity to describe the impact that a particular social or economic condition has on health, using research from the scientific community. For example, the Connection Step may describe how income levels influence health or how historical trauma affects the health of a community (inset 2). The information gathered from the scientific literature during the Connection Step will expand understanding of social determinants of health and lay a foundation for public policy making that assures the opportunity for health for all, and add credibility to arguments for changing programs and policies. This information can be used to guide further analysis and educate staff, stakeholders and community members. Completion of this step will help to explain to policymakers such as county boards why they should care about the conditions that create health. This step may be revisited as often as is needed.

   a. **Materials:** A wealth of information on the relationships among social and economic conditions and health is already available on the Internet and in the scientific literature. However, it is not intended that a lengthy literature review is needed every time an assessment of health inequities is conducted. MCHS Data Guide website can serve as a "one stop shop" for this background research.
   b. **Role of the Community:** For the Connection Step, the community should be involved in helping to determine on which conditions to focus efforts, to provide insight into the impact that social and economic factors have on the community's health, and to increase awareness and understanding of these issues in the community.

Inset 2: Examples of Research on Social and Economic Conditions and Health

Income and Health: Individuals and communities with higher incomes are more likely to have safe homes and neighborhoods, and have access to full-service grocery stores with healthy foods, safe spaces for physical activity, and high-quality schools (Marmot M 2001). As a result, those with higher incomes are more likely to live longer, healthier lives, while those living in communities of poverty face conditions that lead to poor health, including unsafe housing, lack of access to nutritious foods, less leisure time for physical activity, poorer education and more overall stress (Santa Clara County Public Health 2011).

Stress is another mechanism through which low income contributes to poorer health. Chronic stress from not having enough resources results in constant elevations of cortisol and adrenal hormones, which lead to chronic inflammation. (Seeman 2010). Chronic inflammation underlies most of the diseases of modern life, such as cancer, hypertension, diabetes, heart disease, and stroke. Low income during childhood is also correlated with poor cognitive and socio-emotional development (Cooper 2013) and poorer adult health (Cohen 2010).

Historical Trauma and Health: Populations historically subjected to long-term, mass trauma—colonialism, slavery, war, genocide—exhibit a higher prevalence of disease even several generations after the original trauma occurred. Understanding how historical trauma might influence the current health status of racial/ethnic populations in the U.S. may provide new directions and insights for eliminating health disparities (Sotero 2006).

Sources:
Income and Health

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Historical Trauma and Health

Sotero, M. "A Conceptual Model of Historical Trauma: Implications for Public Health Practice and Research." Journal of Health Disparities Research and Practice Vol. 1, No. 1 (2006): 93-108.

Population Step: Identifying populations likely to experience health inequities

In the Population Step, describe the community's demographics and identify populations that may be at risk of health inequities (e.g., characteristics found in Layers Zero and 3). For example, the population may be described by race or by measures of socioeconomic position such as income (e.g., percent of population by race/ethnicity or percent living in poverty). Use the expert knowledge of the community and staff, advisory groups and previous assessments such as the most recent community health assessment to determine which characteristics to use to identify populations that may experience health inequities.

   a. **Data:** The majority of the data used for the Population Step will be found in U.S. Census data, but may also be found in registry data (e.g., births by mother's country of birth), or rarely, in survey data. MCHS provides links to many of these data sources in the MCHS Data Guide website.
   b. **Role of the Community:** Community members should play a key role in describing the population and helping to determine which individual or community attributes to use to identify populations that may experience health inequities.

Differences Step: Looking for population-based differences in health outcomes

In this step, community health issues are analyzed by social and economic conditions from a health equity perspective. This step takes a second look at measures of health outcomes within the jurisdiction and determines if there are **differences in health outcomes between populations**. There is no expectation that the identification of health inequities needs to be conducted on all possible health outcomes or health behaviors. Rather, a place to start could be the "most important community health issues" identified in the community health assessment. Then use findings from the Population Step to determine which conditions to use to disaggregate health data to look for health outcome differences by populations. Alternatively, start with a health issue that has been brought up by community members or that local health department staff have noticed shows an interesting or concerning "trend" or difference in outcomes from local data.

Minnesota Community Health Boards – Community Health Assessment

Every five years, Minnesota's Community Health Boards are required to complete a community health assessment (CHA) that identifies and describes the health status of the community, factors in the community that contribute to health challenges, and existing community assets and resources that can be mobilized to improve the health status of the community. This assessment is then used to develop a list of the most important community health issues, which is submitted to MDH. These are the health issues to analyze from a health equity perspective first. For more information on how to conduct a community health assessment, go to **MDH OPI Community Health Assessment Training Website**.

For this step, several types of intersecting data elements are required, ideally from within the same dataset:

- Measure(s) of health or health behavior (e.g., diabetes, physical activity); and
- Social factors and/or material circumstances (e.g., race/ethnicity, income).

Figures 4, 5 and 6 are examples of using chronic disease data to analyze health outcomes and health inequities (Figures 5 and 6 only). All three presentations of data provide insight into diabetes prevalence in Minnesota. The data in Figure 4 indicate that, as of 2010, the prevalence of diabetes has been increasing over time in the Minnesota adult population as a whole. However, the data in Figure 4 do not give us any indication of **who is more affected** by diabetes, i.e. whether there are population-based differences in diabetes. The data in Figure 5, in which the prevalence of diabetes is broken down by income, reveal a sizeable health inequity in the current (2010) prevalence of diabetes in Minnesota. Figure 6 provides yet another perspective on diabetes. This figure reports on diabetes mortality rates by race/ethnicity. The chart indicates that American Indians and African Americans are two to four times more likely to die due to diabetes than Whites. The information in Figures 5 and 6 provide public health professionals with an understanding of the burden of diabetes as borne by people in different income and racial groups, and begins to identify priority areas for diabetes programming.

It is critically important to be able to examine data at the right level of disaggregation to be able to identify and understand health inequities. When studying health inequities, the data elements on social and economic factors should be measured in as granular a form as possible. For example, diabetes prevalence by income AND race would provide an even fuller picture of diabetes in the state, since one could see which racial groups are more likely to both be poor AND suffer from diabetes. Such analyses would be ideal for policy purposes, but can be difficult to achieve due to the data limits imposed by same-source availability and small numbers.

Figure 4: Health Status Indicator for entire population:	**Figure 5: Identification of Health Inequity by income:**
Diabetes among all Adults, Minnesota 2004-2010	**Diabetes among Adults by Income Level, Minnesota 2010**

Have you ever been told by a doctor that you have diabetes?

Percent — 2004: 5.0, 2005: 5.8, 2006: 5.7, 2007: 5.7, 2008: 5.9, 2009: 6.4, 2010: 6.7 (Year)

Have you ever been told by a doctor that you have diabetes?

Percent — Less than $15,000: 19.1, $15,000-24,999: 9.4, $25,000-34,999: 8.2, $35,000-49,999: 6.7, $50,000+: 4.4 (Income Category)
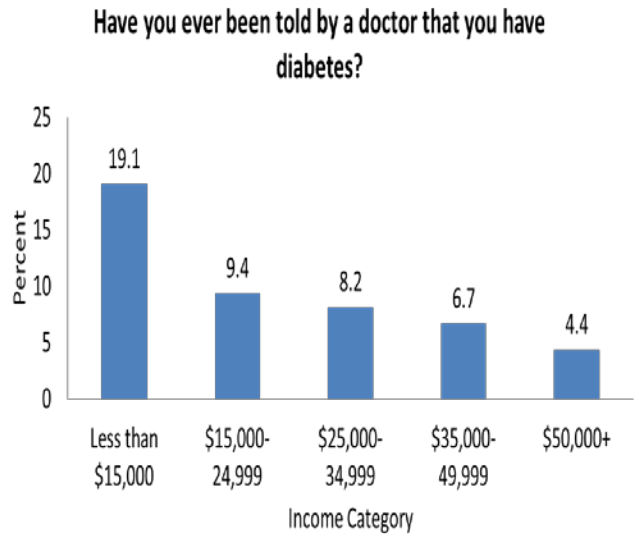
Source: CDC BRFSS, www.cdc.gov/brfss, prevalence and trend data

Figure 6: Identification of health inequity by race/ethnicity:

Age Adjusted Diabetes Mortality Rate per 100,000 population, Minnesota 2009-2013

Rate per 100,000 — African American: 31.0, American Indian: 67.2, Asian: 27.1, Hispanic*: 27.6, White: 17.7
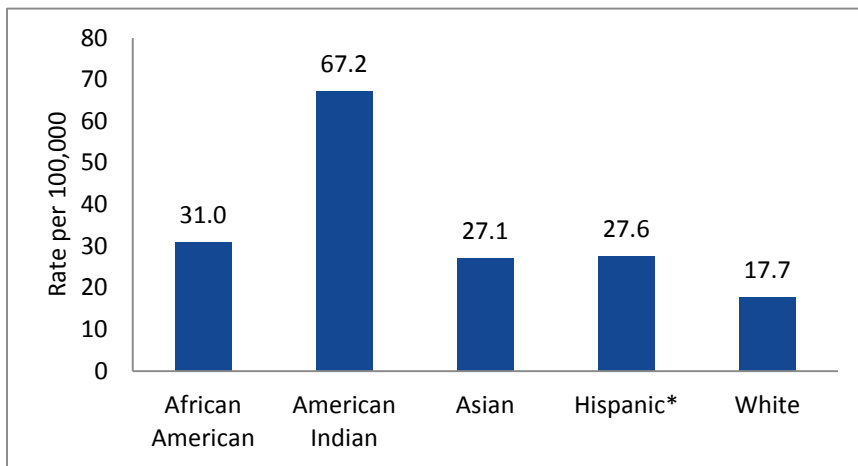
Another part of the Differences Step is the analysis of individual factors found in Layer 1 (such as health risk behaviors) by the same selected social and economic factors, to look for links to the observed population-based health outcome difference. The process is the same as that used to produce Figures 5 and 6 above, except with the health behavior or other individual level factor in place of the health outcome.

a. ***Data:*** Ideally, data used for the Differences Step come from a single data source such as a local survey, vital statistics or another public health surveillance system. Because these data are often very specific to a jurisdiction, these data analyses are not usually available in static (existing) reports such as the MCHS-produced County Health Tables (although some agencies have been able to produce data books from their local survey data that may contain these results). Instead, the types of data analyses seen in Figures 5 and 6 but conducted with *local* data will likely need to be run specifically for the local health department. A local jurisdiction *may* have the capacity to run these analyses themselves using vital records or local survey data. If not, these analyses will need to be obtained through special requests to MCHS. To request special data analyses, go to the [MCHS Data Guide website](). Contact MCHS staff first to discuss analysis needs.

b. ***Role of the Community:*** Similar to the Population Step, knowledgeable community members are likely to have a personal and experiential awareness of the health challenges faced by certain populations. Use this expert knowledge to help determine what health areas and social and economic conditions to include in the Differences Step. Expert knowledge of the community can also be used to supplement available data. Considering the three-way analysis of income, race and diabetes mentioned above, if race data cannot be obtained from the same data source as diabetes and income data, then community knowledge of which racial groups are more likely to be poor can provide additional evidence to support the argument.

Inset 3: Example: **Connection, Population and Differences** Steps

Scenario: A community member is concerned about the increasing number of fellow community members being diagnosed with diabetes. She asks her local public health agency to investigate this apparent increase in diabetes. While local survey data are only available for one year, state level data confirm her suspicion: the overall diabetes prevalence among adults in the state is trending upward.

Inset 3: Example: **Connection, Population and Differences** Steps

- Extensive, existing research indicates that the risk factors for diabetes include genetics, age, sedentary lifestyle, diet, weight and stress (Connection Step).
- Existing studies also show that those living in communities of poverty are more likely to face conditions that lead to poor health than residents of higher income communities, including unsafe housing, lack of access to nutritious foods, less leisure time or access to opportunities for physical activity, poorer education and more overall stress (Connection Step).
- As a result of these differences in living conditions, low income populations are more likely to have more chronic conditions (including diabetes) than higher income populations (Connection Step).
- Existing studies indicate that diabetes also has an influence on income, where those who have diabetes are more likely to leave the workforce that those who do not (Connection Step).
- The demographic profile of the county reveals that the low income population is the largest population at risk of health inequities in the county: 23% of the adult population of the county lives below poverty (Population Step, via US Census data found in the CHTs).
- Low income adults in the county are more likely to report having diabetes than adults with higher incomes (Differences Step, via local survey data).
- Further analysis on health risk behaviors reveals similar patterns of variation with income: Low income adults in the county are more likely than higher income adults to be overweight or obese, to smoke cigarettes, to eat fewer than 5 fruits/vegetables per day, and to not meet guidelines for physical activity than higher income adults (Differences Step, via local survey data).

The next steps are to:

- Identify **differences in the living and working conditions** that contribute to the population-based health and individual level (e.g., health risk behavior) differences that the Differences Step reveals (Conditions Step); and
- Determine the **policies and systems** that contribute to differences in those living and working conditions (Causes Step).

Conditions Step: Linking social and economic conditions to differences in health outcomes

The Conditions Step moves beyond individual explanations for differences in health and focuses on Layers 2 and 3, describing material circumstances such as education, work environment, unemployment, health care services or housing, and the social and community networks that create differences in health outcomes by population group. This step focusses on determining what it is about the living and working conditions in the jurisdiction that result in different health status or health behaviors between populations.

For the Conditions Step, one can either start with a specific health outcome (e.g., diabetes) or a general health outcome (e.g., poor health). The decision to focus on a specific outcome will depend on the purpose of the analysis. If identifying health inequities is a part of an overall community health assessment or to educate stakeholders on the determinants of health, a good starting point is general health outcomes (e.g., poor health). If identifying health inequities is part of an assessment for a program, then a good starting point may be a specific condition (e.g., diabetes). It may be useful to review what was learned in the Connections Step at this point. The focus of the example above is to find out *what is it about being low income* that makes people more at risk for poor health, but not specifically what makes low income people at more risk for *diabetes*.

a. ***Data:*** The Conditions Step uses both quantitative and qualitative data. Quantitative data sources could include the U.S. Census, the American Community Survey (ACS), and state and local surveys. Qualitative data could include focus groups with community members and interviews with community leaders. Qualitative data are essential for this step, since acquiring quantitative data for this step can be cumbersome and very time consuming (especially when using sources like the U.S. Census and the ACS). For more information on data sources, go to the [MCHS Data Guide website](#).

b. ***Role of the Community:*** People from the community who have personally experienced or have been on the front lines of health inequities can be identified so as to contribute some perspective in their own words in one-on-one interviews or focus groups, or through other forms of expression such as articles, blogs, documentaries or drawings. Community members, leaders and advocates, or public sector employees can provide spoken, written or visual stories that provide powerful illustrations of poverty, social exclusion and denied opportunities that they have experienced or observed. Community members should also be involved in determining who should be included in the qualitative data collection as well as the types of questions that should be asked during the data collection process.

Inset 4: Example, cont.: **Conditions** Step

Results from several focus groups of community members provide insight into the survey results about differences in eating habits and physical activity between low and high income populations. The focus group results indicate that:
- Access to full-service grocery stores is very limited in the low income community.
- Employment opportunities that provide consistent hours, employee benefits (e.g. health insurance, low co-pays), or a living wage for most workers are limited for low income workers, leading to lower lifetime economic success. Inconsistent work hours also make it difficult for low income residents to establish regular habits for physical activity and preparing nutritious meals.
- Youth in low income neighborhoods have fewer positive education experiences and less educational success, lowering their economic and health potential.

Inset 4: Example, cont.: **Conditions** Step

- Low income residents experience high levels of stress due to the constant shortage of money and unhealthy living situations.
- Opportunities for physical activity are limited in the low income community due to the perception that neighborhoods and parks are unsafe and that sidewalks are not well-maintained.
- Community norms in low income communities encourage a diet high in fat and carbohydrates.

Causes Step: Recognizing the causes of unjust conditions

The Causes Step describes the *causes* of the differences in material circumstances that lead to the observed differences in health outcomes; e.g., what causes some people/populations to be low income and others to prosper socially and economically? These higher level factors are found in Layers 3 and 4 and create inequitable living and working conditions. The point of this step is to determine what structural barriers create inequitable economic and social conditions. These structural barriers can include laws, organizational policies, and community norms, things which are ordinarily beyond the control of individual people.

Questions for this step include:

- Are or have certain populations been treated differently in the community/county/state/ nation by social institutions or other population groups? Are or have certain groups been consistently excluded from the life of the community and from decision-making processes?
- What organizational/local/state/federal policies, laws and systems created and/or are *sustaining* these differences? What inequities are currently *built into* processes and systems?

    a. ***Data:*** Data for this step are mainly qualitative, including document reviews and focus groups or interviews with policy makers, community leaders, business leaders and other key stakeholders. For more information on qualitative data sources, go to the MCHS Data Guide website.
    b. ***Role of the Community:*** As with the other steps, community members should be involved in the selection of key informants and the development of data collection instruments. They will also be a critical source of information about structural barriers that community members regularly encounter that contribute to the differences in living and working conditions. People who have lived in the community long enough to know what brought about the health inequities can provide a historical perspective on health issues of particular interest to the jurisdiction.

Inset 5: Example, cont.: **Causes** Step

- Interviews with community members and key business leaders indicate that certain populations in the community have more difficulty getting loans to start up their own small businesses, and that practices such as setting low prices undercut the success of small businesses in the area, thus contributing to the lack of economic opportunity in the community.
- A review of zoning laws and interviews with key business leaders indicates that lending practices and zoning laws discourage investment in small businesses and infrastructure in certain areas of the community, reducing access to economic opportunity as well as limiting the resources necessary for healthy living (e.g., full-service grocery stores).
- A review of school levies indicates that funding for schools is not evenly distributed within the county, with lower income neighborhood schools receiving less financial support than higher income neighborhood schools.
- A review of school district policies indicates that no formal anti-bias policy is in place and teachers have not received cultural competency training.

Summary: The example for identifying health inequities first revealed that almost one quarter of the population lives in poverty and that the low income population is more likely to have diabetes than those with higher incomes. Existing research indicated that while individual behaviors (e.g. poor diet, lack of physical activity) are determinants of poor health, other determinants also contribute to differences in diabetes prevalence between populations, including lack of access to nutritious foods, poor educational opportunities, fewer employment prospects, poor housing conditions and financial distress. Further analysis revealed that the differences in education, employment, housing and access to foods are, in part, due to policies and systems that have created inequitable opportunities. The results from this effort to identify health inequities can be used to inform decision making, improve practice, change policy and change the community narrative about what creates health. For this example, programs may be expanded beyond addressing individual behaviors, and policies regarding employment or housing could be re-structured.

Table 2 below summarizes the five steps to identify health inequities, the layer(s) of influence on health that each step corresponds to, data sources, and examples of questions to ask.

Table 2: Summary of the Five Steps to Identify Health Inequities

Step	Definition	Layer	Data Sources	Example Question	Example of Findings
Connection	Understanding the connections between social and economic factors and health	All layers	Existing scientific literature and research	What is the relationship between income and health?	Extensive, existing research indicates that the risk factors for diabetes include genetics, age, sedentary lifestyle, diet, weight and stress. Existing studies also show that those living in communities of poverty are more likely to face conditions that lead to poor health than higher income residents, including unsafe housing, lack of access to nutritious foods, less leisure time for physical activity, poorer education and more overall stress. As a result of these differences in living conditions, low income populations are more likely to develop chronic conditions (including diabetes) than higher income populations. Existing studies indicate that diabetes also has an influence on income, where those who have diabetes are more likely to leave the workforce that those who do not.
Population	Description of community and identification of populations that may experience health inequities	Zero and 3	Census, local survey, vital statistics	How is the population in my county distributed by income level?	The demographic profile of the county reveals that the low income population is the largest population likely to experience inequities: 23% of the adult population of the county lives below poverty.

Differences	Description of health differences between population groups	Zero, 1 and 3	Health surveys, vital statistics, other health surveillance systems, program data	How do diabetes rates differ by income group in my county?	Low income adults in the county are more likely to report having diabetes than adults with higher incomes. Further analysis on health risk behaviors reveals similar patterns of variation with income: Low income adults in the county are more likely than higher income adults to be overweight or obese, to smoke cigarettes, to eat fewer than 5 fruits/vegetables per day, and to not meet guidelines for physical activity than higher income adults.
Conditions	Description of the living conditions that create the health differences between population groups	2 and 3	Qualitative data such as focus group findings	What is it about being poor in my county that increases the likelihood of the poor suffering from diabetes?	Community norms in low income communities encourage a diet high in fat and carbohydrates. Access to full-service grocery stores is very limited in the low income community. Employment opportunities that provide consistent hours, employee benefits (e.g. health insurance, low co-pays), or a living wage for most workers are limited for low income workers, leading to lower lifetime economic success. Inconsistent work hours also make it difficult for low income residents to establish regular habits for physical activity and preparing nutritious meals. Youth in low income neighborhoods have fewer positive education experiences and less educational success, lowering their economic and health potential. Low income residents experience high levels of stress due to the constant shortage of money and unhealthy living situations. Opportunities for physical activity are limited in the low income community due to the perception that neighborhoods and parks are unsafe and that sidewalks are not well-maintained.

Causes	Description of what causes differences in living conditions – policies, systems, structures	3 and 4	Qualitative data such as document reviews or policy analysis	Why are some neighborhoods in my county poor while others are thriving? What forces contribute to and sustain these neighborhood conditions?	Interviews with community members and key business leaders indicate that certain populations in the community have more difficulty getting loans to start up their own small businesses, and that practices such as setting low prices undercut the success of small businesses in the area, thus contributing to the lack of economic opportunity in the community. A review of zoning laws and interviews with key business leaders indicates that lending practices and zoning laws discourage investment in small businesses and infrastructure in certain areas of the community, reducing access to economic opportunity as well as limiting the resources necessary for healthy living (e.g., full-service grocery stores). A review of school levies indicates that funding for schools is not evenly distributed within the county, with lower income neighborhood schools receiving less financial support than higher income neighborhood schools. A review of school district policies indicates that no formal anti-bias policy is in place and teachers have not received cultural competency training.

A health equity approach to data analysis does not *ignore* the individual factors that contribute to health, but focuses significant attention on the social and environmental conditions found in Layers 2, 3 and 4 because of the even greater potential influence of these conditions on health. This does not replace current data analysis methods, but rather builds on them, expanding the analysis to include the outer layers of influence to gain a more complete understanding of the factors that determine health. It uncovers the differences in health outcomes between populations according to socio-economic and demographic variables (Connection, Population and Differences Steps) and identifies causes of these differences (Conditions and Causes Steps). This expansion of the scope of data analysis will improve public health practice by identifying and tracking health differences **AND** the conditions that cause these differences, providing evidence to strengthen policies, programs and practices.

Data Challenges

As with other types of health assessment, identifying health inequities can present a number of challenges.

Some social and economic factors are difficult to measure

Some factors used to identify health inequities are very difficult to measure (e.g. racial exclusion, discrimination, historical trauma and social connectedness). A first step to measuring these factors is to understand the concepts. MCHS has provided definitions and examples of these factors on the MCHS Data Guide website. A second step could be to include questions about discrimination, historical trauma and social connectedness in local surveys or in qualitative methods of data gathering (e.g., focus groups and key informant interviews).

Data are not available for the jurisdiction

Oftentimes, when intersecting social and economic conditions and health data are not available for a specific geographical area such as a county, data from another county, the state or even the nation can be used to help describe the likely health inequities in a geographical area. For example, the questions about tobacco use in most local surveys do not go into much depth. However, the Minnesota Adult Tobacco Survey (MATS) and the Minnesota Youth Tobacco Survey (MYTS) both provide results that are much more specific to tobacco use in Minnesota, such as the social influence results mentioned earlier. Results from these surveys are only available at the state level. Data from a different geography can be used by stating the other geographic entity's experience and then describing how this might be similar for the local geographic region based on data on social and economic factors and, if possible, health data.

The number of events for my community is too small to report

When analyzing health issues using measures of social and economic factors, rates will frequently need to be suppressed because of small numbers of health events or respondents, especially when trying to look at sub-populations (e.g., breakdowns by race/ethnicity). To avoid suppressing rates, one can:

a) Aggregate years and/or geographical regions (e.g. counties) to achieve bigger numbers of events or respondents

b) Aggregate categories (e.g., for education combine the "bachelor's degree" and "graduate or professional degree" categories)

c) Report counts of events, not rates

d) Seek an alternative health measure (e.g., report on low birth weight instead of infant mortality) or factor (e.g., use educational status of mother instead of race).

e) Use qualitative data

Suppressing Rates

MCHS recommends suppressing (not publishing) rates with less than 20 events (e.g., infant deaths) in the numerator. Rates based on a small number of events can fluctuate widely from year to year for reasons other than a true change in the underlying frequency of occurrence of the event. Thus a rate based on a small number of events can be misleading, especially when compared from year to year or county to county. For example, from 2010 to 2011 the African American infant mortality rate for Minnesota County A went from 5.6 to 12.6, a 127 percent increase. The increase in the rate is rather alarming until one sees that the number of infant deaths went from 2 to 4.

For survey data, MCHS recommends not reporting results when the unweighted number of respondents that an estimate (percentage) is based on (i.e. the denominator) is less than 30. Survey estimates tend to be unstable when the number of respondents is less than 30.

I need HELP with data!!!!

Technical assistance on the identification and analysis of health inequity data is available through MDH Center for Health Statistics (http://www-dev.health.state.mn.us/divs/chs/healthequity/guide/index.htm). For over 15 years, MCHS has worked closely with local public health agencies and communities to improve skills in the analysis and interpretation of data through formal data groups, one-to-one consultations and periodic trainings. MCHS has initiated activities with these data groups to build a common understanding of the concepts of health inequity, health disparities and the social and economic factors that create health.

Moving from Analysis to Action

Disseminating results

Health inequities results are unlikely to result in policy change unless the findings are disseminated effectively. This can be accomplished using a variety of formats such as a report, executive summary, fact sheet, news release, poster, or oral presentation, and through various channels such as mailings, websites and listservs, staff meetings, community forums, town hall meetings, social media, and more traditional media such as television, radio, newspaper, and newsletter.

Moving to action

In 2015, Minnesota Commissioner for Health, Edward Ehlinger proposed a Triple Aim of Health Equity. It provides a framework that calls for action to:

- Expand the understanding of what creates health.
- Take a "health in all policies" approach, with health equity as the goal.
- Strengthen the capacity of communities to create their own healthy future.

The Minnesota Department of Health intends to develop an action guide to support local public health to move from analysis to action. This next section uses the Triple Aim of Health Equity framework to give a glimpse into action that could result from the identification of health inequities.
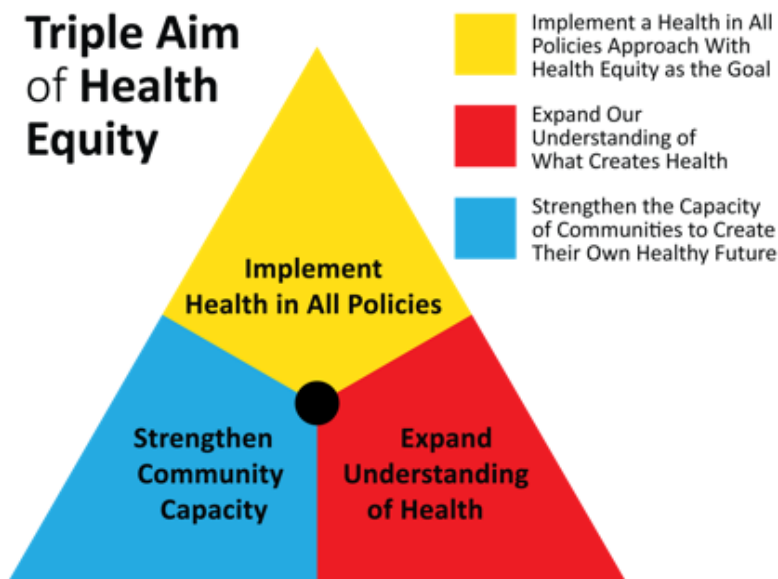
Expanding the understanding of what creates health: sharing findings

Results from an analysis to identify health inequities can help tell a story of the factors that create health and local health inequities, and why addressing these factors are important to public health. Health equity can be advanced by using the knowledge gained from identifying health inequities to educate potential partners who are involved in the design of systems and the allocation of resources – such as policy makers, community leaders, community members, advocacy groups, employers, schools, and health care organizations – and to advocate for changes that will intentionally benefit populations that are experiencing health inequities. This is especially important when recommendations resulting from an analysis may require collaboration in order to strengthen the conditions that create health for all. Thus, the results of an analysis to identify health inequities must be shared with partners and key stakeholders, and questions posed to engage those present in considering ways to address those inequities.

Questions to consider:

- Who should the information collected in the analysis be shared with?
- What is the best format to share this information?
- Whose interests are served if the information is not shared?
- How is the information being shared with all those who helped during the analysis process?
- How is this information being shared with the populations experiencing the health inequities?
- For SHIP Grantees – how is this information being shared with your Community Leadership Team?

Building the capacity of communities to create their own healthy future

Although a first step in building the capacity of the community is to share the information collected during the analysis with the communities experiencing health inequities, this is only a prelude to further action. Relationships built during the development of the analysis can provide the foundation for new partnerships moving forward. Be listening during the analysis phase for potential new partners and solutions that the community may generate.

Socio-economic position – addressing the connection between Layer 1 and Layer 3

Communities who are able to influence decisions to have positive impacts on their living conditions are healthier. The Public Health Accreditation Board calls for community engagement and cites benefits such as strengthened social engagement, social capital, trust, accountability, and community resilience. Local public health departments could consider action to enhance the inclusion of the population experiencing inequities in local decision making or to foster the formation of new and strengthened relationships – moving communities from exclusion to inclusion.

Questions to consider:

- How can the populations experiencing the health inequity be engaged in developing solutions?
- Are there ways to connect the populations experiencing health inequities into decision-making arenas? A county board? A hospital health assessment and improvement plan? A school board?
- How can local public health departments intentionally support populations experiencing health inequities to build trusting relationships with others in the community?
- How can local public health departments intentionally support moving communities from exclusion to inclusion?
- What is the role of local public health departments in addressing the marginalization of specific racial, socio-economic or newcomer groups?
- For SHIP Grantees – does the Community Leadership Team include representatives from communities experiencing health inequities? Does it include members who know how to advocate for policy changes? Are relationships being built among members so that new partnerships to advance policy might be formed?

Health in all policies

It may be that the most powerful way that inequities can be addressed is through policy change. Policy change can happen at many levels –a law, ordinance, resolution, mandate, regulation or rule. Policies can help set the conditions for health. The health impact may be easy to understand – for example, how smoking bans in restaurants reduces lung cancer, seat belt requirements reduce injury and death, or the Clean Water Act keeps water safe for human consumption. But the health impact of other policies may be harder to "see" but may be just as or more powerful – for example minimum wage standards, affordable housing accessibility, subsidies for commodity crops, policy setting boundaries for lending practices.

Local policy – Addressing the connection between Layer 3 and Layer 1

Local public health agencies that are also SHIP grantees are familiar and practiced advocates of policy changes within a local jurisdiction. SHIP strategies can be employed that address a material circumstance (Layer 3) for the population experiencing the health inequity. For example, are farmer's markets being located to increase the access of low income communities to healthy foods? Are workplace wellness strategies being implemented in workplaces that employ immigrant and refugee workers?

Questions to consider:

- Is there an existing SHIP activity that would change the material circumstance of the impacted population?
- Are the people from the impacted population being involved in the choice and implementation of a strategy?
- Is there an additional strategy or activity that would change the material circumstance of the impacted population? For example: would a paid parental leave increase breast feeding rates and in turn reduce obesity?

Structural drivers - macroeconomic social and public policies – Layer 4

While community level material conditions can be addressed, these are driven by larger forces from Layer 4. The analysis to identify health inequities will undoubtedly identify larger policy changes that need to happen to create stronger conditions for health such as improved high school graduation rates, affordable housing, increased income, and greater access to jobs and transportation.

To address these policies, a local public health department does not have to organize a whole campaign, but departments can consider how to bring a health lens to these campaigns and discussions. Departments need to be strategic in choosing issues to address – they can consider where there are current campaigns and make connections with potential partners to address these larger structural conditions that create health inequities.

Question to consider:

- Who are the coalitions or partnership that are working to influence larger policy change?
- Are members of a community leadership team providing connections to these coalitions or partnerships?
- How can a local public health department and its partners bring a health lens to these kind of policy discussions?
- How are local public health departments building bridges that connects local concerns to broader policy efforts?

Monitoring

The process of analyzing health inequities is ideally a continuous one. Monitoring is necessary to determine whether there is activity to address socio-economic position and/or structural drivers. And it this these steps have strengthen the conditions that create health. Examples of questions one might ask are: What social, economic and environmental determinants of health have been addresses? Have the social, economic and environmental determinants of health changed? How are populations that were excluded in the past now being included? Has disadvantage been reduced? Has the health of disadvantaged populations improved? Have health inequities between populations been reduced? What else is needed to create better conditions for health? This will require further data collection and analysis.

Looking Ahead

MDH is excited about the prospect of working with local public health departments and others as this health equity data guide process is piloted. There is a lot to learn from each other and Minnesota's communities that can enhance efforts to improve conditions for health and advance health equity.

APPENDIX

Selected Data Sources

U.S. Census – demographic data

      Census reporter: http://censusreporter.org/

      American FactFinder: http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

      MN County Health Tables:
      http://www.health.state.mn.us/divs/chs/countytables/index.htm

      MN Vital Statistics Interactive Queries (IQ):
      https://pqc.health.state.mn.us/mhsq/frontPage.jsp

      MN Public Health Data Access Portal: https://apps.health.state.mn.us/mndata/

Minnesota vital records

      MN County Health Tables:
      http://www.health.state.mn.us/divs/chs/countytables/index.htm

      MN Vital Statistics Interactive Queries (IQ):
      https://pqc.health.state.mn.us/mhsq/frontPage.jsp

      MN Public Health Data Access Portal: https://apps.health.state.mn.us/mndata/

      MCHS analysis request: healthstats@state.mn.us

Local health behavior survey, e.g. SHIP-funded

      Local health survey data book (if created)

      MCHS analysis request: healthstats@state.mn.us

Behavioral Risk Factor Surveillance System (BRFSS) – statewide results

      CDC BRFSS website: http://www.cdc.gov/brfss/brfssprevalence/index.html

      MCHS analysis request: healthstats@state.mn.us

Minnesota Student Survey (MSS)

MCHS MSS webpage: http://www.health.state.mn.us/divs/chs/mss/

MCHS analysis request: healthstats@state.mn.us

Infectious disease surveillance

MDH infectious disease summaries:
http://www.health.state.mn.us/divs/idepc/newsletters/dcn/index.html

Community Commons

http://www.communitycommons.org/

Links to these data sources can also be found at the MCHS Data Guide website at
http://www.health.state.mn.us/divs/chs/healthequity/guide/index.htm.