Instructor’s Note
Social Determinants of Health
2018

Overview
When we think of someone who has heart disease, our first instinct may be to assume they are ill because they do not exercise or choose to eat unhealthy foods. However, the behaviors people engage in, the choices they make, and the states of health that they experience do not exist in a vacuum. These all have underlying social causes. In public health, aspects of our social environment that impact people’s well-being are referred to as the social determinants of health, and they include all of the social factors external to an individual that influence their health both directly and indirectly.

This instructor’s note provides teachers with guiding suggestions to help frame their use of four lesson plans in a teaching pack on “Social Determinants of Health.” The contents of the teaching pack, including lessons and companion materials, are listed below. The teaching pack begins with a teaching guide that introduces instructors to the key concepts related to the social determinants of health as they are discussed in these lessons. The four lessons follow; each may be taught independently or sequentially as a complementary module. In the first lesson, students compare two frameworks for the social determinants of health, then apply a particular health condition to the social determinants framework. The second lesson uses data and images to help students understand, apply, and draw connections among the social gradients that characterize populations and that influence the effects of social determinants on health. The third lesson features a close look at just one situation in which a social determinant of health led to a tragic health outcome. In the fourth lesson, students consider how social hierarchies within a single population influence health risks and potential health conditions.

These lessons and companion materials are designed to challenge students to consider the social determinants of health through “real world” examples that bring the concepts to life. Students will learn about the ways broader social factors—such as education, socioeconomic status, and social policies— influence major global health challenges.

The Global Health Education and Learning Incubator (GHELI) at Harvard University curates resource collections and teaching packs to equip students and educators with high-quality, accessible materials on priority topics, drawn from a range of sources and mediums. Learn more at: gheli.harvard.edu.
Teaching Materials

- Teaching Guide: Brief Introduction to the Social Determinants of Health
- Lesson Plan: Comparing and Applying Frameworks
- Lesson Plan: Social Determinants in Data and Pictures
- Lesson Plan: When Words Break Bones, Without Sticks and Stones
- Lesson Plan: Social Status

Additional Resources

- Social Determinants of Health: Annotated Bibliography
- Social Determinants of Health: Glossary of Terms

Learner Level

- High School, Undergraduate

Learning Objectives

This module will enable students to:

- Identify social factors that serve as fundamental causes of disease (e.g. education, income, and socioeconomic status, among others) and understand the ways they impact population health.
- Define the social determinants of health framework within the broader context of global health.
- Articulate the pathways by which social exposures exert physiological effects on individuals.
- Analyze the impact policy and programmatic interventions aimed at social factors can have on population health.
**Teaching Guide**

**Brief Introduction to the Social Determinants of Health**

2018

**Purpose**

The purpose of this teaching guide is to provide educators with a basic overview of social determinants of health in order to help students understand the causes of health inequities observed between groups. The guide is part of a teaching pack on “Social Determinants of Health.” Please refer to the accompanying instructor’s note for an overview of the teaching pack, the four lessons and companion materials, and learning objectives. This teaching guide is intended to serve as a reference document for those teaching the lessons; instructors may also choose to directly incorporate or draw on portions of the materials in this guide for classroom discussions, depending on learner level.

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- Example: Anthony in Kenya
- Social Determinants Within the Broader Context of Global Health
- Using Social Determinants of Health Frameworks
- Key Takeaways
What are Social Determinants of Health?

Social determinants of health (SDH) are all of the social factors external to an individual that may not seem relevant to health, but that ultimately shape the conditions in which people live, work, and grow in ways that can both promote well-being and confer disease risk. Understanding SDH in relation to specific health outcomes both provides necessary information about the context for the conditions that predict health and disease, and can also help students understand why health inequities (socially produced, systematic inequalities in health between groups) exist in the population. For instance, in order to answer the question of why HIV/AIDS is more prevalent in low-income, marginalized communities, one must first understand the structural factors (i.e. political, cultural, and societal), socioeconomic conditions (i.e. social class, gender, race/ethnicity), and environmental factors (e.g. living and working conditions, neighborhood context) related to disease transmission that disproportionately impact marginalized people.

To appreciate the extent to which SDH impact global health trends, it is useful to look at some data on social gradients and levels of cause. Social gradients in health, illustrated in Figures 1 and 2 below, have been observed in countries around the world. A social gradient refers to the fact that socially disadvantaged people typically have worse health outcomes than those who are more advantaged. The following bar charts provide some graphical examples of how these trends manifest globally.

The first bar graph (Figure 1) illustrates the impact of education on a woman’s risk of dying in childbirth (maternal mortality). The second bar graph (Figure 2) illustrates the relative power of household income as a social determinant of the risk that children will die before their fifth birthday (under-5 mortality).

Figure 1: The proportion of mothers who died during pregnancy in a cross-sectional analysis of data across 24 countries from the WHO Global Survey on Maternal and Perinatal Health

But it is not enough to simply understand health inequities. Adopting a social determinants of health lens to view a health issue also requires looking at three different levels of causes:

<table>
<thead>
<tr>
<th>Level of the Cause</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distal</strong> (farthest away from an individual’s health status) or societal</td>
<td>Cultural, political, and infrastructural causes</td>
<td>Education, income, housing conditions, air quality, access to food and water, road safety</td>
</tr>
<tr>
<td><strong>Intermediate</strong></td>
<td>Relationships, social contexts</td>
<td>Community factors, including those related to work, school, family, and peer environments</td>
</tr>
<tr>
<td><strong>Proximal</strong> (closest to an individual’s health status) or individual</td>
<td>Behaviors, capabilities, attitudes, and direct biological threats to health</td>
<td>Hygiene habits, exposure to disease vectors that cause diarrhea, dengue, malaria</td>
</tr>
</tbody>
</table>

At the **distal level** are the wider circumstances in which people live, including broader cultural values, national or international political forces, laws or policies, or cross-cutting exposures like those related to climate, conflict, or the media. These factors are called distal because they are not directly related to the individual, but rather establish the wider context in which a person lives. At the **intermediate level** are factors related to communities, workplaces, schools, or families that define an individual’s more immediate social environments. Finally, at the **proximal level** are factors directly related to individuals themselves which
impact health, including personal biology, behaviors, capabilities, or attitudes. Considering the different levels at which determinants operate can help students keep track of a complex array of contributing factors, while also highlighting potential pathways between social exposures and physical health.

Why do we care about social determinants of health? SDH are important because if we intervene and address (or work to change) determinants at the distal level, they can have a potentially greater impact on population health than simply focusing on individual behaviors, attitudes, or biological factors. For example, it is well known that poverty contributes to a greater likelihood of developing and dying from coronary heart disease. We know that this pathway operates through mechanisms that affect the limited capacity that people have, with a low income, to make healthy food choices, engage in physical activity, access preventive health care, and acquire knowledge of how to promote heart health, among other factors. If policies were put into place to alleviate poverty, the downstream health consequences could be substantially minimized in low-income communities, thereby reducing disparities. In contrast, an individual-level approach to address heart disease in low-income communities might take a different approach such as, for example, making cholesterol- and blood pressure-lowering medications easily available and affordable to those at risk. While this approach would address an immediate need, it would be both costly and have a limited reach due to resource limitations. Addressing the distal factor of poverty through policy is an inherently population-oriented strategy designed to reach large numbers of people that may be more cost efficient with more widespread substantial benefits.

Example: Anthony in Kenya

As an example of how the social determinants of health manifest in an individual’s life, let’s consider the story of Anthony in Kenya. Anthony is a street vendor in Mombasa, who lives in a dense, urban neighborhood. He is lucky enough to have a small apartment in a permanent housing unit for his family and himself, but his neighborhood does not have access to clean water, fresh food, or toilet facilities. Although his seven-year-old son and an eleven-year-old daughter attend school, Anthony only attended school until second grade, and his wife never attended. Because Anthony works vending on the streets during the day, he often purchases, barters for, and handles the food his family uses in meal preparations.

These social and neighborhood factors impact Anthony’s day-to-day life in various ways that shape his and his family’s health. Two scenarios illustrate these connections:

- **Scenario 1:** Anthony’s family barely has enough income to feed itself. This prevents them from moving to a less densely populated area with more community resources. As a result, they face all of the health risks associated with living in a poorer neighborhood, including exposure to high volumes of mosquitoes that carry malaria and dengue, and a lack of access to adequate health facilities to treat diseases if family members get sick. Therefore, the social determinant of low income has hindered Anthony’s family’s mobility, which in turn results in increased exposure to disease agents in the environment and limited ability to receive proper health care services if necessary.

- **Scenario 2:** Due to the social circumstances in which Anthony grew up, he has limited knowledge about health and hygiene. As a result, he does not wash his hands with soap after using the toilet, and his family often gets diarrhea due to the bacterial contamination in the food he handles and cooks. Here we see that the social determinant of having limited education led Anthony to engage in unhealthy behaviors that further contribute to his family’s poor health.
Social Determinants of Health Within the Broader Context of Global Health

When we think about complex public health challenges, it is easy to get lost in the vast web of causes and consequences impacting populations and individuals around the globe. With that in mind, instructors often use conceptual frameworks (or thinking tools) to break down complicated problems into its component parts when teaching public health issues. Conceptual frameworks can help students organize the many relevant factors at play (including the social determinants of health), to understand how they contribute to the health issue at hand, and brainstorm potential responses or critique existing ones. This section of the teaching guide outlines one framework that instructors might use to help students think systematically about these factors.

In order to understand any global health challenge, we must first ask ourselves two big questions:

1. **What is the problem?** How do we understand and contextualize major health issues in the population?
2. **What are the solutions?** What are the ways we can draw upon all of the tools and mechanisms in our disposal to tackle these challenges?

In order to unpack these core questions, we consider two dimensions within each. To think of this as a conceptual framework, instructors should write the following two questions on the board:

![What is the problem?](image)

Allow plenty of space on the board to write in student answers to these questions. While the framework below uses boxes as an example, instructors may choose to illustrate these framework ideas using whatever graphics are most understandable to their students.

**What is the problem?**

- **Dimension 1: Health Conditions.** When thinking about the nature of any particular public health challenge, we must first understand the health conditions we are referring to. In other words, what are key biological or pathophysiological features of the issue that present within a person and cause them to not be healthy? To what extent does it contribute to death or impairment in the population?
How are individuals and communities impacted by it? These are all salient features that give audiences a sense of the magnitude and impact of the health issue.

- **Dimension 2: Conditions for Health (i.e. Determinants).** Next, to understand the context of our given health issue, it is critical to identify all other factors that contribute to it. What are the individual (e.g. behavioral, attitudinal), social, political, and economic factors that may put people at risk or protect them from illness? The social determinants of health refer to the conditions for health relating to the various environments individuals occupy (e.g. home, school, workplace, neighborhood, and society/culture, among others).

### What is the solution?

#### Identifying Solutions

- **Health Sector Responses:** After developing a firm understanding of the nature of a given health problem and the contextual factors influencing it, students can begin to consider potential responses to the issue at the population level. Responses from the health sector refer to initiatives that are carried out by people or institutions whose primary job is to improve people's health (e.g. physicians, nurses, hospitals/clinics, community health workers). Since the health sector is positioned to respond to acute and pervasive health challenges through direct outreach to individuals, these types of responses will likely not intervene directly upon the social determinants of health, but they must rather take them into account in order to be maximally effective.

- **Non-Health Sector Responses:** While the health sector is often the first line of defense in the face of major challenges to public health, various other domains of society can also act to improve health outcomes in the population. Non-health sector responses refer to the various ways diverse actors across other areas in society (e.g. policymakers, economists, engineers, and the education sector among many others) can work to advance health. To directly tackle social determinants of health in the population, it generally requires coordinated effort from these non-health sector actors.
Using Social Determinants of Health Frameworks

Social processes are, by their very nature, messy, complex, and difficult to understand. For example, while we may know that malaria is causally contracted through mosquito bites, or tuberculosis through contact with bacteria, there is no easy way to causally show how social exposures like poverty or low education may put someone at a greater risk for disease, since they exert their effects through multiple complicated relationships and processes. To help make sense of these pathways and diverse factors at play, we can draw on other conceptual frameworks to organize our thinking about the social determinants of a given health issue. Such conceptual frameworks are useful pedagogic tools (often presented graphically) that students can use to better understand how social processes influence health. Below, three example frameworks are provided with a brief explanation of each:

Example Framework #1


Framework 1 provides a graphical depiction of the factors impacting health from the distal, societal level to proximal, individual level. At the individual level, it shows age, sex, and constitutional factors (i.e. characteristics that define an individual) as the main drivers of health. External to these inherent factors are individual lifestyle factors, including health-related behaviors and attitudes. As you move further away from the individual, you begin to see different aspects of one’s social environment coming into the fray, including their social networks (e.g. family, peers, co-workers, and neighbors). External to these connections are the physical social spaces these networks operate within, which are generally defined as living and working conditions, but also include the broad social factors that shape these environments (e.g. agriculture and food production, unemployment, water and sanitation, and health care services, among others). Finally, at the most distal edge of this diagram are the general socioeconomic, cultural, and environmental conditions of a given society.
Framework 2 is a more simplified version of the same ideas illustrated in Framework 1. This diagram breaks down the causes of disease into different categories by the extent to which they impact health. Rather than dividing factors by level, this framework organizes them in a way that may be more accessible to novice audiences or younger students. Here, 50 percent of disease is shown to be attributable to factors to aspects of an individual’s life, including their income, education, race, and sense of belonging in society, while 25 percent is attributable to health care, 15 percent to biology, and 10 percent to environmental factors, like air quality and civic infrastructure.
Framework 3 looks across types of determinants of health to show that structural determinants influence intermediary determinants, which in turn cause a social gradient in health outcomes. It then looks within each of these types of determinants to understand their constituent processes. On the left side, the framework shows how structural determinants are composed of socioeconomic and political factors and social hierarchy factors, all of which interact with each other. On the right side, the framework shows how at the intermediate level, the health system can accentuate or mitigate the exposure and vulnerability of populations or individuals to conditions that compromise health.
Key Takeaways

The brief introductory overview offered in this teaching guide is designed to help provide educators with a few select tools they may use to guide students through the four lessons in this teaching pack. Below are some of the key takeaway points to keep in mind in any discussion of the social determinants of health:

- Understanding and addressing the root causes of health inequities that exist between advantaged and disadvantaged groups in society is a critical goal of working in global health.
- These inequities are explained by the social determinants of health, which is an umbrella term for a broad range of social factors that serve as the root causes of health and disease.
- Social determinants of health include the aspects of social environments that shape the contexts in which people live and grow, and have cascading impacts on population health both directly (e.g. by impacting individuals’ biological processes) and indirectly (e.g. by influencing individuals’ health-related attitudes and behaviors).
- There are numerous ways to think about the social determinants of health, and conceptual frameworks can serve as useful organizational tools to make sense of the complicated web of factors at play.
- Ensuring and improving global health is a team effort requiring action from the health sector (e.g. health care workers, ministries of health, drug companies, and international nongovernmental health organizations, among others) as well as from diverse actors in the non-health sector (e.g. urban planners, farmers, policymakers, lobbyists, multilateral institutions, and many more).
Lesson Plan
Comparing and Applying Frameworks
2018

Purpose
The purpose of this interactive class activity is to introduce students to two ways of thinking about the social determinants of health using different conceptual frameworks. First, students will be introduced to the overall concept of the social determinants of health, and then they will consider these ideas in the visual context of two frameworks (one created by the Canadian Medical Association,¹ and the other by public health researchers, Dahlgren and Whitehead²). After analyzing the similarities and differences of these different approaches to thinking about social determinants, students will participate in a brainstorming activity that gives them the chance to apply these frameworks to a concrete health challenge.

This is one of four lesson plans in a teaching pack on “Social Determinants of Health.” Other lessons in this teaching pack include:

- “Social Determinants in Data and Pictures”
- “When Words Break Bones, Without Sticks and Stones”
- “Social Status”

Each of the lessons may be taught independently, or sequentially as a complementary module. Additional companion materials in the pack include an instructor’s note, a teaching guide titled “Brief Introduction to the Social Determinants of Health,” an annotated bibliography, and a glossary of terms.

Learner Level
High School, Undergraduate

Time
One 1-hour session

Required Materials

- Print-outs or display of Handout A: Comparing and Applying Frameworks, for use in Part 1.
- Print-outs or display of Handout B: Health Causes Tables, for use in Part 2.

Comparing and Applying Frameworks: Lesson Plan

Learning Goals

1. To become familiar with multiple frameworks for social determinants of health and how each has unique analytic leverage.
2. To practice applying the social determinants of health to common public health problems.

Procedure

Part 1: Warm Up to Social Determinants of Health Frameworks (20 minutes)

First, introduce students briefly to the concept of the social determinants of health (SDH). Teachers can do this by providing definitions on slides, showing health trends in graphs or maps, showing video clips, or providing anecdotal, illustrative examples. The approach instructors choose will depend on their target learner and their familiarity with social factors. For a brief conceptual overview of SDH, see the box below, or refer to the supplemental materials included in the SDH teaching pack.

A Brief Overview of the Social Determinants of Health:

Social determinants of health (SDH) are all of the social factors external to an individual that may not seem relevant to health, but ultimately shape the conditions in which people live, work, and grow in ways that can both promote well-being and confer disease risk. Understanding SDH in relation to specific health outcomes provides necessary information about the context for the conditions that predict health and disease, but also can help students understand why health inequities (socially produced, systematic inequalities in health between groups) exist in the population. For instance, in order to answer the question of why HIV/AIDS is more prevalent in low-income, marginalized communities, one must first understand the structural factors (i.e. political, cultural, and societal), socioeconomic conditions (i.e. social class, gender, race/ethnicity), and environmental factors (e.g. living and working conditions, neighborhood context) related to disease transmission that disproportionately impact marginalized people.

Adopting a social determinants of health lens to view a health issue requires looking at three different levels of causes:

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</tbody>
</table>

At the distal level are the wider circumstances in which people live, including broader cultural values, national or international political forces, laws or policies, or cross-cutting exposures like those related to climate, conflict, or the media. These factors are called distal because they are not directly related to the individual, but rather establish the wider context in which a person lives. At the intermediate level are factors related to communities, workplaces, schools, or families that define an individual’s more immediate social environments. Finally, at the proximal level are the factors based within individuals that impact their health, including their biology, behaviors, capabilities, or attitudes. Considering the different levels at which determinants operate can help students keep track of a complex array of contributing factors, while also highlighting potential pathways between social exposures and physical health.
Comparing and Applying Frameworks: Lesson Plan

Next, instructors will distribute Handout A to the students, and instruct them to spend a few minutes looking at the two frameworks depicted on the sheet. Students should consider the following questions:

1. What are three ways in which these frameworks differ from each other?

   Students should point out a number of differences between the two models, including:
   - The Canadian Medical Association (CMA) framework categorizes determinants of health into categories that make people sick, with social determinants in multiple boxes, whereas the Dahlgren-Whitehead (DW) framework organizes the causes of sickness into a chain from distal to proximal causes.
   - CMA ascribes weight to the different categories of causes, attributing 50 percent of sickness to “Your Life” and 10 percent to “Your Environment.” DW instead considers the causes of sickness to be a chain leading from one's life and environment to more individual-level causes, a distinction that is not as effectively captured in CMA.
   - DW includes broader contextual social characteristics as its most distal level of causes, including cultural conditions, which are left out of CMA. DW focuses on the chain from macroscopic contextual causes to microscopic individual-level causes whereas CMA gives less attention to these levels of causes.

2. Which framework do you prefer to best understand SDH and the overall causes of health in general? Why?

   This question does not have a single correct answer, but is rather designed to motivate students to think closely about SDH by having them to choose a framework and explain their choice. Their answers should reflect critical thinking about social determinants.

Part 2: Applying SDH Frameworks to a Health Problem (40 minutes)

For the rest of class, students will use these conceptual frameworks to think about the social determinants impacting real health challenges, starting with malaria.

1. Instructors should begin by familiarizing students with how malaria is transmitted.

   Malaria is a mosquito-borne disease that spreads when uninfected mosquitoes bite infected humans and become carriers of malaria. Infected mosquitoes then transmit the disease by biting uninfected humans. Therefore, in order to prevent malaria, people must protect themselves against getting mosquito bites.

2. Once students understand the basic mechanism of how malaria spreads, the instructor should divide the class into small groups and use Handout B to brainstorm about the different social determinants that they think may contribute to the spread of malaria at various levels.

   This exercise is designed to have students think beyond the individual-level modes of disease transmission (i.e. mosquito bites) to the more “upstream” social or infrastructural factors that may put people at a greater risk of being bitten. As students complete Handout B, they should refer back to the two SDH frameworks on Handout A for ideas.

3. After the students have completed the exercise, they should share their answers with the wider class.
Comparing and Applying Frameworks: Lesson Plan

For the instructor’s reference, the following table summarizes the causes of malaria at various levels:

<table>
<thead>
<tr>
<th>Level of Cause</th>
<th>Malaria-Specific Mechanisms</th>
<th>Prevention Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distal</td>
<td>Crowded, low-income communities lack infrastructural support to prevent disease transmission and face risks related to poor sanitation; low-income residents often do not have money to spend on preventive measures (e.g. bed nets, mosquito repellant)</td>
<td>Invest in clean sanitation systems and drainage as well as other measures to ensure neighborhood measures are kept clean to minimize mosquito breeding; Social safety net policies aimed at poverty alleviation</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Lack of knowledge about how malaria works leads residents to not take preventive measures, thereby creating health risks at the community level</td>
<td>Community education campaigns to teach people about the proper disposal of bodily, food, and other refuse, how to eliminate standing water where mosquitoes can breed, and other prevention strategies that can be taken to improve living conditions at the community level</td>
</tr>
<tr>
<td>Proximal</td>
<td>Mosquito bites human</td>
<td>Use of mosquito nets, insect repellent, and long-sleeved clothing to avoid contact with mosquitoes</td>
</tr>
</tbody>
</table>

4. Students will now turn their attention to a health problem of their choosing. Students should reconvene with their small groups and identify a health problem that interests them, or a problem facing their own community. They can choose to focus on anything from heart disease to the flu, and are encouraged to think about particular subgroups of the population that are disproportionately impacted when making their choice.

5. Once each group has selected a health outcome to focus on, they will work together to brainstorm its distal (mostly social), intermediate, and proximal causes. They could accomplish this by filling out the empty table in Handout B, or they can choose to present their work in a different way.

The table below summarizes one example for the instructor’s reference, using mechanisms related to heart disease as a hypothetical health outcome.
Comparing and Applying Frameworks: Lesson Plan

Example of table for heart disease:

<table>
<thead>
<tr>
<th>Level of Cause</th>
<th>Heart Disease-Specific Mechanism</th>
<th>Prevention Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distal</td>
<td>Having a low income confers risk by limiting people’s ability to buy healthy foods or engage in healthy behaviors; it also increases the stress they experience day-to-day</td>
<td>Implement social safety net policies aimed at poverty alleviation</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Low-resource neighborhoods have limited access to healthy foods and green space where people can exercise</td>
<td>Open green grocers in low-income neighborhoods or start community garden initiatives; launch park clean-up projects or create new parks so residents have clean and safe community spaces</td>
</tr>
<tr>
<td>Proximal</td>
<td>Eating unhealthy foods; lack of exercise</td>
<td>Deliver education campaigns that teach people about healthy lifestyle choices they can adopt to improve their heart health; encourage individual-level interventions to increase physical activity and healthy eating</td>
</tr>
</tbody>
</table>

At this point, the instructor could choose to have a more open-ended discussion about health in the community, especially if the exercise has sparked thoughts that students wish to share. Discussions can be structured similarly to the group exercises. First, open the floor for students to share the health problems they find interesting (these can include topics they did not focus on in their small groups), and list them on the board. As a class, choose a single health issue to focus on for the rest of the discussion. Together, the class can then brainstorm about the proximal, intermediate, and distal determinants of the health problem, with students sharing from their own experiences as they relate to the determinants of that problem at any level. For example, a student who volunteers in a hospital may want to share an experience of observing healthcare providers treating the health problem at a proximal level. Another student may share how a family member prefers fast food over home cooking and may relate that back to a more distal factor of how unhealthy foods are cheaper than fresh produce. By sharing these experiences, students see how particular actions can have an impact on health outcomes.

6. Instructors should wrap up the teaching session with a broader discussion about the similarities between the social determinants of malaria and the health problem the students chose to think about.

Again, this question can be answered in a number of ways and teachers should use their own judgment when framing this discussion. One suggestion is to make a list of similarities and a list of differences on the board. Teachers can then ask students to analyze the differences between these determinants to more fully understand how distal determinants of health (e.g. poverty) can affect both health outcomes while other determinants (e.g. mosquito bites) will affect fewer health outcomes. Highlighting this point will demonstrate that intervening on distal determinants not only has the benefit of impacting
more people by virtue of targeting social factors, but could also have the benefit of leading to better outcomes in relation to multiple unrelated health issues (e.g. malaria and the flu). Be sure to note that many practitioners of public health contend that targeting determinants of health that impact many health outcomes is the most efficient and logical way to improve public health.

Summary

In this lesson, students examined two frameworks for the social determinants of health to gain a basic understanding of the connection between distal, intermediate, and proximal causes of health. The differences between the two frameworks included in this lesson show that this same idea—of underlying factors leading to tangible health outcomes—can be represented in different ways. After understanding and comparing these frameworks, students were tasked with applying a health condition into the framework. They first went through this process for the health condition malaria, and then did the same for a health condition of their own choosing. In this process, students practiced thinking analytically about a health condition in systematic terms of its proximal causes and circumstances, intermediate factors, and root causes.
Handout A
Comparing and Applying Frameworks

Canadian Medical Association Framework (CMA)


Dahlgren & Whitehead Framework (DW)

Handout B
Comparing and Applying Frameworks

Causes of Malaria

Based on the information you discussed in class about the causes of malaria at the proximal and intermediate levels, fill in the empty cells in the table below with examples of possible mechanisms. Brainstorm about “upstream” social or infrastructural characteristics of a society or neighborhood that lead to the intermediate and proximal causes of malaria that you see below, and identify some ideas for prevention at each of these levels.

<table>
<thead>
<tr>
<th>Level of Cause</th>
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<tbody>
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<td></td>
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</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximal</td>
<td>Mosquito bites human</td>
<td></td>
</tr>
</tbody>
</table>

Causes of a Health Problem of Your Choosing

Fill in the table below with problem-specific mechanisms and prevention ideas that pertain to the health problem you selected, at each level of cause.

<table>
<thead>
<tr>
<th>Level of Cause</th>
<th>Health Issue-Specific Mechanisms</th>
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</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson Plan

Social Determinants in Data and Pictures

2018

Purpose

In this lesson, students compare living conditions across a variety of populations through the use of pictures provided by the interactive web resource “Dollar Street” and using data from the International Human Development Indicators. They then relate this glimpse into ordinary people’s lives to national-level data on health and social determinants.

This is one of four lesson plans in a teaching pack on “Social Determinants of Health.” Other lessons in this teaching pack include:

- “Comparing and Applying Frameworks”
- “When Words Break Bones, Without Sticks and Stones”
- “Social Status”

Each of the lessons may be taught independently, or sequentially as a complementary module. Additional companion materials in the pack include an instructor’s note, a teaching guide titled “Brief Introduction to the Social Determinants of Health,” an annotated bibliography, and a glossary of terms.

Learner Level

High School, Undergraduate

Time

One 1-hour session

Required Materials

- Copies of the Handout accompanying this lesson.
Resource Summary

Activities for this lesson are centered on two interactive data tools. The Gapminder “Dollar Street” portal imagines that everyone in the world is living on one street, “Dollar Street,” lined up from lowest to highest income. As users interact with the data, they see the various aspects of the lives of each household living on that street. Many of the images—photographs of families and their household objects, taken in real homes across the world—give insights into the social determinants impacting health on Dollar Street, and allow for easy comparison of conditions across different populations. This tool is a user-friendly, hands-on tool that introduces students with computer and internet access to the social determinants of health interactively.

The second tool used in this lesson was produced by the United Nations Development Programme to illustrate human development data by country. The interactive map and country profiles include data related to health, education, income, inequality, gender, poverty, employment, and many more indicators for each country. This tool is provided to give students a resource to find country-specific data.

Learning Goals

1. To explore the social and material conditions in which people around the world live, using the interactive “Dollar Street” tool.

2. To use population-level data to compare social and health conditions across countries and understand the links between social determinants and health.

Procedure

Part 1: Getting Acquainted (30 minutes)

1. Have students begin with “Dollar Street,” the first resource listed above. The default setting should be Families in the World by income. If not, change the view to this setting using the dropdown menus. Within any particular row, there should be four images of families, organized left to right, from poorest to richest. Students should create a table like those below for all of the entries in a single row of “Dollar Street”:

<table>
<thead>
<tr>
<th>Country</th>
<th>Monthly Income</th>
<th>Observations from Photos</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An example of a filled-out table is provided below. The handout that accompanies this lesson contains a blank table for students to fill in with their findings. Ideally each student or group of students will select different countries within “Dollar Street” so that they can compare differences with each other later on in the lesson.
Social Determinants in Data and Pictures: Lesson Plan

<table>
<thead>
<tr>
<th>Country</th>
<th>Monthly Income (U.S. Dollars)</th>
<th>Observations from Photos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latvia</td>
<td>$11,381</td>
<td>Spacious living room with nice furnishings, nice clothing, white walls of high quality.</td>
</tr>
<tr>
<td>Russia</td>
<td>578</td>
<td>Nice clothing, slightly worn walls.</td>
</tr>
<tr>
<td>Thailand</td>
<td>179</td>
<td>Cheaper furnishings than Latvian example, lots of plants, decent clothes.</td>
</tr>
<tr>
<td>Burundi</td>
<td>27</td>
<td>Mud walls, dirty and ill-fitting clothes.</td>
</tr>
</tbody>
</table>

2. Students can then click on each case in the row they selected above and write down any additional observations they have about each family. More information is available by first clicking on the tile representing the family and then clicking on Visit this home.

3. After viewing photos and recording data/observations in the steps above, students should then go to the International Human Development Indicators, the second resource used in this lesson. Students should open the country profiles for two of the countries represented in their “Dollar Street” table. For each of the two countries, they should write down the following items and put them into a table:

- Health → Life expectancy
- Gender → Maternal mortality ratio
- Demography → Dependency ratio, young age
- Education → Expected years of schooling
- Two other items of interest (same for both countries)

The handout accompanying this lesson contains an empty table for students to fill out. Below is an example of how the completed table might appear if the student selected Burundi and Latvia:

<table>
<thead>
<tr>
<th>Country</th>
<th>Life Expectancy (years)</th>
<th>Maternal Mortality Rate (per 100,000)</th>
<th>Dependence Ratio</th>
<th>Expected Years of Schooling (years)</th>
<th>Your Choice</th>
<th>Your Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>57.1</td>
<td>712</td>
<td>85.0</td>
<td>10.6</td>
<td>4.9</td>
<td>77.7</td>
</tr>
<tr>
<td>Latvia</td>
<td>74.3</td>
<td>18</td>
<td>22.7</td>
<td>16.0</td>
<td>79.2</td>
<td>1.4</td>
</tr>
</tbody>
</table>
Part 2: In-Class or Group Discussion (30 minutes)

For the rest of class, the instructor will build on the information students gathered in Part 1, leading an open-ended group discussion about the social determinants of health, and focusing on the questions provided below:

1. **Describe the differences in social or infrastructural conditions between the richer and poorer families that were apparent from the pictures on “Dollar Street.”**
   Students may point out the differences in housing materials, foods in the home, clothing and visible health of the family members, facilities in the home, etc. All of these observations give us clues about the family’s social situation and how these social or infrastructural aspects of each family could influence their health.

2. **Which differences stand out the most to you when you compare the data you looked up in the International Human Development Indicators profiles?**
   Encourage students to identify similarities among underdeveloped countries (e.g., they all have lower life expectancy, less average education, etc.) and developed countries (higher life expectancy and lower education). It is important to remind students that life expectancy and maternal mortality ratio are health outcomes and education is a social factor that can cause health outcomes to be better or worse.

3. **Take a moment to think back about the countries whose International Human Development Indicators you researched earlier, and rank them from highest to lowest life expectancy. What factors do you think contribute to this trend across these countries?**
   Students’ responses should reflect an analysis of the social factors influencing health, and instructors should encourage them to think about potential health levers in society (e.g. factors that can be leveraged to promote health in the given country), and potential sources of risk (e.g. factors associated with worse outcomes, like poverty or low levels of education). Students should be encouraged to consider the potential pathways by which these factors may impact health in ways that lead to shorter or longer life expectancies.
Summary

In this lesson, students used multiple types of data to understand the social determinants of health and how they can impact the health of populations and individuals. First, students used the “Dollar Street” tool to become acquainted with different living situations and populations around the world. This involved using information from pictures and numerical data to understand the underlying conditions for health. Next, students looked through the data in the International Human Development Indicators to understand how national-level statistics can help us understand the development levels and social conditions in given populations. They considered how these social conditions in turn lay the groundwork for a social gradient in health. Finally, students participated in an open-ended discussion to come together and interpret the data they had gathered and examined. This synthesis process is important in encouraging students to look once more at the connections between conditions for health (social determinants) and resulting health conditions.
Handout A
Social Determinants in Data and Pictures

Exploring Countries from “Dollar Street”

Online at “Dollar Street,” go to Families in the World by income. In the first drop-down, make sure Families is selected. In the second one, make sure the World is displayed (you may need to click on Show all countries and then Ok in order to achieve this).

Fill out the table below based on the countries that you see in one row.

<table>
<thead>
<tr>
<th>Country</th>
<th>Monthly Income (U.S. Dollars)</th>
<th>Observations from Photos</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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gheli@harvard.edu
617-495-8222
Pulling Data on International Human Development Indicators

In the International Human Development Indicators data tool, look up the following six characteristics for two countries you looked at in Dollar Street, and complete the table below:

- Health → Life expectancy
- Gender → Maternal mortality ratio
- Demography → Dependency ratio, young age
- Education → Expected years of schooling
- Two other items of interest (same for both countries)

<table>
<thead>
<tr>
<th>HEALT H I N D I C AT O R S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country</strong> (name)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Lesson Plan

When Words Break Bones, Without Sticks and Stones

2018

Purpose

The purpose of this lesson and activity is to help learners examine a single instance in which a social determinant of health had an impact on a health outcome. This case activity uses an article on the 2014 suicide of Conrad Roy. In 2017, his girlfriend at the time of his suicide (Michelle Carter) was convicted of involuntary manslaughter for urging him to take his own life. Through the lens of this news story, students will explore how a person's immediate social environment can impact their health.

This is one of four lesson plans in a teaching pack on “Social Determinants of Health.” Other lessons in this teaching pack include:

- “Comparing and Applying Frameworks”
- “Social Determinants in Data and Pictures”
- “Social Status”

Each of the lessons may be taught independently, or sequentially as a complementary module. Additional companion materials in the pack include an instructor’s note, a teaching guide titled “Brief Introduction to the Social Determinants of Health,” an annotated bibliography, and a glossary of terms.

Learner Level

High School, Undergraduate

Time

Four components, totaling one hour and 40 minutes

Required Pre-Reading

When Word Break Bones, Without Sticks and Stones: Lesson Plan

Case Summary

On June 16, 2017, Michelle Carter was found guilty of involuntary manslaughter after sending text messages to her boyfriend, Conrad Roy, leading up to and on the day of his suicide in July 2014. Both teenagers suffered from depression. Michelle and Conrad communicated with each other using text messages about what they were going through and how to cope with their mental illnesses. Ultimately, Conrad decided that he wanted to kill himself. Michelle, as archives of her messages to him revealed, supported and even encouraged this decision.

In the legal world, this court case quickly became the focus of a heated debate on what legally can and cannot be considered a crime when the only actions taken were documented words. But as a public health issue, the case raises the question of how various forms of social support can have a positive, negative, or even deadly impact on someone’s health. This case is a useful opportunity for classroom discussion and study on the social determinants of health using current events. The procedure and discussion provided below will help guide teachers and students through class activities.

Learning Goals

1. To understand the impact of community-level social support (or lack thereof) on individuals.
2. To brainstorm responses and mechanisms that can be put into place to avoid or prevent similar events in the future.
3. To consider the ethical implications of the Conrad Roy case with respect to public health and the social determinants of health.

Procedure

Part 1: Warm Up (15 minutes)

1. Students should read The New York Times news story assigned for this lesson. This can be read in advance of class; the instructor may also choose to ask the class to take five minutes to skim the story again at the beginning of the session.

2. Write down the “who, what, when, where, and why” of this case.


   What: Conrad, after a battle with mental illness, killed himself, with Michelle’s encouragement. Michelle was later found guilty of involuntary manslaughter.

   When: Conrad committed suicide in July 12, 2014. Michelle was convicted on June 16, 2017.

   Where: Conrad committed suicide in a Kmart parking lot in Fairhaven, MA. Michelle was found guilty at the Bristol County Juvenile Court in Taunton, MA.

   Why: Conrad committed suicide after a long battle with depression and failing to find satisfactory mental health treatment. Michelle was found guilty for her encouragement that he kill himself.

3. Why did the judge decide that Michelle is guilty?

   The judge decided that Michelle is guilty because she encouraged Conrad to get back into the vehicle, where she knew he would not survive. She then stayed on the phone with him as he passed away, without taking any action to prevent him from dying.
Part 2: Critical Thinking (25 minutes)

1. Think of a time you had a conversation with someone about a difficult issue (whether by voice, written message, or another medium). Without revealing any private details or identifying information related to the issue, think about how aspects of the interaction impacted you and the person you were talking with. Did they cause you additional stress? Did they cause you relief? What about the other person? Do you think your behaviors or the other person’s behaviors changed as a result of the interaction?

   A broad range of answers is acceptable. The purpose of this question is to help students think about how interactions in their lives (a social factor) can have an impact on their behaviors, stress levels, and mental physical health. Furthermore, this question motivates students to consider how different mediums of interaction or socializing can impact them.

2. If you think Michelle behaved incorrectly (meaning she was correctly convicted): what would have to be different about the case to make her actions justifiable?

   These students, who believe that Michelle was correctly found guilty, may espouse a wide variety of opinions. Some may take a conservative stance, arguing that Michelle’s only mistake was telling Conrad to get back into the car and that the rest of her actions were not necessarily wrong. Others could argue that any encouragement to commit suicide is inappropriate and that Michelle was guilty from the moment she began to support the idea of his suicide and failed to take any preventive action.

   If you think Michelle behaved acceptably (meaning she was unfairly convicted by the judge): what would have to be different about the case to make her actions unacceptable to you?

   These students, who believe that Michelle should not have been found guilty, may say that her behavior would only have been unacceptable to them if she had been present in person to physically participate in the suicide. They could add that “sticks and stones” (meaning physical presence and physical actions leading to death) are necessary for someone to be guilty, not just words alone.

   Asking students to think one step beyond their opinion about Michelle’s behavior is intended to help them consider how there is an important intersection between health, policy, and law. Lawmakers (and those who interpret the law) can decide whether Michelle’s behavior, which is a social behavior that had a direct impact on somebody’s health, is legal or not. Public health does not exist in a vacuum with only doctors and patients; it is an interconnected set of social, environmental, and biological processes.

3. Do you agree or disagree with the following statement: “Roy’s suicide was something he wanted and was an outcome inherent to himself. The input of others, whether for or against his suicide, did not ultimately have an impact on the outcome.”

   Some students may agree by pointing out that depression is caused by a chemical imbalance in the brain that can only be controlled by professional treatment and medicines. They may say that his suicidal behavior for months leading up to his death indicate that he would eventually have decided to kill himself on his own even without any outside forces acting upon him.

   Others may disagree with the statement by contending that social and environmental factors have an impact on mood and happiness levels. They may point out that many people overcome depression with a combination of social support, counseling/therapy, and medication. Both the causes and solutions are multifaceted in nature, spanning both the social and the medical.
Part 3: What Do You Think? (15 minutes)

1. Would Conrad still be alive if Michelle had not encouraged his suicide?

This is an opinion question to which there is no right answer. Teachers can encourage students to think about arguments in each direction: On one hand, Conrad was highly depressed and disillusioned with the mental health system, so he may have been highly determined to take his own life and might have eventually done so no matter what. His own agency (his individual urge) to do so might have been too strong for any of the structures (social support, medical treatments, etc.) around him to have a preventive effect. On the other hand, students could point out that in many cases, structures can be put in place to overcome an individual person’s agency in engaging in a negative health behavior (or the ultimate negative health behavior, as in this particular case).

2. What would you do to make sure this doesn’t happen again?

Students could cite a number of (both reasonable and unreasonable) possible policy measures, interventions, safeguards, and rules, including:

- Check everyone’s phones at school
- Force all students to go to counseling
- Create a mental health and suicide education course at secondary schools
- Destigmatize depression and other mental health issues in the household and school
- Encourage students known to have depression to seek out supportive peers
- Make sure teenagers feel comfortable and supported in their home environments

Part 4: Group Discussion (45 minutes)

The following questions or procedures can be used to guide a large- or small-group discussion:

1. Have all of the students or participants close their eyes. Then take a vote on who believes Michelle is or is not innocent (thumbs down for guilty, thumbs up for innocent, thumbs sideways for not sure, closed fist for abstaining). This poll can also be conducted using slips of folded up paper that students mark and pass to the teacher for tabulation. Share the results with the students and ask if anyone wants to explain why they voted as they did.

2. Have the students think about the following question: Do you think that Michelle should be held accountable for what she did to the degree that she will be held now that she has been found guilty in court? Students should go to one side of the room if their answer is ‘yes,’ the other side of the room for ‘no,’ and in the middle if they are not sure. Then ask students at each end of the room to present an argument focused on social determinants to support their viewpoint. Discourage the use of legal arguments.

Example of a ‘yes’ answer:

Michelle knew that Conrad was already highly suicidal and that her support of his plans could lead to his death. She knew that he continued to struggle despite seeking medical help. Therefore, she is fully accountable for the outcome that occurred and deserves to spend a great deal of time in prison.
Example of a ‘no’ answer:

Michelle was only a small part of a complex process that led to Conrad’s death. He was already suicidal on his own, so she should not be punished so harshly for a problem that she did not even help cause in the first place. Furthermore, Michelle herself suffered from conditions that were beyond her control, such as her eating disorder, which Conrad surely knew about. He should have been more careful before trusting her with this most important aspect of his life. Therefore, Michelle should not be held accountable to such a strong degree.

3. Imagine that these events occurred in a different place or time period, one without cell-phones. Do you think that Michelle would have encouraged Conrad to kill himself if they were having the conversation in person? Is it easier to dehumanize someone when you don’t see them face-to-face?

4. As a group, trace the causal chain, starting from social and environmental determinants and ending with physical or biological ones, which led to Conrad’s suicide.

There are many possible answers or ways to represent this. Here is one:

Weak social support from Michelle, school/medical/family personnel who would have helped were unaware of the problem, lack of healthy peer group interaction or integration

Suicidal thoughts go unchecked and become stronger. Medication alone is not strong enough to prevent any damage.

Conrad makes a plan to take his own life, nobody stops him, and he executes his plan.

5. Have students share their answers to “What would you do to make sure this doesn’t happen again?” Then put them up on the board, categorized by type. They can be categorized as either social/environmental/preventive approaches or medical/biological/treatment approaches.

It is likely that most students’ answers will fall into the social/environmental/preventive category rather than medical/biological/treatment. Take this opportunity to point out to the students that they themselves favored approaches that caught the problem as far “upstream” as possible, demonstrating the importance of social determinants of health.

6. What other, non-mental-health outcomes would be different for Conrad and Michelle if some of the interventions or policy measures recommended in the previous question had been in place?

Students may say that Conrad and Michelle would both be happier, have better college and career prospects, have fewer illnesses (due to choosing healthier behaviors like eating better), etc. These in turn would lead to longer, more prosperous lives for both of them. Teachers can use such answers to show that
addressing these “upstream” or social determinants of health can help to address multiple health outcomes all at once, not just prevent mental illness or suicide.

Summary

In this lesson, students explored in-depth an example related to mental health and social support that, in some cases, could plausibly happen in their own school or peer groups. They considered the case in which teenager Michelle Carter encouraged and then failed to take action to prevent the suicide of Conrad Roy. Michelle’s actions were purely social in nature (no physical mechanism was involved). Michelle’s actions and the social environment in which Conrad found himself arguably led to his final health state, his death. While discussing the case, students considered the ethics of the case, the connection of social actions to individual health, and safety nets that can be put into place to prevent such incidents from recurring.
Lesson Plan
Social Status
2018

Purpose
This lesson and activity is based on an article that describes research on the impact of relative social status within one isolated society on the stress levels of individuals in that society. It encourages students to consider relative and absolute social status as separate determinants of health.

This is one of four lesson plans in a teaching pack on “Social Determinants of Health.” Other lessons in this teaching pack include:

- “Comparing and Applying Frameworks”
- “Social Determinants in Data and Pictures”
- “When Words Break Bones, Without Sticks and Stones”

Each of the lessons may be taught independently, or sequentially as a complementary module. Additional companion materials in the pack include an instructor’s note, a teaching guide titled “Brief Introduction to the Social Determinants of Health,” an annotated bibliography, and a glossary of terms.

Learner Level
High School, Undergraduate

Time
Four components, totaling one hour and 30 minutes

Required Pre-Reading

Optional
- Von Rueden C. Why We Want Status. TEDxUniversity of Richmond 2016; Apr 5. https://www.youtube.com/watch?v=aizcz3Go_fg.
Social Status: Lesson Plan

Case Summary

The article assigned for this lesson describes what researcher Christopher von Rueden and his colleagues learned investigating the impact of social status (independent of income and similar socioeconomic factors) on health. To isolate the effect of status from other potentially confounding socioeconomic factors, they explored this relationship in a village community in Bolivia where there are no drastic variations in income or socioeconomic status, and no formal authority structures. In their study, they found that higher levels of social status were associated with less stress and thus better outcomes, demonstrating how health may not just be a function of one’s socioeconomic status in an absolute sense (e.g. relating to income or education), but also in a relative sense (e.g. relating to one’s place in the social hierarchy). The optional TEDx video provides an overview and visual summary of the research concepts outlined in the article, with added preliminary details about status among women in the same Bolivian communities, and the implications of these findings for our own society.

Learning Goals

1. To examine the impact of relative social status (separate from absolute social status) on health within a population.
2. To compare the social determinants of health in a remote, isolated society to those in a more integrated society.

Procedure

Part 1: Warm Up (20 minutes)

Students should come to class familiar with the assigned reading; the instructor may choose to ask students to quickly review the reading in the first five minutes of class.

1. Write down the “who, what, when, where, and why” of the assigned reading for today’s lesson.

   **Who:** Researchers Christopher von Rueden and colleagues studied the Tsimane forager-horticulturalists.

   **What:** Main finding from article: “We found that Tsimane men with less political influence had higher levels of the stress hormone cortisol, which has many important physiological functions.” Importantly, the researchers contend that this phenomenon happens even when the people in question have the same levels of material resources (access to food, living space and conditions, etc.).

   **When:** 2014 and few preceding years

   **Where:** Amazonian Bolivia

   **Why:** The researchers pose the question “Why might low status cause such stress for the Tsimane?” and offer the following hypotheses: “One possibility is that status offers a greater sense of control. Another is that status acts as a form of social insurance. Influential Tsimane men have more allies and food-production partners, who can be helpful in mitigating conflict, sickness and food shortage. The relative lack of such support may cause psychosocial stress.”

2. Who exactly did the researchers measure and analyze?

   They studied the social status of all of the men in four Tsimane villages, totaling just under 200 men between the ages of 18 and 83.
**Part 2: Critical Thinking (20 minutes)**

Next, divide the class into small groups and have them consider the following questions:

1. Think of a situation in your own life in which you were made to feel inferior. Without revealing any private details or identifying information related to the situation, think about how aspects of the situation made you feel. Did you feel stress? Do you think that repeated amounts of this stress could lead to negative health outcomes? What sorts of health outcomes could it lead to?

*This question is designed to encourage students to imagine how a social factor could lead to a health outcome that could personally affect them. Teachers can point out that social factors can affect everyone in different ways, but in the study conducted by the researcher, the average finding is that there is an effect on cortisol levels, a biological indicator of stress in the body. Students may say that situations that make a person feel inferior could lead them to become depressed or highly stressed to the point that they cannot be productive, or could even cause someone to fall physically ill since higher levels of stress can weaken the immune system.*

2. What strategies could be implemented in the Tsimane society to mitigate the negative health effects of unequal social status?

*Students could suggest a number of reasonable responses to this research finding, which could include:*

- Take measures to keep everyone’s self-esteem high outside of the meetings.
- Establish small community support groups that periodically met to check on everyone and discuss important issues.

*Instructors can choose to have groups report out the main points of this discussions to the larger class, or simply have groups continue on with the lesson plan as follows.*

**Part 3: Group Discussion (50 minutes)**

Before posing questions for discussion with the larger group, instructors should review the difference between absolute and relative social status, and reinforce that in this case study, researchers were interested in the latter. The following chart can be used to help illustrate the concept of absolute status:

<table>
<thead>
<tr>
<th>Rich:</th>
<th>Very high level of material wealth (much of which is saved or invested) and access to resources of all kinds, potential strong political connections, high insulation from economic shocks such as losing a job, and the highest potential for excellent health outcomes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle:</td>
<td>Adequate access to resources and stable living conditions, stable employment and livelihood, high levels of education, decent health outcomes.</td>
</tr>
<tr>
<td>Poor:</td>
<td>Low access to resources (good food, water, housing, hygiene), high volatility in day-to-day living conditions, high economic instability, low education, high potential for poor health outcomes.</td>
</tr>
</tbody>
</table>

Individuals in the category of “poor” live in the least favorable social conditions and therefore will have the worst health, while those in the “rich” category will have the best health outcomes. However, the study conducted by von Rueden and colleagues was interested in disentangling the impact of relative status, which meant looking at differences in health within a single one of these three categories.
The following table illustrates the concept of relative differences within the absolute gradient provided above:

<table>
<thead>
<tr>
<th>Rich</th>
<th>Among the rich themselves, some people will be more powerful/influential and others will be less. This is called relative social status. Do the more influential rich people have better health than the less influential rich people, even though they are all rich?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle</td>
<td>As is true for the rich people above, if we look only at the people in the middle group within the population, will we find that the people in stronger social positions have better health than those in weaker positions?</td>
</tr>
<tr>
<td>Poor</td>
<td>And as we asked with the rich and middle categories, if we look only at the poor people in our society and look at differences within that population of poor people, will we find differences in health outcomes that are correlated to differences in social status?</td>
</tr>
</tbody>
</table>

The researchers found that when you ask the questions summarized in the boxes above, you find that low social status is correlated with higher levels of cortisol, which is known to lead to negative health outcomes. The next important question to ask is: **Even though they found this correlation, how do we know that low social status is causing higher stress levels? What if it is just a coincidence that lower-status people are more stressed for some other reasons?** That is why the researchers pointed out that they controlled for other factors that might cause this outcome, like age, body size, and personality that could possibly affect social status and stress levels. By controlling for these factors and only making these fair, “apples to apples” comparisons, the researchers can contend that it was the social status differences alone that caused the differences in stress hormone levels.

After reviewing the key concepts relating to the study as described above, instructors can pose the following questions for group discussion:

1. Were you surprised to learn that status differences within a single social group in a society could still affect people’s health?

   *This is a simple question to get discussion started. Teachers should gauge student reactions and then use this as a launching point to discuss social determinants more broadly and the mechanisms through which they function, eventually having an effect on health. Teachers could even ask students to hypothesize about this causal pathway from upstream to downstream:*

   **Low social status → high stress → inability to perform work well → not enough food/money → malnutrition and weak immune system → infectious diseases**
2. How should we be thinking of inequality within societies and the health consequences they can have? Remember that there are two types of inequalities at play here, those between absolute social levels (such as the differences between the rich and the poor) and relative social levels (such as the differences between the high and low status individuals within one of the absolute groups). It is important to note that this and other research has found that both of these types of social inequality have implications for health. It may also be helpful to remind students that not every rich person is automatically healthy, nor is every poor person certain to have poor health; instead, both absolute and relative social inequalities can contribute to increased health risks.

3. Given these results, what do you think is the best action that can be taken to maximize population health? How should policymakers respond to this finding? The social determinants approach dictates that it is more useful to target social factors that lead to poor health rather than directly targeting health outcomes. For example, it is better to invest in health education (teaching people how to be healthy) than it is to invest in health care (doctors and medicines to treat existing health problems or problems that develop because of an unchanged social factor). Students could have differing opinions about how to approach social inequality. Some may feel that it is most important to have programs that lift the poor out of poverty and focus on their material conditions, rather than addressing social status or mental well-being. Others may feel that social mechanisms or programs that improve people’s social status and self-esteem within their existing socioeconomic category is worthwhile. The students could even be organized into a debate in which each side had to argue for one of these two approaches (under the realistic constraint that doing both is not feasible).

4. Lastly, instructors could create a Venn diagram (see the example below) to compare the social factors that affect health for students in their own society with those that affect health of those in Tsimane society. A Venn diagram uses intersecting circles to compare logical relationships between two or more groups. Instructors might ask students to write factors from their own society into the sections of the diagram. Alternatively, instructors might provide the following list of social determinants and ask students to sort them into categories using the diagram below:

- Employment/income
- Expenses
- Debt
- Medical bills
- Social support
- Housing
- Transportation
- Safety
- Neighborhood quality
- Education
- Literacy
- Access to nutritious food
- Social integration
- Discrimination
- Access to doctors and medicines
As they create the diagram as a class, students can discuss and debate what should go into which section and why. Instructors should note that the social determinants of health perspective would dictate that for the overwhelming majority of these social factors, the social determinants of health for each society should be quite similar.

![Diagram of Tsimane and Students](image)

**Summary**

In this lesson, students learned about social life and stress levels within one bounded society to understand how social hierarchy can have an impact on health. They also were exposed to the details of the study and its findings, to help give them an understanding of how a researcher may go about studying social factors that influence health within one small population. Finally, students had the opportunity to juxtapose the social determinants of health in the Tsimane society with those in their own society. This helps to illustrate how many social determinants are universal while others may be unique to particular groups and cultures.
Annotated Bibliography
Social Determinants of Health
2018

Overview

This bibliography is a selective sampling of educational resources designed to introduce students to the basic concepts of the social determinants of health, with a focus on understanding the causes of health inequities observed between groups. The multidisciplinary materials may be suitable for students at the undergraduate college and public health graduate school levels. Learning objectives and supporting materials will vary depending on how the material is used in a course. Brief annotations provide a cursory summary, and indicate where certain materials may be particularly relevant. Within each section, dated publications are listed in chronological order.

This selective bibliography accompanies a teaching pack developed by the Global Health Education and Learning Incubator at Harvard University. Additional materials in the pack include an instructor’s note, a teaching guide titled “Brief Introduction to the Social Determinants of Health,” four lesson plans with suggested classroom activities, and a glossary of terms. Educators may access further supplementary materials through the Incubator’s free, online resource repository.

The materials listed here represent a diversity of viewpoints and opinions and do not necessarily reflect the viewpoints and opinions of the Incubator.

This annotated bibliography includes:

- Basic Reads
- Reports
- Articles
- Data Publications, Portals, and Interactives
- Multimedia and News
- Teaching Materials
Annotated Bibliography: Social Determinants of Health

Selected Resources
*indicates resource listed in GHELI’s online Repository

**BASIC READS**

*Organization. Evidence on Social Determinants of Health*

*Article. Social Determinants of Health Inequalities*
DOI: https://doi.org/10.1016/S0140-6736(05)71146-6.

*Glossary. A Glossary for Social Epidemiology*
DOI: http://dx.doi.org/10.1136/jech.55.10.693.

**REPORTS**

* Report. Communities in Action: Pathways to Health Equity*
DOI: https://doi.org/10.17226/24624.


* Report. Global Nutrition Report 2017: Nourishing the SDGs*

* Report. Women and Health: The Key for Sustainable Development*

* Report. The Economics of the Social Determinants of Health and Health Inequalities: A Resource Book*

* Report. Energy: Shared Interests in Sustainable Development and Energy Services*

* Report. Closing the Health Equity Gap: Policy Options and Opportunities for Action*
http://apps.who.int/iris/handle/10665/78335.

* Report. Hidden Cities: Unmasking and Overcoming Health Inequities in Urban Settings*
Annotated Bibliography: Social Determinants of Health


ARTICLES

* Article Series: Transgender Health

Article. Transgender People: Health at the Margins of Society

Article. Serving Transgender People: Clinical Care Considerations and Service Delivery Models in Transgender Health

Article. Global Health Burden and Needs of Transgender Populations: A Review

* Article. Inequalities in Health: Definitions, Concepts, and Theories

Article. Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity

* Article Series. HIV and Sex Workers

Article. Global Epidemiology of HIV Among Female Sex Workers: Influence of Structural Determinants

Article. Combination HIV Prevention for Female Sex Workers: What Is the Evidence?

Article. A Community Empowerment Approach to the HIV Response Among Sex Workers: Effectiveness, Challenges, and Considerations for Implementation and Scale-Up

Article. Human Rights Violations Against Sex Workers: Burden and Effect on HIV

Article. Male Sex Workers: Practices, Contexts, and Vulnerabilities for HIV Acquisition and Transmission
Annotated Bibliography: Social Determinants of Health

**Article. HIV Risk and Preventive Interventions in Transgender Women Sex Workers**

**Article. An Action Agenda for HIV and Sex Workers**

* Article Series. Universal Health Coverage in Latin America

**Article. Health-System Reform and Universal Health Coverage in Latin America**

**Article. Overcoming Social Segregation in Health Care in Latin America**

**Article. Social Determinants of Health, Universal Health Coverage, and Sustainable Development: Case Studies From Latin American Countries**

**Article. Leading the Way Towards Universal Health Coverage: A Call to Action**

**Article. The Social Determinants of Health: It’s Time to Consider the Causes of the Causes**

**Article. Understanding the Social Factors That Contribute to Diabetes: A Means to Informing Health Care and Social Policies for the Chronically Ill**

**Article. The Relationship Between Maternal Education and Mortality Among Women Giving Birth in Health Care Institutions: Analysis of the Cross Sectional WHO Global Survey on Maternal and Perinatal Health**


* Article Series. Social Determinants of Health Discussion Paper Series

**Article. Action on the Social Determinants of Health: Learning From Previous Experiences**
Article. A Conceptual Framework for Action on the Social Determinants of Health
https://www.who.int/social_determinants/corner/SDHDP2.pdf?ua=1.

Article. Monitoring Social Well-Being to Support Policies on the Social Determinants of Health: The Case of New Zealand's "Social Reports/Te Purongo Oranga Tangata"

Article. Public Health Agencies and Cash Transfer Programmes: Making the Case for Greater Involvement

Article. Social Class Differentials in Health and Mortality: Patterns and Explanations in Comparative Perspective

Article. Social Conditions as Fundamental Causes of Disease

DATA PUBLICATIONS, PORTALS, AND INTERACTIVES
* Data Portal. Global Health Observatory Data

* Data Interactive. Dollar Street

* Data Interactive. Human Development Indicators: Country Profiles

MULTIMEDIA AND NEWS
News Article. Guilty Verdict for Young Woman Who Urged Friend to Kill Himself

News Article. Social Status Affects Your Health

Video. Social Determinants of Health
https://www.youtube.com/watch?v=h-2bf205upQ&feature=youtu.be.

Video. Social Determinants of Health

Video. A Healthy Society
Meili R. A Healthy Society. TEDxRegina 2012. https://www.youtube.com/watch?v=c78GnLSHKvM.
Annotated Bibliography: Social Determinants of Health

Video. The Hidden Influence of Social Networks

TEACHING MATERIALS

* Teaching Manual. A Framework for Educating Health Professionals to Address the Social Determinants of Health


* Teaching Case. Returning to Our Roots: Building Capacity in Public Health for Action on the Social Determinants of Health

* Teaching Case. Toilets and Sanitation at the Kumbh Mela
https://repository.gheli.harvard.edu/repository/10697.
Annotated Bibliography: Social Determinants of Health

BASIC READS

**Topic Portal. Evidence on Social Determinants of Health**

This web portal provides information on two types of evidence that support the need to address social determinants of health: evidence based on the causes and consequences of poor health, and evidence based on themes including employment conditions, social exclusion, priority public health conditions, women and gender equity, early child development, globalization, health systems, measurement and evidence, and urbanization.

**Article. Social Determinants of Health Inequalities**
Marmot M. Social Determinants of Health Inequalities. The Lancet 2005; 365(9464): 1099-1104. DOI: [https://doi.org/10.1016/S0140-6736(05)71146-6](https://doi.org/10.1016/S0140-6736(05)71146-6).

This article from *The Lancet* provides a summary of the global concerns that led to establishment of a World Health Organization Commission on Social Determinants of Health and describes some of its goals. The article is a useful overview of health inequalities, with examples of health outcomes stratified by social groups within a population. The article points toward anticipated responses and policies that could be enacted to address social health inequalities from a social justice perspective.

**A Glossary for Social Epidemiology**

This glossary of terms offers both a general overview as well as definitions for terminology related to the social determinants of health. These include thorough explanations of concepts such as social inequality, multiple types of discrimination (sexism, racism), ecosocial theory of disease distribution, human rights and social justice, poverty, social class, and stress. The author points out the relationships between these concepts and public health.

REPORTS

**Report. Communities in Action: Pathways to Health Equity**

GHELI repository link: [http://repository.gheli.harvard.edu/repository/11049](http://repository.gheli.harvard.edu/repository/11049).

This report, published by the National Academies Press (NAP), explores inequities in factors that impact health—social determinants of health—and the disparities in health status among different populations within the United States. Community-wide problems related to poverty, education, housing and community infrastructure, and safety all contribute to health inequities, as do systemic and historical forces. This report describes the myriad causes of health disparities, and articulates strategies and policies that communities and stakeholders can take to mitigate those inequities and promote greater and more equitable health.


GHELI repository link: [http://repository.gheli.harvard.edu/repository/10967](http://repository.gheli.harvard.edu/repository/10967).

This report from the World Bank details the progress the world has made towards global development goals and examines the impact of demographic change on achieving these goals. The report describes the decline of those living in global poverty, which has been reclassified. It also revises world economic growth projections for 2015 down to 3.3
percent on the basis of lower growth prospects in emerging markets. In addition, this report analyzes how profound demographic shifts could alter the course of global development. The world is undergoing a major population shift that will reshape economic development for decades. The direction and pace of this transition varies dramatically from country to country, with differing implications depending on where a country stands on the spectrum of aging and economic development. The report suggests incorporating the shifts in demographic changes into setting policy priorities may lead to sustained development progress.

GHELI repository link: http://repository.gheli.harvard.edu/repository/11509
This 2016 Human Development Report (HDR) explores the significant gains in human development in recent decades, but focuses primarily on who has been left behind and why. The report works to identify groups of people more likely to face disadvantages and inequities, and examines deep-rooted, overlooked barriers to development on the national and global scale. In addition, the report discusses what could be done to further ensure human development for everyone by providing policy recommendations and actionable agendas for nations.

GHELI repository link: http://repository.gheli.harvard.edu/repository/10926
This report from Development Initiatives Poverty Research Ltd. and produced and disseminated by the International Food Policy Research Institute (IFPRI) documents the status of the world’s nutrition and progress made to meet global nutrition targets established by the World Health Assembly. The 2017 edition places particular focus on the role of nutrition in the 2030 Sustainable Development Agenda, which was adopted by the international community in 2015 and established 17 Sustainable Development Goals (SDGs) to address global challenges through economic, social, and environmental progress. Information is provided on nutrition indicators in children, adolescents, and adults, social determinants, and intervention coverage; food supply; economics; and demography. The report suggests that there are five core areas of development that run through the SDGs which nutrition can contribute to and benefit from—sustainable food production, infrastructure, health systems, equity and inclusion, and peace and stability—and emphasizes that ending malnutrition in all its forms will catalyze improved outcomes across the SDGs.

Report. Women and Health: The Key for Sustainable Development
GHELI repository link: http://repository.gheli.harvard.edu/repository/11059
This Lancet Commission report examines girls’ and women’s health, emerging transitions and important unmet needs that remain. Population aging and transformations in the social determinants of health have increased the coexistence of disease burdens related to reproductive health, nutrition, and infections, and the emerging epidemic of chronic and noncommunicable diseases. Simultaneously, worldwide priorities in women’s health have themselves been changing from a narrow focus on maternal and child health to the broader framework of sexual and reproductive health and to the encompassing concept of women’s health, which is founded on a life-course approach. This expanded vision incorporates health challenges that affect women beyond their reproductive years and those that they share with men, but with manifestations and results that affect women disproportionally owing to biological, gender, and other social determinants.

Report. The Economics of the Social Determinants of Health and Health Inequalities: A Resource Book
GHELI repository link: http://repository.gheli.harvard.edu/repository/10977
This resource provides insight into how an economic argument can be made to invest in social determinants of health. The strong links between socioeconomic factors or policies and health are well documented. Yet even when health and
health equity are seen as important markers of development, expressing the benefits of social determinants of health interventions in health and health equity terms alone is not always sufficiently persuasive in policy settings where health is not a priority, or when trade-offs exist between health and other public policy objectives. This resource book addresses the economic arguments for addressing three major social determinants of health: education, social protection, and urban development and infrastructure.


GHELI repository link: [http://repository.gheli.harvard.edu/repository/11421](http://repository.gheli.harvard.edu/repository/11421)

This sectoral briefing by the World Health Organization focuses on the energy sector and its relation to the social determinants of health. The brief discusses a number of intersectoral goals, primarily related to reliable energy supply, universal access, and efficient production. This publication is part of a series launched in response to the “Health in All Policies” international meeting in Adelaide in 2010, with the intent to show the driving forces behind other sectors’ effects on health equity. Aiming to highlight the areas in each sector where collaboration can be achieved, the series tries to find mutual benefit in working towards public health interventions.

**Report. Closing the Health Equity Gap: Policy Options and Opportunities for Action**

GHELI repository link: [http://repository.gheli.harvard.edu/repository/10976](http://repository.gheli.harvard.edu/repository/10976)

This report from the World Health Organization provides a brief overview of the best evidence regarding the principal social determinants of health and opportunities for action available to policy-makers. Health inequities are unfair, avoidable and remediable differences in health status between countries and between different groups of people within the same country. Health inequities are attracting increasing attention on national and global policy agendas. Despite this, few countries have been able systematically to reduce them.

**Report. Hidden Cities: Unmasking and Overcoming Health Inequities in Urban Settings**

GHELI repository link: [http://repository.gheli.harvard.edu/repository/11501](http://repository.gheli.harvard.edu/repository/11501)

This report from the World Health Organization and the United Nations Human Settlements Programme examines the global issue of health inequities within urban settings. With a focus on the social determinants of health inherent to where people live and work, the report discusses the benefits and burdens of rapid urbanization. The report concludes with a call to action for policy makers and health officials to address these issues, arguing that the global community is collectively responsible to ensure that cities are healthy places for people as the world moves towards an urban future.


This report from the World Health Organization (WHO) details the recommendations of the Commission on the Social Determinants of Health. The Commission recommends that all WHO members take action in order to achieve health equity. It emphasizes that governments, civil society actors, the WHO itself, and other global actors must come together to improve health and well-being worldwide. It further argues that attaining health equality in the near future is both achievable and necessary.
ARTICLES

**Article Series. Transgender Health**
GHELI repository link: [http://repository.gheli.harvard.edu/repository/11134](http://repository.gheli.harvard.edu/repository/11134)

This *Lancet* Series aims to understand and provide a framework to improve the health and lives of transgender people globally. Transgender people and their needs remain little understood, not only by health care providers but also more generally in society. The three papers in this series examine the social and legal conditions in which many transgender people live, clinical care considerations and service delivery models in transgender health, and the global health burden facing transgender populations, including the specific contexts and multiple determinants of health affecting them.

Series papers include:

- **Transgender People: Health at the Margins of Society**
- **Serving Transgender People: Clinical Care Considerations and Service Delivery Models in Transgender Health**
- **Global Health Burden and Needs of Transgender Populations: A Review**

**Article. Inequalities in Health: Definitions, Concepts, and Theories**
GHELI repository link: [http://repository.gheli.harvard.edu/repository/11080](http://repository.gheli.harvard.edu/repository/11080)

This article defines and distinguishes between unavoidable health inequalities and unjust and preventable health inequities. Individuals from different backgrounds, social groups, and countries enjoy different levels of health. Different theories attempt to explain group-level differences in health on the basis of factors such as psychosocial, material deprivation, health behavior, environmental, and selections. This article closes by reflecting on what conditions make health inequalities unjust, and considering the merits of policies that prioritize the elimination of health disparities versus those that focus on raising the overall standard of health in a population.

**Article. Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity**

This article from the Kaiser Family Foundation is a summary brief on the role of social determinants in health and health equity. It points out that while it is important to improve access to and the quality of the health care system, research has also found that broad approaches to health problems, which include attention to social, economic, and environmental factors will be necessary going forward. This brief also contains a useful framework of social determinants, organized by social category rather than level of influence. The health policy in this article applies to the United States, though it may be useful for understanding the social determinants of health in a variety of contexts and populations.

**Article Series. HIV and Sex Workers**
GHELI repository link: [http://repository.gheli.harvard.edu/repository/11112](http://repository.gheli.harvard.edu/repository/11112)

This *Lancet* Series investigates the complex issues faced by sex workers worldwide, and calls for the decriminalization of sex work, in the global effort to tackle the HIV/AIDS epidemic. With heightened risks of HIV and other sexually transmitted infections, sex workers face substantial barriers in accessing prevention, treatment, and care services, largely because of stigma, discrimination, and criminalization in the societies in which they live. Often driven underground by fear, many sex workers encounter or face the direct risk of violence and abuse daily. While these social, legal, and economic injustices contribute to their high risk of acquiring HIV, sex workers remain underserved by the global HIV response. Additional resources include an [infographic](http://www.thelancet.com) on facts about sex workers and the myths that help spread HIV.
Annotated Bibliography: Social Determinants of Health

Series papers include:

- **Global Epidemiology of HIV Among Female Sex Workers: Influence of Structural Determinants**
- **Combination HIV Prevention for Female Sex Workers: What is the Evidence?**
- **A Community Empowerment Approach to the HIV Response Among Sex Workers: Effectiveness, Challenges, and Considerations for Implementation and Scale-up**
- **Human Rights Violations Against Sex Workers: Burden and Effect on HIV**
- **Male Sex Workers: Practices, Contexts, and Vulnerabilities for HIV Acquisition and Transmission**
- **HIV Risk and Preventive Interventions in Transgender Women Sex Workers**
- **An Action Agenda for HIV and Sex Workers**

**Article Series. Universal Health Coverage in Latin America**


GHELI repository link: [http://repository.gheli.harvard.edu/repository/11116](http://repository.gheli.harvard.edu/repository/11116)

The *Lancet* Series on Universal Health Coverage (UHC) in Latin America charts the complex political, economic, and social forces that shape health policy making. An accompanying Health Policy paper examines the association between the financing structure of health systems and UHC. In the past few decades, important policies and strategic initiatives in health and development have been embraced by Latin America, with the active participation and support of the Pan American Health Organization, WHO, and other partners. Latin America is a laboratory to study the mechanics of implementing UHC.

Series papers and articles include:

- **Health-System Reform and Universal Health Coverage in Latin America**
- **Overcoming Social Segregation in Health Care in Latin America**
- **Social Determinants of Health, Universal Health Coverage, and Sustainable Development: Case Studies from Latin American Countries**
- **Leading the Way Towards Universal Health Coverage: A Call to Action**

**Article. The Social Determinants of Health: It’s Time to Consider the Causes of the Causes**


This review article surveys a variety of research on how social factors—including income, wealth, and education—are especially important fundamental causes of health. The resources cited within this article would be useful to a student or educator looking for more specific and detailed literature on the social determinants of health.

**Article. Understanding the Social Factors That Contribute to Diabetes: A Means to Informing Health Care and Social Policies for the Chronically Ill**


This article points out that social determinants of health are found to be linked to the incidence of Type 2 diabetes in the United States. The authors advocate that interventions addressing these social causes are just as important as more popular interventions that currently focus on biological and behavioral factors. They recommend that national legislation related to data collection as part of the Patient Protection and Affordable Care Act of 2010 be modified to include data on social determinants. This article helps demonstrate the important overlap between research, data, policy, and health outcomes.
Article. The Relationship Between Maternal Education and Mortality Among Women Giving Birth in Health Care Institutions: Analysis of the Cross Sectional WHO Global Survey on Maternal and Perinatal Health
This article examines maternal education as a key social determinant of maternal mortality, based on data from the World Health Organization Global Survey on Maternal and Perinatal Health. Looking across a large number of women giving birth in hospitals across 24 countries, the study finds that women without any education have a risk of maternal mortality that is 2.7 times as large as that of women with more than 12 years of education. The study shows how one particular social determinant of health, education, can be associated with an important health outcome.

This article reviews the concept of fundamental causes of disease, a concept first developed in the 1990s, to explain the persistent link between mortality and socioeconomic status (see Link and Phelan’s 1995 seminal article, “Social Conditions as Fundamental Causes of Disease,” in this bibliography). This updated look at fundamental causes discusses the limitations of this theory as well as its applicability to health policies that can reduce inequalities.

Article Series. Social Determinants of Health Discussion Paper Series
GHELI repository link: http://repository.gheli.harvard.edu/repository/12233
This series of papers from the World Health Organization addresses a number of topics related to the social determinants of health, including strategies for governance and tools for capacity building. The papers in this series include useful examples and profiles of specific countries, both rich and poor. Educators can use these examples as small case studies to discuss with their students. A number of approaches to the social determinants of health are also considered, including global, national, and sub-national approaches. Frameworks for understanding social determinants and analyses of specific interventions are also included.

Papers in the series include:
- Action on the Social Determinants of Health: Learning from Previous Experiences (Discussion paper 1, 2010)
- Public Health Agencies and Cash Transfer Programmes: Making the Case for Greater Involvement (Discussion paper 4, 2011)

Article. Social Class Differentials in Health and Mortality: Patterns and Explanations in Comparative Perspective
This article provides a comprehensive review of multiple specific social factors, such as education, class, gender, prior life events, and income/wealth, and how they lead to varying outcomes for different social groups. The author encourages a life course perspective for understanding health inequalities. The bibliography of this article may also be useful for more information on this topic.

Article. Social Conditions as Fundamental Causes of Disease
This foundational article provides a look at the underlying social and structural causes of poor health and health inequality that remain constant throughout time, even as technology and healthcare improves. These causes are called the “fundamental causes of disease.” Drawing attention away from the intermediate/proximal causes, which focus on...
individual-level risk factors or disease vectors within the immediate living environment, the authors point out that fundamental causes of disease, such as socioeconomic status and social support, are always at the base of the causal chain leading to a particular health outcome. See Link et al.’s 2010 article, “Social Conditions as Fundamental Causes of Health Inequalities: Theory, Evidence, and Policy Implications,” in this bibliography for an updated review of this approach.

### DATA PUBLICATIONS, PORTALS, AND INTERACTIVES

**Global Health Observatory Data**
GHELI repository link: [http://repository.gheli.harvard.edu/repository/11284](http://repository.gheli.harvard.edu/repository/11284)

This data portal is the World Health Organization’s (WHO) main health statistics repository. The Global Health Observatory (GHO) provides access to more than 1,000 indicators on priority health topics including mortality and burden of diseases, the Sustainable Development Goals, noncommunicable diseases and risk factors, epidemic-prone diseases, health systems, environmental health, violence and injuries, and health equity. In addition, the GHO provides access to WHO’s analytical reports on the current status and trends of priority health issues, including *World Health Statistics*, its annual summary of health-related data for member states.

**Data Interactive. Dollar Street**
GHELI repository link: [http://repository.gheli.harvard.edu/repository/12145](http://repository.gheli.harvard.edu/repository/12145)

This data visualization portal, a project of Gapminder, documents the stoves, beds, toilets, toys, and other household objects in homes from every income bracket around the world, as a way of making the everyday lives of families on different income levels understandable. Photographers have documented hundreds of homes in 50 countries so far, and in each home the photographer spends a day taking photos of up to 135 objects. All photos are then tagged by household function, family name, and income level, then entered into the interactive website that allows users to browse by income level, country or region, or specific household object. Many of the images give insights into the social determinants of health and allow for easy comparison of conditions across different populations. This tool is an effective, interactive way to introduce students with computer access to the social determinants of health and let them explore to learn more about them.

**Data Interactive. Human Development Indicators: Country Profiles**
GHELI repository link: [http://repository.gheli.harvard.edu/repository/11249](http://repository.gheli.harvard.edu/repository/11249)

This 2016 data interactive allows users to explore country profiles from the latest *Human Development Report*, published by the United Nations Development Programme (UNDP). The Human Development Report Office releases five indices each year: the Human Development Index (HDI), the Inequality-Adjusted Human Development Index (IHDI), the Gender Development Index (GDI), the Gender Inequality Index (GII), and the Multidimensional Poverty Index (MPI). Data used in these indices and other human development indicators included in the interactive are provided by a variety of public international sources. Educators can create exercises and activities in which students examine different countries with the same level of GNI per capita, and compare how they may differ in terms of their Human Development Index (HDI), Inequality-Adjusted Human Development Index (IHDI), Gender Development Index (GDI), Gender Inequality Index (GII), and Multidimensional Poverty Index (MPI). These contrasts can be used to stimulate debate and dialogue about government policy priorities.
**Media and News**

**News Article. Guilty Verdict for Young Woman Who Urged Friend to Kill Himself**

This article about 20-year-old Michelle Carter’s conviction for involuntary manslaughter for urging her boyfriend to commit suicide is a relevant way for educators to discuss social determinants of health with students. It is a very clear example of how a person’s social environment and interactions can impact their health and also shows why social determinants are so important to public health.

**News Article. How Social Status Affects Your Health**

This article describes research that investigates the effect of social status within one society on health outcomes. Researchers studying an isolated Bolivian society found that those with lower social status have higher levels of the stress hormone cortisol. This case helps show how a social factor that is not linked to material circumstances can have an effect on a health outcome. Readers may also be interested in the 2014 study by von Rueden CR et al. that this article summarizes.

**Video. Social Determinants of Health**

This video provides a 22-minute introduction to the social determinants of health by Michael Marmot, one of the pioneers of integrating social factors with health outcomes. The video could be a useful way for instructors to supplement readings or introduce students to social determinants.

**Video. Social Determinants of Health**

This animated video explains how non-health factors such as location, education, and income promotes a broad understanding of public health. It could help students understand how the social determinants of health can be targeted to create future gains in health.

**Video. A Healthy Society**
Melli R. A Healthy Society. TEDxRegina 2012. [https://www.youtube.com/watch?v=c78GnlSHKvM](https://www.youtube.com/watch?v=c78GnlSHKvM).

This TED talk by a family doctor examines the relationship between the daily services that health care providers perform and broader society-level behaviors and processes. He uses an example from his own work to demonstrate these connections, and advocates that intervening at the social determinants level is a key action for improving overall public health.

**Video. The Hidden Influence of Social Networks**

This TED talk by a social scientist examines the organization of human social networks and how one’s social network characteristics, such as how many friends one has and whether those friends have many or few friends, can impact one’s health behaviors or outcomes, such as smoking and obesity.
TEACHING MATERIALS

Teaching Manual. A Framework for Educating Health Professionals to Address the Social Determinants of Health
GHELI repository link: http://repository.gheli.harvard.edu/repository/11048
This National Academies report summarizes the proceedings of a workshop on integrating social determinants of health into the education of health care providers, whether they are early-stage students or established professionals. Social determinants of health (SDH) are defined by the World Health Organization as “the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life,” and understanding them has become increasingly critical in an age of surging human migration, armed conflict, and climate change. This workshop, convened by the National Academies, developed a framework, recommendations, and a conceptual model for teaching SDH in partnership with organizations and communities. With a focus on generating awareness and providing accessible knowledge, this summary positions itself at the center of education and health so that the underlying causes of disease and ill health might be addressed and end the cycle of inequity, disparity, and inequality.

Teaching Case. Kenya’s Social Cash Transfer Program. Millions Saved: New Cases of Proven Success in Global Health
GHELI repository link: http://repository.gheli.harvard.edu/repository/10665
This case study describes the impact of providing cash transfers to primary caregivers of orphans and vulnerable children in Kenya. The Kenyan government partnered with UNICEF to pilot and expand a monthly cash transfer program to ultra-poor households caring for orphans and vulnerable children. This case describes the collaborative efforts and iterative approach behind the program implementation, health and non-health outcomes for the children, and costs of the program. This case study is part of Millions Saved: New Cases of Proven Success in Global Health, a collection of case studies produced by the Center for Global Development.

Teaching Case. Returning to Our Roots: Building Capacity in Public Health for Action on the Social Determinants of Health
GHELI repository link: http://repository.gheli.harvard.edu/repository/10747
This case study explores the development of organizational capacity to address the social determinants of health in a public health unit. These social determinants are factors outside the traditional health care system—such as income, social status, education, employment, social and physical environments, and culture—that significantly influence our health; they can be protective when evenly available, but often are distributed in ways that are unfair or unjust, acting as risk conditions that disproportionately affect certain populations. The case describes efforts by the Canadian public health sector in translating health equity rhetoric into action and tangible reductions in health inequities. This case includes guidance for instructors, including learning objectives and discussion questions. This case is part of a 13-case collection written by students in the inaugural MPH class of the Schulich Interfaculty Program in Public Health at Western University, Canada.
### Teaching Case. Toilets and Sanitation at the Kumbh Mela

Holman SR, Shayegan L. Toilets and Sanitation at the Kumbh Mela. Global Health Education and Learning Incubator at Harvard University, Harvard School of Public Health, FXB Center for Health and Human Rights, Harvard University 2014. [http://repository.gheli.harvard.edu/repository/10697](http://repository.gheli.harvard.edu/repository/10697).

GHELI repository link: [http://repository.gheli.harvard.edu/repository/10697](http://repository.gheli.harvard.edu/repository/10697)

This case describes efforts to balance public health concerns with religious and cultural practices of religion pilgrims in India. The Kumbh Mela festival, the largest mass gathering in the world, takes place every 12 years in Allahabad, India. Pilgrims at the 2013 festival followed toilet and water sanitation practices common in South Asia, practicing defecation in both designated areas (contained squat toilets and private “flag” areas for open defecation) as well as public defecation in the sand or by the riverbanks. The construction of the site—and organization of the facilities to support it—follow a detailed system that has developed over decades of close collaborations with national, state, and regional governments and religious leaders, and includes the provision of clean drinking water and public toilets. This case describes efforts by government officials during the 2013 festival to ensure and maintain adequate and appropriate sanitation facilities (toilets and the use of safe drinking water) and the long-term impact of the observed practices on the physical environment. The case introduces students to the conditions and challenges of water and sanitation as it relates to cultural issues (social determinants of health) in global communities with limited resource for optimal health governance.