

# **HEDA: Conducting a Health Equity Data Analysis**

**A GUIDE FOR LOCAL HEALTH DEPARTMENTS IN MINNESOTA**

**VERSION 2.1**

HEDA: CONDUCTING A HEALTH EQUITY DATA ANALYSIS  
A GUIDE FOR LOCAL HEALTH DEPARTMENTS IN MINNESOTA

**HEDA: Conducting a Health Equity Data Analysis:  
A guide for local health departments in Minnesota, version 2.1**

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<sup>1</sup> Sudbury & District Health Unit (2011). *10 promising practices to guide local public health practice to reduce social inequities in health: Technical briefing*.

<sup>2</sup> Sudbury & District Health Unit (2009). *Overview of the health equity mapping project: A report on process, results and recommendations for practice*.

<sup>3</sup> Patychuk, D and Seskar-Hencic D (2008). *First Steps to Equity Ideas and Strategies for Health Equity in Ontario 2008-2010*.

<sup>4</sup> Commission on Social Determinants of Health. (2005). *Towards a conceptual framework for analysis and action on the social determinants of health*.

<sup>5</sup> Whitehead, M., Dahlgren, G., & Gilson, L. (2001). Developing the policy response to inequities in health: a global perspective. *Challenging inequities in health: From ethics to action*, 309, 323.

<sup>6</sup> World Health Organization. (2010). *A conceptual framework for action on the social determinants of health*.

## 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.” (World Health Organization, 2013).*

### The role of data in advancing health equity (HEDA)

Addressing health inequities requires local public health to work differently than in the past. This includes adopting a new approach to community health assessment that will expand the understanding of what creates health. This new approach to community health assessment moves beyond individual determinants of health (e.g., health behaviors and access to health care) to also identify larger structural conditions (e.g., living and working environments, social class, policies, and systems) that affect health. The **Health Equity Data Analysis (HEDA)** is a health assessment process that incorporates this new approach. Specifically, a HEDA calls for:

- Looking not only at overall health outcomes but also at how health varies between population groups within a jurisdiction such as a county
- Looking not only at individual behavior but also at social and economic conditions that impact health
- Examining the policies and systems that influence health through those social and economic conditions
- Engaging populations that experience health inequities in the assessment process

A Health Equity Data Analysis (HEDA) identifies differences in health outcomes between population groups (as defined by social and economic conditions), and describes the broader policy and systems factors that are significant contributors to those health inequities (see [Appendix B in this document](#) for definitions of terms). The results of a HEDA will in turn provide direction for action to eliminate health inequities.

Analyzing health inequities requires a process that actively engages community members (including those experiencing health inequities) 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. Identifying the causes of health inequities requires the use of both quantitative and qualitative data collection and analysis methods.

This is not an entirely new approach to data, but rather an enhancement of the data activities traditionally completed by public health. It is a reframing of data activities to include all of the determinants of health. It incorporates voices from the community who can speak to the social forces that shape opportunities in the community to be healthy.

### Reframing data activities

Reframing data activities starts with **questions** about the health of populations. The traditional approach to public health data analysis might include initial questions such as:

- What is the overall diabetes rate in the jurisdiction? How has this rate been changing over time? What behaviors contribute to or reduce the risk of diabetes?
- What population groups in the jurisdiction have higher rates of diabetes than others?

- What health risk behaviors (those that contribute to diabetes) are more common in one group than in another?

These familiar questions focus on individual lifestyle behaviors; based on the answers, directions for action to reduce health disparities will also tend to be focused on individual lifestyle behaviors (e.g., diet and exercise programs). But in a HEDA, the questions asked about the health of a population must be broader than simply asking what actions individuals are or are not taking with regard to their health (e.g., “What behaviors contribute to or reduce the risk of diabetes?”).

To uncover the structural conditions that influence health, additional questions need to be asked about the systems, structures and policies that create conditions in which some groups of people have higher rates of diabetes than other groups. These new questions focus on living and working conditions, social class, and policies and systems as health determinants.

Examples of these questions would include:

- What living and working conditions contribute to the risk of diabetes?
- How are the living and working conditions of the community with a higher diabetes rate **different** from those communities with lower diabetes rates?
- What structures, policies and systems contribute to the differences in living and working conditions?

These types of questions help identify how differences in health outcomes among populations are caused by inequitable conditions in the community. A HEDA on diabetes would include **both** sets of questions. The first questions still focus on individual behaviors; the second set of questions focuses on the expanded set of factors, including living and working conditions, social class, and the policies and systems that shape the social, economic, and physical environments. The result of the HEDA will be the identification of a broad set of determinants of the diabetes rate difference, which will broaden the directions for action to eliminate this health inequity.

Health equity can be advanced by using the findings from a HEDA to educate potential partners such as policy makers, community leaders, community members, advocacy groups, employers, schools, and health care organizations. HEDA results can then be used by these partners to advocate for changes that will intentionally benefit populations that are experiencing health inequities.

HEDA is a method that can be incorporated into all assessment and planning activities within a local public health department. For example, two guiding principles of a HEDA are that the community is engaged at every step throughout the process and that health is not determined by individual behaviors alone. These principles can be incorporated into other local health assessments and planning activities.

## HEDA: Engaging the community

A HEDA is not just a data activity; it is also a community engagement effort. Thus, it is critical that when conducting a HEDA, public health departments build deep, meaningful relationships with populations that are affected by health inequities. Health departments must also create avenues for participation in public health decision-making processes for these populations. Community engagement in the HEDA means that local communities are engaged in all aspects of the HEDA, including determining what data need to be collected, in planning and conducting the data collection and analysis, and in the interpretation and application of the results. When the community is fully engaged in the HEDA, the process will:

- Increase the awareness of health inequities and the determinants of those health inequities

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- Ensure that the HEDA efforts and results are relevant to community needs
- Build trust among the HEDA partners (e.g., public health and communities experiencing health inequities)
- Create a sense of ownership of the HEDA results
- Facilitate a collaborative, bi-directional partnership in creating equitable policies, programs, and practices as a result of the HEDA

As you go through the HEDA process, collaboration with the community will hopefully move along a continuum of community engagement toward greater community involvement with the ultimate goal of a long-term partnership that moves from the traditional focus on a single health issue to address a range of social, economic, political, and environmental factors that affect health (CDC, 2011).

To facilitate the HEDA, public health departments need to partner with a community where the relationship is already well established **OR** to block out time **before** the HEDA to develop this relationship. The HEDA process may bring about difficult questions or reveal tensions that may lead to the questioning of assumptions and current practices. Public health staff and community members need to have a positive, solid relationship with each other to be able to grapple with tensions that may arise as the HEDA progresses.

The CDC/ATSDR Committee on Community Engagement developed community engagement principles (see **Inset 1**) to guide you through your community engagement process. The CDC recommends that before an engagement effort starts, public health staff should develop clear project goals and be knowledgeable about their community (e.g., culture, economic conditions, norms, and values). CDC also emphasizes that for community engagement to occur and to succeed, trust must be established and diversity respected.

For more information on community engagement including models, principles, and methods for assessing readiness, see [MDH: Community engagement](https://www.health.state.mn.us/communities/practice/equityengage/community/) (<https://www.health.state.mn.us/communities/practice/equityengage/community/>). In addition, the [MDH Resource Library for Advancing Health Equity section on authentically engaging with the community](https://www.health.state.mn.us/communities/practice/resources/equitylibrary/tag-practices.html#community) (<https://www.health.state.mn.us/communities/practice/resources/equitylibrary/tag-practices.html#community>) has tools, templates, and resources to build community engagement capacity.

### **Inset 1: Principles of community engagement**

Before starting a community engagement effort:

- Be clear about the purposes or goals of the engagement effort and the populations and/or communities you want to engage.
- Become knowledgeable about the community's culture, economic conditions, social networks, political and power structures, norms and values, demographic trends, history, and experience with efforts by outside groups to engage it in various programs. Learn about the community's perceptions of those initiating the engagement activities.

For engagement to occur, it is necessary to:

- Go to the community, establish relationships, build trust, work with the formal and informal leadership, and seek commitment from community organizations and leaders to create processes for mobilizing the community.

- Remember and accept that collective self-determination is the responsibility and right of all people in a community. No external entity should assume it can bestow on a community the power to act in its own self-interest.

For engagement to succeed:

- All aspects of community engagement must recognize and respect the diversity of the community. Awareness of the various cultures of a community and other factors affecting diversity must be paramount in planning, designing, and implementing approaches to engaging a community.
- Community engagement can only be sustained by identifying and mobilizing community assets and strengths and by developing the community's capacity and resources to make decisions and take action.
- Organizations that wish to engage a community as well as individuals seeking to effect change must be prepared to release control of actions or interventions to the community and be flexible enough to meet its changing needs.
- Community collaboration requires long-term commitment by the engaging organization and its partners.

(CDC, 2011).

## Conducting a Health Equity Data Analysis

### Minimum requirements for a HEDA

As just described, a solid **relationship with the community** or population experiencing the health inequity is a key component of a HEDA. Just as important, however, is having quality **health data for that community or population**.

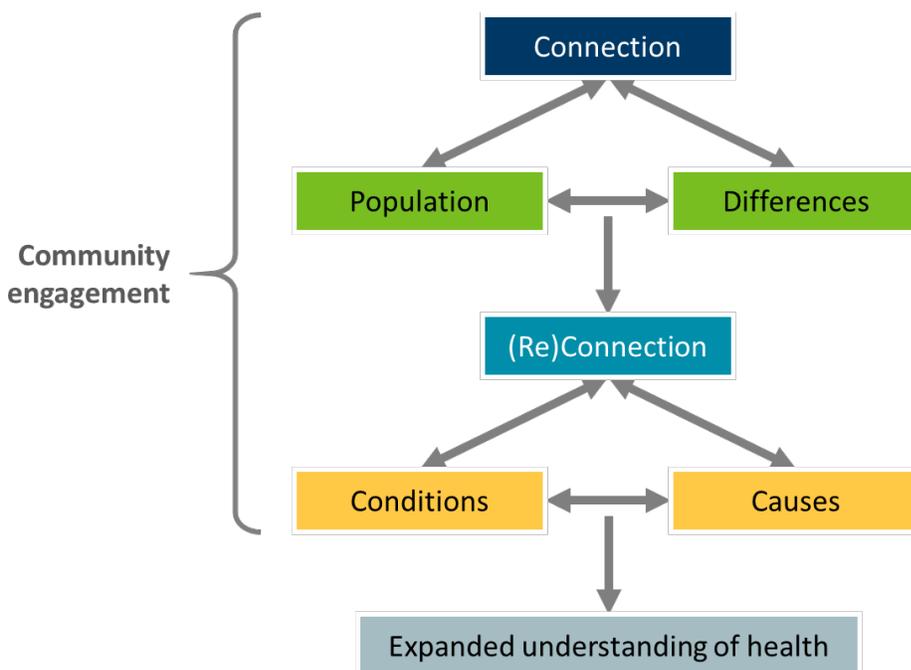
**If a relationship with the community of interest is not established, or health data for that community are not available, then time will be needed to develop the relationship or collect the data.**

Another requirement for a successful HEDA is to establish a **team** to accomplish the HEDA steps. This team includes local public health staff, community stakeholders and members of the community experiencing inequities. The team is likely to evolve, adding team members throughout the HEDA process.

### HEDA steps (overview)

The next stage in the process of identifying health inequities is to gather and analyze data, a process which involves distinct steps (**Figure 1**), named here as **connection, population, differences, (re)connection, conditions** and **causes**. These steps build on the work of other states, nations, and organizations, and involve analyzing data that encompasses multiple determinants of health. The figure below shows that the connection, population, differences and (re)connection steps will be completed before the conditions and causes steps. Still, the steps are not necessarily sequential, in that some steps may be worked on simultaneously or revisited.

Figure 1. HEDA steps



### Inset 2: Quantitative and qualitative data

A HEDA uses both **quantitative** and **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 and their causes.

#### Quantitative data: Numbers, rates, percentages

**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. Many existing sources of quantitative data are available to local public health; for a list of existing sources, visit the **reconnection, population, and differences steps** at: [Conducting a Health Equity Data Analysis \(HEDA\): A guide for local health departments in Minnesota](https://www.health.state.mn.us/data/mchs/genstats/heda/) (<https://www.health.state.mn.us/data/mchs/genstats/heda/>).

#### Qualitative data: descriptions, observations, perceptions

**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 schoolchildren 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 the 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, visit: [HEDA causes and conditions step](https://www.health.state.mn.us/data/mchs/genstats/heda/qualitative.html) (<https://www.health.state.mn.us/data/mchs/genstats/heda/qualitative.html>).

## Connection step

### EXPAND THE UNDERSTANDING OF THE MULTIPLE DETERMINANTS OF HEALTH

As indicated previously, one of the guiding principles of a HEDA is that health is not determined by individual behaviors and genetics alone (e.g., expanded understanding of health determinants). It is important for a HEDA team to become grounded in this expanded understanding and to be comfortable enough to discuss this emerging health narrative with staff, stakeholders, and community members. Being well versed in this new health narrative will facilitate the development of the HEDA, and make it easier to explain to policymakers such as county board members why they should care about the conditions that create health. The following is an introduction to the emerging narrative that is adapted from several national and international organizations including the Robert Wood Johnson Foundation and the World Health Organization. For more resources on the determinants of health, visit [Resource Library for Advancing Health Equity in Public Health](https://www.health.state.mn.us/equitylibrary) (<https://www.health.state.mn.us/equitylibrary>) and [HEDA \[re\]connection step](https://www.health.state.mn.us/data/mchs/genstats/heda/sdoh.html) (<https://www.health.state.mn.us/data/mchs/genstats/heda/sdoh.html>).

### Health starts where we live, learn, work and play

One-step to improving health is to stop thinking that health is solely determined by genetics, individual behavior choices and visits to the doctor. Health is determined by the environments in which we live, learn, work and play, and the systems and policies that establish and maintain these environments. Scientists have found that the conditions in which we live and work have an enormous impact on our health, long before we ever see a doctor (Robert Wood Johnson Foundation, 2010). Below are examples of how these conditions influence our health.

- **Live:** “No environment is more influential on health than the home and neighborhood. Substandard housing can cause significant illness (e.g., asthma), injury and death. Access to healthy foods and opportunities for physical activity are also greatly influenced by where we live. The connection between where we live and our health, however, goes well beyond the physical environment to the toll it takes on us emotionally, physically, and psychologically. For example, residential instability has adverse health impacts. Studies continually show that homeless children are more vulnerable to mental health problems, developmental delays and depression than children who are stably housed. An emerging body of evidence also suggests that less-severe manifestations of instability related to housing affordability, such as difficulty keeping up with mortgage payments or home repairs, may

be linked to lower levels of psychological well-being and a greater likelihood of seeing a doctor.” (Hecht, 2010).

- **Learn:** “Consider this: if you do not graduate from high school, you are likely to earn less money and struggle to make ends meet, work longer hours and maybe even two jobs just to feed your family, and live in a compromised neighborhood without access to healthy food. Simply put, you aren’t likely to be as healthy as a college-educated professional.” (Riley, 2010).
- **Work:** “Employment provides income and other resources that lead to better health. Depending on our jobs, employment can also give us a sense of purpose, social inclusion, and opportunities for personal growth. Conversely, unemployment has been linked to poor health, and those with lower socioeconomic status are more likely to work in occupations that have unhealthy working conditions and lack the type of benefits needed to help them stay healthy.” (Santa Clara County Public Health, 2011).
- **Play:** “Play is a basic need. It is a biological requirement for normal growth and development. The scientists associated with the National Institute for Play are united in their concern about ‘play undernutrition,’ noting that the corrosive effects of this form of starvation gradually erode emotional, cognitive, and physiologic well-being. So a major aspect of inactivity, obesity, and poor stress management can be readily linked to play starvation.” (Brown, 2010).

### **The quality of living, working, learning, and playing are influenced by inclusion and belonging**

When a population or community belongs (i.e., is not marginalized or excluded), it means their voices are heard and they have a say in shaping the conditions in the community that affect their lives and their health.

Belonging in society is a powerful force that shapes every life. Belonging and inclusion determine how we interact with each other and with our environments, including whether we have access to green space and safe, supportive places to walk, live, learn, work and play. Belonging improves the nature of everyday relationships, expands access to resources, improves resilience, and increases our opportunities for educational and economic success.

### **Where and how we live, learn, work and play are influenced by policies and systems**

Policies and systems shape and influence where and how we live, learn, work and play, and whether we are included. Research shows that communities with smoke-free air laws, access to healthy foods, quality affordable housing, good schools, and safe places to play are healthier than those that don’t (Robert Wood Johnson Foundation, 2011). Policies and systems prevail in society as a whole and include vast interconnected processes such as economic activity, government policies and structural discrimination. Examples of these include:

- Home ownership policies (**live**): 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.
- School funding policies (**learn**): Educational resources and opportunities in the U.S. are distributed unequally, reflecting larger patterns of racial and class inequities. Differences in school quality, for example, are due in part to deep patterns of residential segregation and differences in school funding (California Newsreel, 2008).
- Family-friendly policies (**work**): Paid leave, flexible work hours, pay equity and childcare subsidies all improve the health of children, families, and communities.

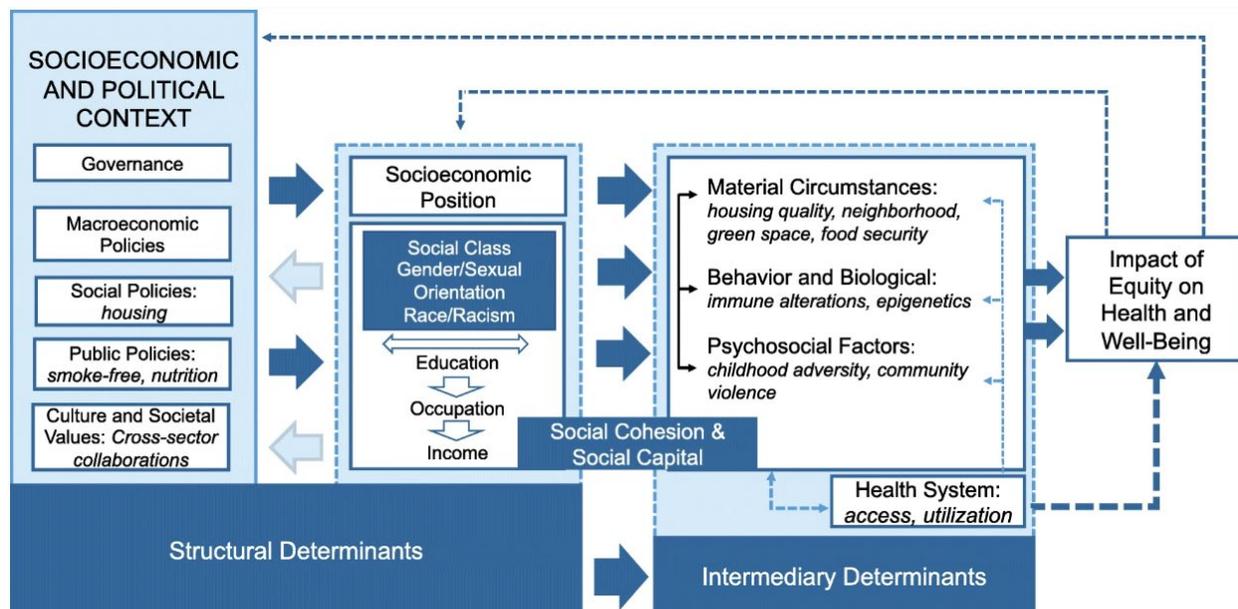
- Master or comprehensive plans (**play**): City/county master or comprehensive plans that incorporate safe walking and bicycling options throughout the city/count provide increased opportunity for physical activity.
- Institutional Racism (**all**): Institutional racism refers to the policies and practices within and across institutions that, intentionally or not, produce outcomes that chronically favor, or put a racial group at a disadvantage. Poignant examples of institutional racism can be found in school disciplinary policies in which students of color are punished at much higher rates than their white counterparts, in the criminal justice system, and within many employment sectors in which day-to-day operations, as well as hiring and firing practices can significantly disadvantage workers of color (Aspen Institute, 2010).

For more policy and system examples, visit this document's [Appendix A. Examples of policies and systems](#).

## Conceptual framework for the determinants of health

Another way to conceptualize an expanded view of what creates health is by using a framework. The World Health Organization's (WHO) "Conceptual Framework for Action on the Social Determinants of Health," developed in 2007, is a logic model that traces health inequities back from "health-compromising conditions" (e.g., living, learning, and working conditions) experienced by *populations* to the social, economic, and political factors that in essence "assign" groups to different socio-economic positions (**Figure 2**). A 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

**Figure 2. WHO conceptual framework for structural determinants of health**



(Solar & Irwin, 2014).

The WHO framework provides a clear 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

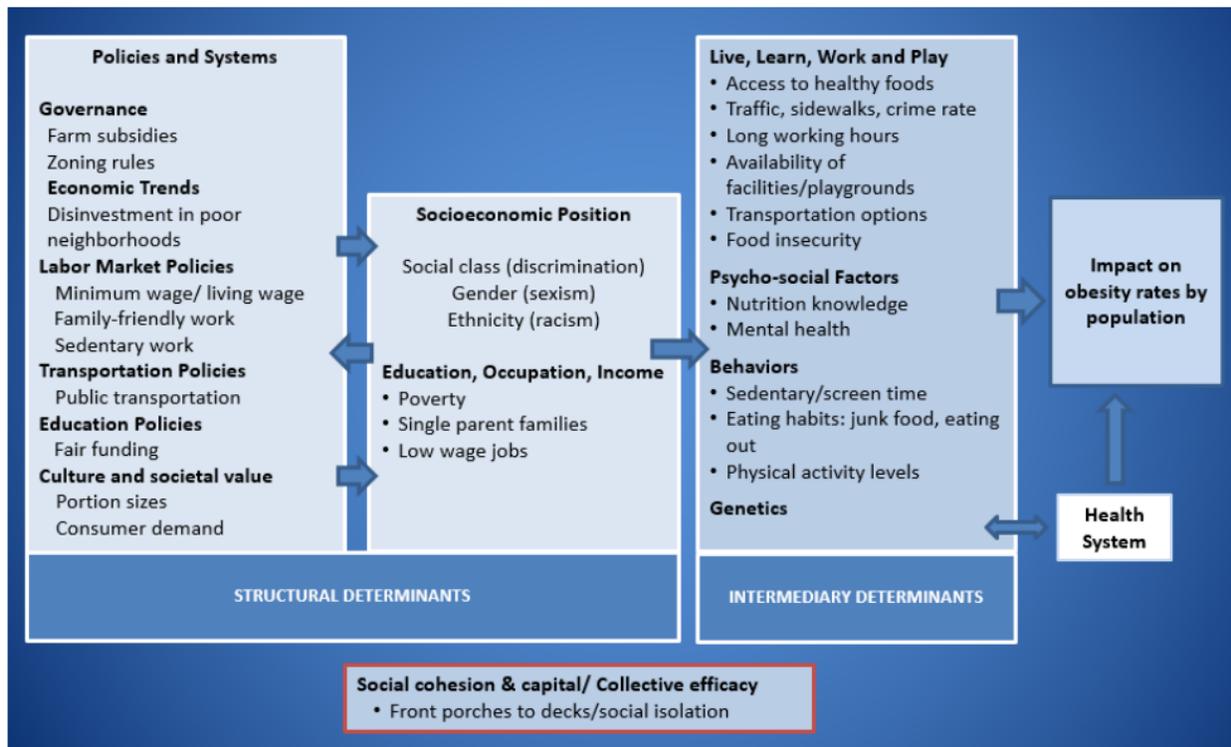
inequities and social cohesion as a cross cutting factor. The WHO framework challenges public health to move into new and less familiar territory and highlights the need for policy changes that impact the structural determinants of health inequities. It also clarifies the areas where the health care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

**Figure 3** is an example of the WHO conceptual framework adapted to obesity. The model depicts a wide range of determinants of obesity. It demonstrates that obesity is not determined solely by the individual’s eating and exercise habits and genetics but that it also depends on where one lives, learns, works and plays one’s socioeconomic position, and policies and systems. For example, an individual who is obese may:

- Eat unhealthy high caloric foods
  - because** → healthy foods are not accessible
  - because** → there are only corner stores in her impoverished neighborhood
  - because** → zoning laws in the neighborhood prevent construction of grocery stores.
- Exercise infrequently
  - because** → his neighborhood is not safe
  - because** → there are no sidewalks or trails
  - because** → he lives in a high-poverty neighborhood where funding and support for improvements are minimal.

While these examples of the path to obesity are simplistic, they convey the multiple factors that determine health and demonstrate that health is determined by more than just behavior and genetics.

**Figure 3: WHO conceptual framework of structural determinants of health, adapted for obesity**



## Population step

### IDENTIFYING POPULATIONS LIKELY TO EXPERIENCE HEALTH INEQUITIES

In the population step, the HEDA team gathers demographic data about the public health jurisdiction and identifies populations that may be at risk for health inequities. For example, the population may be described by race and/or by measures of socioeconomic position such as income (e.g., percent of population by race/ethnicity or percent living in poverty). The team calls on the expert knowledge of the community and public health staff, advisory groups, and previous assessments such as the most recent community health assessment to determine which social characteristics to use to identify populations that may experience health inequities.

- A. **Data:** Quantitative data are used for the population step. Much of the data used for this 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. The Minnesota Center for Health Statistics provides links to many of these data sources in the **reconnection, population, and differences steps** at: [Conducting a Health Equity Data Analysis \(HEDA\): A guide for local health departments in Minnesota](https://www.health.state.mn.us/data/mchs/genstats/heda/) (<https://www.health.state.mn.us/data/mchs/genstats/heda/>).
- B. **Role of the community:** Community stakeholders and members of populations experiencing inequities play a key role in describing the population, identifying additional data sources, and helping to determine which social characteristics to use to identify populations that may experience health inequities.

## Differences step

### IDENTIFYING DIFFERENCES IN HEALTH OUTCOMES OR HEALTH BEHAVIORS BETWEEN POPULATION GROUPS

This step takes a second look at measures of health outcomes or health behaviors within the jurisdiction and determines if there are **differences between populations**. In this step, health outcome or behaviors are analyzed by social characteristics. The identification of health inequities does not need to be conducted on all possible health outcomes or health behaviors. A place to start could be the “most important community health issues” identified in the jurisdiction’s most recent community health assessment. Findings from the population step can also help determine which social characteristics (e.g., race, income) to use to disaggregate health data.

#### **Inset 3: Minnesota community health boards and community health assessment**

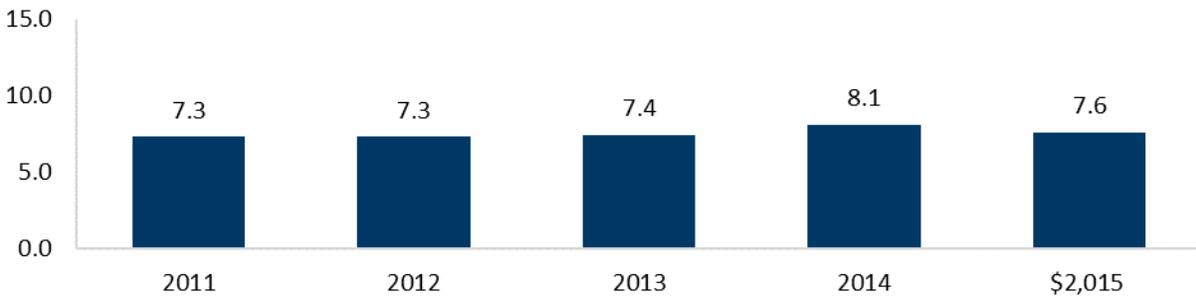
Every five years, Minnesota’s community health boards are required to complete a community health assessment (CHA) that identifies and describes the health status of the community, factors in the community that contribute to health challenges, and existing community assets and resources that can be mobilized 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, visit: [Community health assessment](https://www.health.state.mn.us/communities/practice/assessplan/lph/community/cha.html) (<https://www.health.state.mn.us/communities/practice/assessplan/lph/community/cha.html>).

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 characteristics (e.g., race/ethnicity, income).

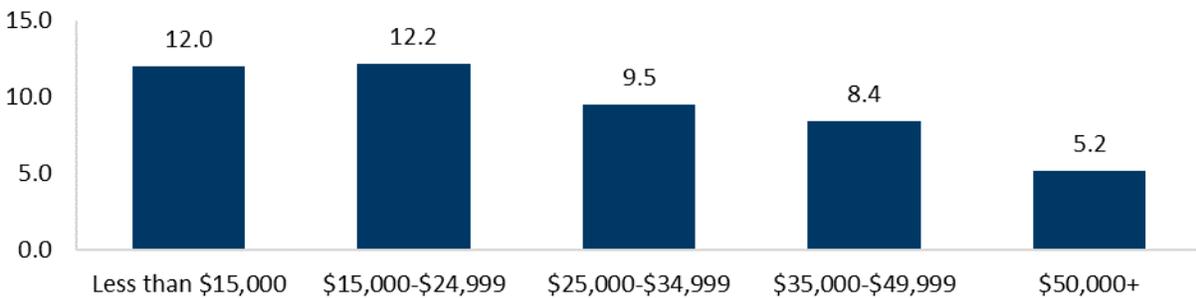
**Figures 5, 6 and 7** are examples of using chronic disease data to analyze health outcomes and health inequities (Figures 6 and 7 only). All three presentations of data provide insight into diabetes prevalence in Minnesota. The data in **Figure 5** indicate that, as of 2015, the prevalence of diabetes has been trending upward in the Minnesota adult population as a whole. However, the data in Figure 5 do not give us any indication of who is more affected by diabetes, i.e., whether there are differences in diabetes by population group. The data in **Figure 6**, in which the prevalence of diabetes is broken down by income, reveal a sizeable health inequity in the prevalence of diabetes in Minnesota.

**Figure 5. Minnesota adult diabetes prevalence, 2011-2015**



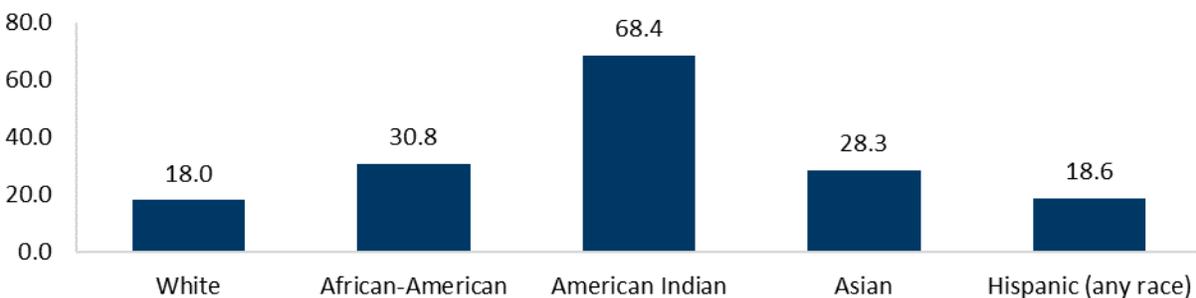
Source: CDC BRFSS prevalence and trend data: “Have you ever been told by a doctor that you have diabetes?”

**Figure 6. Minnesota adult diabetes prevalence by income, 2015**



Source: CDC BRFSS prevalence and trend data: “Have you ever been told by a doctor that you have diabetes?”

**Figure 7: Age-adjusted diabetes mortality rate per 100,000 population, Minnesota 2011-2015: Identification of health inequity by race/ethnicity**



Source: Minnesota Department of Health Center for Health Statistics, vital statistics interactive query.

**Figure 7** 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 6 and 7** 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 addressing this inequity.

It is critically important 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, since one could see which racial groups are more likely to both be poor AND suffer from diabetes. Such analyses are ideal for policy purposes, but can be difficult to achieve due to the data limits imposed by same-source availability and small numbers.

- A. **Data:** Quantitative data are generally used for the differences step. Ideally, data used for this 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, they are not usually available in static (existing) reports such as the Minnesota Center for Health Statistics-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 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 Minnesota Center for Health Statistics. To request special data analyses, visit [Minnesota Center for Health Statistics](https://www.health.state.mn.us/data/mchs/) (<https://www.health.state.mn.us/data/mchs/>). Contact Minnesota Center for Health Statistics 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 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 better understand the income-diabetes relationship.

## (Re)connection step

### DOCUMENT THE CONNECTIONS BETWEEN SPECIFIC SOCIAL AND ECONOMIC CONDITIONS AND HEALTH

After a population and health outcome/behavior have been identified, HEDA team members will briefly review literature to document the connection between the population and this outcome. This step creates familiarity with the impact that a **specific** social or economic condition has on health, using research from the scientific community, and builds the capacity to describe that impact. For example, the (Re)connection Step may describe how income levels influence health or how historical trauma affects the health of a community (**Inset 4**). The information gathered from the scientific literature during the (re)connection step will add credibility to arguments for changing programs and policies.

- A. **Materials:** A wealth of information on the relationships among social and economic conditions and health is available on the Internet and in the scientific literature. However, a lengthy literature

review is **not** needed every time an assessment of health inequities is conducted. The Minnesota Center for Health Statistics can serve as a “one stop shop” for this background research; visit: [Minnesota Center for Health Statistics \(https://www.health.state.mn.us/data/mchs/\)](https://www.health.state.mn.us/data/mchs/).

- B. **Role of the Community:** For the (re)connection step, community stakeholders and members of populations experiencing inequities help to determine the conditions on which to focus efforts, to provide insight into the impact that these social and economic factors have on the community’s health, and to increase awareness and understanding of these issues in the community.

The next steps are to:

- Identify differences in the living and working conditions that contribute to the population-based health and individual level differences that the differences step revealed (conditions step); and
- Determine the policies and systems that contribute to differences in those living and working conditions (causes step).

#### **Inset 4: 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).

## **Conditions step**

### **IDENTIFY AND DESCRIBE THE LIVING AND WORKING CONDITIONS THAT CREATE HEALTH DIFFERENCES BETWEEN POPULATION GROUPS**

The conditions step moves beyond individual explanations for differences in health and focuses on 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 (re)connection 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, visit [Minnesota Center for Health Statistics](https://www.health.state.mn.us/data/mchs/) (<https://www.health.state.mn.us/data/mchs/>).
- B. **Role of the community:** People from the community who have personally experienced health inequities can provide insight and expertise 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.

## Causes step

### IDENTIFY AND DESCRIBE THE CAUSES OF DIFFERENCE IN LIVING AND WORKING CONDITIONS BETWEEN POPULATION GROUPS

The causes step describes the **causes** of the differences in material circumstances that lead to the observed differences in health outcomes. For example, what causes some people/populations to be low-income and others to prosper socially and economically? These higher-level factors are what 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 that 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 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, visit [Minnesota Center for Health Statistics](https://www.health.state.mn.us/data/mchs/) (<https://www.health.state.mn.us/data/mchs/>).

- 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 contribute to the differences in living and working conditions. Long-term residents can provide a historical perspective on health issues of particular interest to the jurisdiction.

## HEDA summary

**Inset 5** summarizes the steps of a Health Equity Data Analysis for a local health department using diabetes and income. The example describes the findings from each step and where applicable, the methodology used to collect data and the sources of secondary data.

### Inset 5: HEDA example

A community member is concerned about the increasing number of fellow community members diagnosed with diabetes. She asks her local public health department 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. To explore these issues, the health department convenes a team to conduct a HEDA.

#### Connection

- Over the last six months, the HEDA team has strengthened its understanding of the multiple social and economic conditions that impact health. (Minnesota Department of Health, [HEDA \[re\]connection step](https://www.health.state.mn.us/data/mchs/genstats/heda/sdoh.html) (<https://www.health.state.mn.us/data/mchs/genstats/heda/sdoh.html>)).

#### Population

- 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 (US Census data).

#### Differences

- Low-income adults in the county are more likely to report having diabetes than adults with higher incomes (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, smoke cigarettes, eat fewer than five fruits/vegetables per day, and not meet guidelines for physical activity (local survey data).

#### (Re)connection

- Existing studies 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.

- Because of these differences in living conditions, low-income populations are more likely to have more chronic conditions (including diabetes) than higher income populations.

### Conditions

Results from three 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.
- Low-income residents have high stress levels due to the shortage of money and unhealthy living situations.

### Causes

The living and working conditions that have created the differences in diabetes between the two populations have been identified. The final step is to determine the causes of the differences in the conditions. The results from four key informant interviews and policy reviews indicate:

- 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 (interviews with community members and key business leaders).
- 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) (review of zoning laws and interviews with key business leaders).
- Funding for schools is not evenly distributed within the county, with lower income neighborhood schools receiving less financial support than higher income neighborhood schools (review of funding policies).

The results from this HEDA will be shared with community members to review and determine next steps. Once the results are final, next steps may include sharing the results with key stakeholders to inform decision-making, improve practice, change policy, and change the narrative about what creates health. The next sections describe methods for sharing the results, and explain how the findings can help to advance health equity at the local level.

## Sharing findings

Results from a HEDA can help tell a story of the factors that create health and health inequities, indicate why addressing these factors are important to the community and serve as a call to action. 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. This may include advisory groups, local coalitions, policy makers, community leaders, community members, advocacy groups, employers, schools, and health care organizations. Local public health can also 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 to strengthen the conditions that create health for all.

## Develop a communication plan

*Our ability to effectively communicate messages influences how individuals, key decisionmakers, and the public think about health, the determinants of health and health equity. We must always keep in mind that people understand the world through their own set of values, beliefs, political views, and personal experiences. Recognizing how to tailor language and messaging for specific audiences based on their foundational values and beliefs, can go a long way in increasing awareness, gaining support, and influencing how your information is received (Windsor-Essex County Health Unit, 2015).*

HEDA results are unlikely to result in policy change unless the findings are delivered effectively to the right audiences. A first step in ensuring that our messages are effectively communicated is to develop a communication plan. A communication plan provides structure to determine what you want to say, to whom, why, how, and when. For example, a communication plan may help answer the following questions:

- Who should the information 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?
- How is this information being shared with leadership?

An effective communication plan can also help inform, build understanding, enhance visibility, change behavior, and garner support. You should start to develop your communications plan for the HEDA at the beginning of the process and refine it as you go. Key components of a communication plan include:

### Goal

What are you trying to do through your HEDA?

### Audience

Whom do you need to reach?

- Who is your priority audience?
- What are their attitudes and beliefs?
- What are social, cultural, and economic factors to consider?
- Where can they be reached?
- What is their learning style?
- What are their barriers to action?

## Objectives

How will communications help?

- What do you want the audience to do?
- What barriers are keeping them from change?
- How much change is needed?
- What is the timeframe for the change?

## Messages

What do we need to say?

- What is your position on the issue? What is the audience doing now, or think about the issue now, relative to what we want them to do or think?
- What are three supporting points?
- What are three proof points for each supporting point?

## Tactics

How will your message be delivered?

- Which channels (e.g., schools, employers, newspapers, community groups) will you use?
- Which activities (e.g., town hall event, community meetings, op-ed pieces) will you engage in?

(Minnesota Department of Health & Kinsella, 2017). For more examples of channels and activities and pros and cons of each, see [Appendix D. Tactics summary](#).

## Best practices for communication

The following describes several best practices to be considered when developing your messaging. These best practices were adapted from the Canadian Council on the Social Determinants of Health (2013), the Robert Wood Johnson Foundation (2010), and the Windsor-Essex County Health Unit (2015).

### Understanding your audience

It is important to understand audiences intended to receive messages. Audiences may be more likely to believe a message if it begins with facts or images that they already believe or support.

Prior to delivering a message, it is important to assess the level of an audience's knowledge about health equity, social determinants of health, and/or health. Do they believe common misconceptions?

Audiences with little knowledge of determinants of health will require more compelling and repetitive messaging, as well as information that challenges their misconceptions.

### Matching message with messenger

The messenger will always be a key element in the communications equation. It is essential that the communicator appears open and eager and uses a familiar and conversational tone. If the communicator feels emotion about stories and messages, they are more likely to convey that emotion to the audience in a compelling and memorable way.

A good communicator should clearly understand the motivations, needs, values and background knowledge of their audience (defined in your communication plan). The messenger or spokesperson for your effort should fit the message being conveyed. This will help them tell a story or message that the audience will understand, remember, and retell. A good communicator prepares message content in advance and pays attention to delivery (e.g., gestures, body language), structure (e.g., duration, anticipated responses) and approach (e.g., words, visuals).

## Crafting messages

### Expressing concepts

One of the challenges of delivering HEDA results is how to translate theoretical language and abstract concepts into tangible and easily understood concepts. This challenge can be addressed by using plain language and illustrating abstract ideas through stories or analogies. For example, an abstract concept such as “food insecurity” can be explained by using concrete indicators and illustrating their implications, as in, “When we don’t have enough of the right food, it holds us back.”

### Using quantitative data

Your quantitative results are an essential ingredient of final HEDA product. They provide critical information to inform stories and can lend credibility to claims and assertions. It is important to remember that quantitative data must be used carefully if they are to engage key audiences.

- **How many data points should you use?** Research shows that one strong and compelling data point can be more powerful than a series of data points, particularly when the data point is an unexpected or surprising point that arouses interest, attention, and emotion.
- **What kind of data points?** Information must be believable to the audience. Even if a fact is correct, it may be doubted if appears too extreme. It may also lead to perceptions of ‘cherry picking’ data that best supports the conclusion, which could cause your audience to doubt the message

### Providing factual context

How and when a data point is presented is critical, especially when it may challenge an existing belief. Placing facts in the appropriate context can help make contentious information easier to accept.

- **A message could state that:** More than half of parents living in poor neighborhoods don’t feel safe letting their children play outside.
- **Or, it could create an image of the situation:** Many parents feel they are not providing their children with the most basic opportunities to play outside, but are unable to move because of their job or income (Canadian Council on Social Determinants of Health, 2013).

### Using numbers

Large numbers can lose their meaning in the absence of adequate context. If possible, numbers should be rounded to make them more memorable (e.g., 23.6 percent could be expressed as “almost one-quarter” or “nearly 25 percent”).

A number represents a value, but it can also express our values. For example, stating that a program or intervention costs \$10 million, over five years may be of interest to policy-makers, but stating that it costs \$2 a day for all residents may be more appropriate to the public (Canadian Council on Social Determinants of Health, 2013).

## Selecting language

Research has shown that abstract phrases such as “social determinants of health” do not engage audiences. Nevertheless, the concepts that underlie these phrases are broadly supported, particularly when they are expressed in concrete terms. These findings can inform how we communicate our HEDA results to our audiences.

Using plain, values-driven, and emotionally compelling statements can help craft effective communications around your HEDA results. Avoid using labels and refer instead to the circumstances that people experience when they belong to a certain group. Below are some examples of how to use alternate language to describe abstract concepts and groups adapted from the Canadian Council on the Social Determinants of Health (2013) and the Robert Wood Johnson Foundation (2010).

**Table 1. Using plain language**

When talking about abstract concepts or groups, try using simple, values-driven, and emotionally compelling statements.

Abstract concept/group	Possible statements
<b>Social determinants</b>	<ul style="list-style-type: none"> <li>▪ Our opportunities for better health begin where we live, learn, work, and play</li> <li>▪ Where we live, learn, work, and play can have a greater impact on how long and well we live than medical care</li> <li>▪ All people should have the opportunity to make the choices that allow them to live a long, healthy life, regardless of their income or education</li> </ul>
<b>Health inequities</b>	<ul style="list-style-type: none"> <li>▪ Giving everyone a fair chance to live a healthy life</li> </ul>
<b>Vulnerable groups</b>	<ul style="list-style-type: none"> <li>▪ Too many people don’t have the same opportunities to be as healthy as others do</li> <li>▪ People whose circumstances have made them vulnerable to poor health</li> </ul>
<b>Poverty</b>	<ul style="list-style-type: none"> <li>▪ Families who can’t afford the basics in life</li> </ul>
<b>Low-income workers</b>	<ul style="list-style-type: none"> <li>▪ People who work for a living and still can’t cover basic costs</li> </ul>

(Robert Wood Johnson Foundation, 2010).

## Conveying HEDA findings

The following section reviews ways to design and deliver messages, so they align with the specific contexts and circumstances in which they will be delivered. It illustrates how to select appropriate tools and engage an audience by understanding their needs and interests (Canadian Council on the Social Determinants of Health).

### Selecting the right tool

Messages about relating to your HEDA results can be conveyed in many different ways to suit various contexts. Three basic types of tools are outlined below sound bites, stories, and visuals. These tools can be used independently or together.

- **Sound bites:** Sound bites are 10–20 second short statements or tag lines. They can be used on their own or to introduce longer stories. Sound bites should convey one key idea in a clear and evocative manner. They should be easy for the audience to remember and repeat.
- **Stories:** Audiences understand and recall stories more easily than facts and figures. If an audience can relate to a character or a set of circumstances, they are more likely to change their view about an issue. A good story can inspire audiences and convince them that action is both important and possible.

HEDA stories should be clear and compelling. Stories from a particular population can help to make the message more tangible and authentic.

- **Visuals:** Images are an important element of effective messages and can include pictures, infographics, diagrams, maps, or other graphics. Images should illustrate or reinforce the message and help create a “mind’s eye view” by describing a situation or fact in a manner that reinforces the point.

Images can create a conscious or unconscious emotional response. Messages that create strong imagery can be powerful, but be cautious about negative images that may distance the audience.

## Post-HEDA: Using HEDA findings to advance health equity

### Communities creating solutions and influencing decisions

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 open during the analysis phase for potential new partners and solutions that the community may generate.

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 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 to address inequities 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—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—minimum wage standards, affordable housing accessibility, subsidies for commodity crops, or policy setting boundaries for lending practices.

### Local policy

Local public health agencies are practiced advocates of policy changes within a local jurisdiction. Many public health strategies can be employed to address a material circumstance for the population experiencing the health inequity. Locating a farmer’s market in a low-income community to increase access to healthy foods is an example of a strategy that can be employed by local public health to address a material circumstance.

Questions to consider:

- Is there an existing local public health strategy that would change the material circumstance of the impacted population?
- Are the members of the impacted population being involved in the choice and implementation of a strategy?
- Is there an additional strategy that would change the material circumstance of the impacted population? For example, would paid parental leave increase breastfeeding rates and reduce obesity?

### Structural drivers: Macroeconomic social and public policies

While community-level material conditions can be addressed, larger forces drive these conditions. The analysis of health inequities will undoubtedly identify larger policy changes to create stronger conditions for health. These may include policies to improve high school graduation rates, increase affordable housing, and ensure greater access to jobs and transportation.

To address these policies, a local public health department can consider how to bring a health lens to their initiatives. 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 larger structural conditions that create health inequities.

Questions 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 progress

The process of analyzing health inequities is ideally a continuous one. Monitoring both short and long-term outcomes are necessary to determine whether there is activity to address socioeconomic position and/or structural drivers.

Questions to consider:

- What social, economic, and environmental determinants of health have been addressed?
- Have the social, economic, and environmental determinants of health changed?
- How are populations that were excluded in the past now being included?
- Has the health of populations that experience health inequities improved?
- Have health inequities between populations been reduced?

Some of these activities will require further data collection and analysis.

## Local public health department’s role in advancing health equity

### Six practices to advance health equity at the local level

The Statewide Community Health Services Advisory Committee (SCHSAC), supported by the MDH Center for Public Health Practice, identified six practices as guidance for local health departments as they continue to build their capacity around health equity and define their roles in advancing health equity. While the main entry point into the six practices through the HEDA is the data collection practice, the HEDA process touches on all six practices. **Table 2** describes how the HEDA process helps advance health equity at the local level through each of the practices.

**Table 2. Six practices to advance health equity: Support from a HEDA**

Practice	Opportunities for change in practice through a HEDA
<b>Spread the word about what creates health</b> (build a shared understanding and commitment to health equity)	Expanding knowledge of determinants of health, engaging community, sharing HEDA results with staff, community leaders and community members
<b>Equip staff</b> (Develop organizational knowledge and skill to advance health equity)	Conducting the HEDA process and sharing results with staff
<b>Show organizational commitment</b> (Align programs, resources with organizational commitment to health equity)	Informing leadership priorities and possibly requiring changes to internal policies or practices (such as work outside of regular business hours and selection of venues for meetings)
<b>Authentically engage with the community</b> (Work in true partnership across the community)	Engaging the community throughout the entire HEDA process, including the identification and interpretation of the data
<b>Collect and use data for change</b> (Improve data collection, analysis and use the results to advance health equity)	Using data differently through the HEDA process, looking beneath averages and incorporating social determinants of health
<b>Influence public policy</b> (Work at the policy level to advance health equity)	Because of the HEDA, public health staff may identify additional partners and take action to change policies

For more information on the six practices, visit: [Resource Library for Advancing Health Equity in Public Health](https://www.health.state.mn.us/equitylibrary) (<https://www.health.state.mn.us/equitylibrary>).

## 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. The Minnesota Center for Health Statistics has provided definitions and examples of these factors in the **reconnection, population, and differences steps** at: [Conducting a Health Equity Data Analysis \(HEDA\): A guide for local health departments in Minnesota](https://www.health.state.mn.us/data/mchs/genstats/heda/) (<https://www.health.state.mn.us/data/mchs/genstats/heda/>). 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 and the Minnesota Youth Tobacco Survey 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.
- **Data are not available for the population:** When analyzing health issues using measures of social and economic factors, sometimes quantitative data cannot be reported because of small numbers of health events or respondents (see **Inset 6**). Rates based on small numbers of events are often unreliable; this is a common occurrence when analyzing data by specific population groups (e.g., by race/ethnicity). To avoid suppressing rates, one can:
  - Aggregate years and/or geographical regions (e.g., counties) to achieve bigger numbers of events or respondents.
  - Aggregate categories (e.g., for education, combine the “bachelor’s degree” and “graduate or professional degree” categories).
  - Report counts of events, not rates.
  - 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).
  - Use qualitative data.

### Inset 6: Suppressing rates

The Minnesota Center for Health Statistics 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 two to four.

For survey data, the Minnesota Center for Health Statistics 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 the Minnesota Center for Health Statistics, located at MDH. For over 15 years, the Center for Health Statistics 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. The Center for Health Statistics 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.

## Conclusion

The HEDA process is more than a data activity; it is also about building relationships, and collaborating with communities, throughout the process and developing solutions together. A health equity approach to data analysis:

- Focuses significant attention on social and environmental conditions because of the strong influence of these conditions have on health while still recognizing the individual factors that contribute to health
- Builds on current data analysis methods and expands the analysis to gain a more complete understanding of the factors that determine health
- Uncovers the differences in health outcomes between populations according to socioeconomic and demographic variables (connection, population, differences, and (re)connection steps)
- 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. As a result, those who conduct a HEDA potentially become more conversant with health equity concepts better understand the needs, strengths, and assets of all parts of their community and find pathways into action to improve conditions and address the causes of these conditions.

## Summary of HEDA steps

You can find a summary of HEDA steps on the following page.

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**Table 3. Summary of HEDA steps**

<b>HEDA step</b>	<b>Definition</b>	<b>Data sources</b>	<b>Example question</b>	<b>Example findings</b>
<b>Connection</b>	Expand your understanding of the multiple determinants of health	Existing scientific literature and research	What are the determinants of health?	Health is determined by the environments in which we live, learn, work and play, and the systems and policies that establish and maintain these environments.
<b>Population</b>	Description of community and identification of populations that may experience health inequities	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.
<b>Differences</b>	Description of health differences between population groups	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.
<b>(Re)connection</b>	Understanding the connections between social and economic factors and health	Existing scientific literature and research	What is the relationship between income and health?	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.
<b>Conditions</b>	Description of the living conditions that create the health differences between population groups	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?	Access to full-service grocery stores is very limited in the low-income community.
<b>Causes</b>	Description of what causes differences in living conditions—policies, systems, structures	Qualitative data such as document reviews or policy analysis	Why are some neighborhoods in my county poor while theirs are thriving?  What forces contribute to and sustain these neighborhood conditions?	A review of zoning laws and interviews with business leaders indicates that lending practices and zoning laws discourage investment in small businesses 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).

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## Appendix A. Examples of policies and systems

- Financial policies (live): 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 protect those most vulnerable from financial exploitative practices.
- Environmental policies (live): Decisions about waste disposal and pollution often disproportionately affect particular geographic areas and populations, with negative impacts on the health of those populations more than others.
- Hiring practices (work): Practices that employers use to recruit, train, and promote workers can increase or decrease health disparities.
- Universal full-day kindergarten (learn): Children in low-income families often experience delays in language and other development by the age of three. Compensating for these delays before children begin regular schooling can be critical to providing them with equal opportunities for lifelong employment, income, and healthy behavior (The Community Guide, 2011).
- Collective bargaining (work): Structures that discourage effective worker organizing can impact workers' income, benefits and other conditions of employment that can improve conditions for health.
- Equal opportunity policy (work): 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.
- Active recess (play): Recess serves as a necessary break from the rigors of concentrated, academic challenges in the classroom. A well-supervised and functional playground design offers cognitive, social, emotional, and physical benefits (Minnesota Department of Health, 2016).
- Immigration policy (all): 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.
- Social support networks (all): Greater support from families, friends, coworkers, and communities is linked to better health. Culture: customs and traditions, and the beliefs of the family and community all affect health (WHO, n.d.).
- Media (all): 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.
- White privilege (all): White privilege, or "historically accumulated white privilege," as we have come to call it, refers to white people's historical and contemporary advantages in access to quality education, decent jobs and livable wages, homeownership, retirement benefits, wealth and so on (Aspen Institute, 2010).

## Appendix B. Health equity definitions

The language of health equity and the various terminology used to describe these phenomena can be confusing. These are the key concepts of health equity 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.

### 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.

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 are, 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 7**.

### 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 (Minnesota Department of Health, 2014). 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 (Washington State Department of Health, n.d.)

#### **Inset 7: Health disparity vs. health inequity: an example**

Male babies are generally born at a heavier birth weight than female babies. This is a health disparity—a simple mathematical difference. At a population level, this difference is unavoidable and is rooted in genetics; therefore, this difference is not a health inequity. 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

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exist between the health of Black and white mothers and babies even if comparing Black and white people 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 inequity because the difference between the groups is unfair, avoidable, and rooted in social injustice in the form of racism (Boston Public Health Commission, n.d.).

## Appendix C. Communications plan

Goal	Audience	Objectives	Messages	Tactics
What are we trying to do?	<ul style="list-style-type: none"> <li>▪ Who do we need to reach?</li> <li>▪ Who is your priority audience?</li> <li>▪ What are their attitudes and beliefs?</li> <li>▪ What are social, cultural, and economic factors to consider?</li> <li>▪ Where can they be reached?</li> <li>▪ What is their learning style?</li> <li>▪ What are their barriers to action?</li> </ul>	<ul style="list-style-type: none"> <li>▪ How will communications help?</li> <li>▪ What do we want the audience to do?</li> <li>▪ What barriers are keeping them from change?</li> <li>▪ How much change is needed?</li> <li>▪ What is the time frame for the change?</li> </ul>	<ul style="list-style-type: none"> <li>▪ What do we need to say?</li> <li>▪ What is our position on the issue?</li> <li>▪ What is the audience doing now, or think about the issue now, relative to what we want them to do or think?</li> <li>▪ What are three supporting points?</li> <li>▪ What are three proof points for each supporting point?</li> </ul>	<ul style="list-style-type: none"> <li>▪ How will our message be delivered?</li> <li>▪ Which channels will you use and which activities will you engage in?</li> </ul>

(Minnesota Department of Health & Kinsella, 2017).

## Appendix D. Tactics summary

Channel	Sub-channel	Activities	Pros	Cons
<b>Interpersonal</b>	<ul style="list-style-type: none"> <li>▪ Influential adults</li> <li>▪ Health care providers</li> <li>▪ Family members</li> <li>▪ Friends</li> <li>▪ Co-workers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hotline counseling</li> <li>▪ Patient counseling</li> <li>▪ Instruction</li> <li>▪ Prompted, informal discussion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be credible</li> <li>▪ Permit two-way discussion</li> <li>▪ Can be motivational, influential, supportive</li> <li>▪ Most effective for teaching and helping/caring</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be expensive</li> <li>▪ Can be time consuming</li> <li>▪ Can have limited reach of intended audience</li> <li>▪ Can be difficult to develop; sources need to be convinced and taught about the message themselves</li> </ul>
<b>Organizational and community</b>	<ul style="list-style-type: none"> <li>▪ Schools</li> <li>▪ Employers</li> <li>▪ Community groups</li> </ul>	<ul style="list-style-type: none"> <li>▪ Town hall and other events</li> <li>▪ Organizational meetings and conferences</li> <li>▪ Workplace campaigns</li> <li>▪ Media literacy</li> </ul>	<ul style="list-style-type: none"> <li>▪ May be familiar, trusted, and influential</li> <li>▪ May provide more motivation or support than media alone</li> <li>▪ Can sometimes be inexpensive</li> <li>▪ Can offer shared experiences</li> <li>▪ Can reach larger audience in one place</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be time consuming to establish</li> <li>▪ May not provide personalized attention</li> <li>▪ Organizational constraints may require message approval</li> <li>▪ Control of messages may be lost if they are adapted to fit organizational needs</li> </ul>
<b>Mass media</b>	<ul style="list-style-type: none"> <li>▪ Newspaper</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ads (paid or public service)</li> <li>▪ News</li> <li>▪ Feature stories</li> <li>▪ Letters to the editor</li> <li>▪ Op-ed pieces</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can reach broad audiences rapidly</li> <li>▪ Can convey health news/breakthroughs more thoroughly than TV or radio and faster than magazines</li> <li>▪ Audience has chance to clip, reread, contemplate, and pass along material</li> <li>▪ Small papers may take print public services announcements (PSAs)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Coverage demands a newsworthy item</li> <li>▪ PSA placement virtually nonexistent</li> <li>▪ Exposure usually limited to one day</li> </ul>

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Channel	Sub-channel	Activities	Pros	Cons
Mass media	<ul style="list-style-type: none"> <li>▪ Radio/podcasts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ads (paid or public service)</li> <li>▪ News</li> <li>▪ Public affairs/interview shows</li> <li>▪ Dramatic programming (entertainment education)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Range of formats available to intended audiences with known listening preferences</li> <li>▪ Opportunity for direct audience involvement (through call-in shows and remotes)</li> <li>▪ Can use ad scripts (called “live-copy ads”), which are flexible and inexpensive</li> <li>▪ Paid ads or specific programming can reach intended audience when they are most receptive</li> <li>▪ Paid ads are relatively inexpensive</li> <li>▪ Ad production costs are low relative to TV</li> <li>▪ Ads’ message and execution can be controlled</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reaches fewer people than TV</li> <li>▪ Although cheaper than TV ads, paid ads still may be too expensive</li> <li>▪ PSA placement runs infrequently and at low listening times</li> <li>▪ Feature placement requires contacts and may be time consuming</li> <li>▪ Many stations have limited formats that may not be conducive to health messages</li> <li>▪ Difficult for audiences to retain or pass on material</li> <li>▪ Stations consolidating; fewer local choices</li> </ul>
Mass media	<ul style="list-style-type: none"> <li>▪ TV</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ads (paid or public service)</li> <li>▪ News</li> <li>▪ Public affairs/interview shows</li> <li>▪ Dramatic programming (entertainment education)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Potentially the largest and widest range of audiences</li> <li>▪ Visual combined with audio good for emotional appeals and demonstrating behaviors</li> <li>▪ Can reach low-income audiences</li> <li>▪ Paid ads or specific programming can reach intended audience when they are most receptive</li> <li>▪ Ads’ message and execution can be controlled</li> <li>▪ Opportunity for direct audience involvement (through call-in shows)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ads are typically expensive to produce</li> <li>▪ Paid advertising may be too expensive</li> <li>▪ PSA placement may run infrequently and at low viewing times</li> <li>▪ Feature placement requires contacts and may be time consuming</li> <li>▪ Message may be obscured by commercial clutter</li> <li>▪ Increased channel options have fragmented audiences (some channels reach very small audiences)</li> <li>▪ Promotion can result in huge demand</li> <li>▪ Can be difficult for audiences to retain or pass on material</li> </ul>

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Channel	Sub-channel	Activities	Pros	Cons
Digital	<ul style="list-style-type: none"> <li>▪ Internet</li> </ul>	<ul style="list-style-type: none"> <li>▪ Websites</li> <li>▪ E-mail lists</li> <li>▪ Chat rooms</li> <li>▪ News groups</li> <li>▪ Ads (paid or public service)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can reach large numbers of people rapidly</li> <li>▪ Information can be instantaneously updated and disseminated</li> <li>▪ Information can be controlled</li> <li>▪ Can reach specific audiences and provide personalized information</li> <li>▪ Can be interactive and engaging</li> <li>▪ Can provide health information in a graphically appealing way</li> <li>▪ Can combine the audio and/or visual benefits of TV or radio with the self-pacing benefits of print media</li> <li>▪ Can use banner ads to direct audience to your website</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be expensive</li> <li>▪ Many audiences may not have access to the Internet or skills to use it</li> <li>▪ Audience must be proactive; they must search or sign up for information</li> <li>▪ News groups and chat rooms may require monitoring</li> <li>▪ Can require maintenance over time</li> <li>▪ Thousands of health-oriented websites and listservs exist, so size of audience may be small</li> <li>▪ Users typically scan websites quickly and may not attend to health messages</li> </ul>
Digital	<ul style="list-style-type: none"> <li>▪ Social media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Facebook</li> <li>▪ Instagram</li> <li>▪ Twitter</li> <li>▪ Pinterest</li> <li>▪ LinkedIn</li> <li>▪ YouTube</li> <li>▪ SnapChat</li> <li>▪ TikTok</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can reach audience segments that traditional channels miss</li> <li>▪ Can reach a big, unlimited audience</li> <li>▪ Can be fast</li> <li>▪ Can generate interaction</li> <li>▪ Can nurture brand loyalty</li> <li>▪ Can be good for providing customer service</li> <li>▪ Can provide insight to help improve your messaging</li> <li>▪ Can provide insight on your target audience, which may be valuable when planning other tactics</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be time consuming</li> <li>▪ Can attract opposition</li> <li>▪ Can be uncontrollable if content goes viral</li> <li>▪ Can be hard to define ROI</li> </ul>

(Minnesota Department of Health & Kinsella, 2017; Centers for Disease Control and Prevention, 2003).