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Narrowing the Equity Gap and Promoting Social Determinants of Health Approaches

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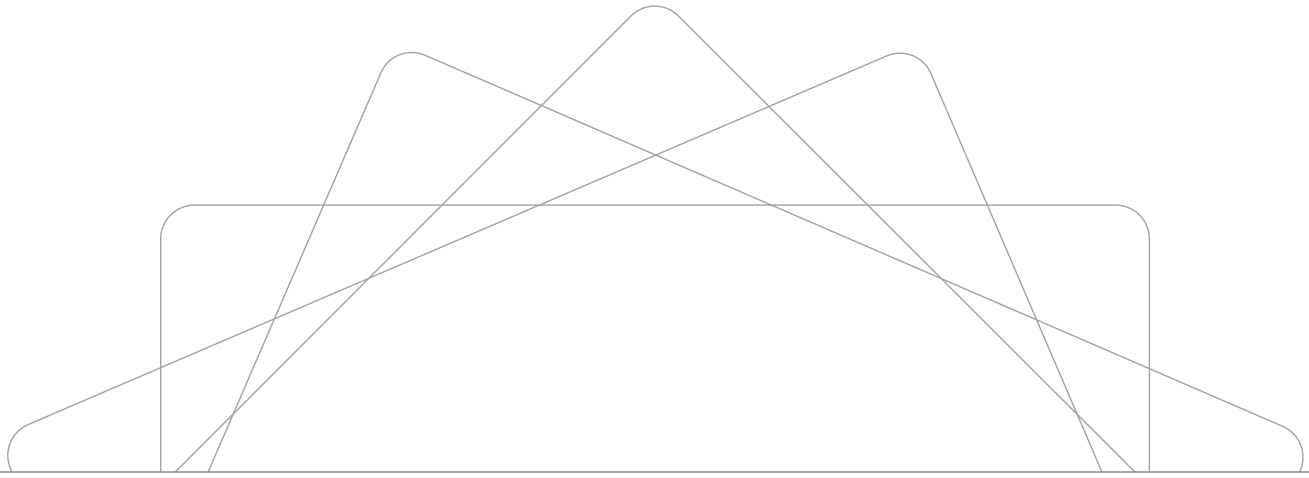

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Introduction

The *health equity gap* in the United States is a driving factor in overall poor health outcomes and is critical for practitioners to both understand deeply and examine. We often see the gap expressed as differences in life expectancy by race. For example, in the U.S. in 2018, the life expectancy was 76.2 years for a white, non-Hispanic male and 71.3 for a Black, non-Hispanic male.[1] We also hear about problems such as significant differences in maternal mortality by race and ethnicity, with 37.3 deaths per 100,000 live births among non-Hispanic black women and 11.4 deaths per 100,000 among Hispanic women.[2]

These kinds of differences in outcomes are not limited to differences by race and ethnicity, they also include gender, sexual orientation, socio-economic status, geography, nationality, and disability status. Such differences are found across a wide range of health conditions and measurements of well-being.[3] We refer to these health outcome differences for population groups that have been socially disadvantaged over time as *disparities*.[4] The tragedy of these disparities is that they are almost entirely preventable.

Both good outcomes and disparities are shaped by the *multiple determinants of health*, which include genetics, behavior, and the environment in which we live. There are many pathways by which these factors interact and influence health outcomes.[5] *Inequity* exists when there are systemic gaps in the environment that limit access to opportunities to be healthy.[6] Most of the variability in health status has little to do with care and is largely determined by an individual's position in the social hierarchy. These systemic gaps in the *social ecology* of the environments in which we live can include sociological factors such as racism, gender bias, and xenophobia, or they can result from structural policies that enable discrimination or limit access to power structures such as the justice system or financial or economic systems.[7]

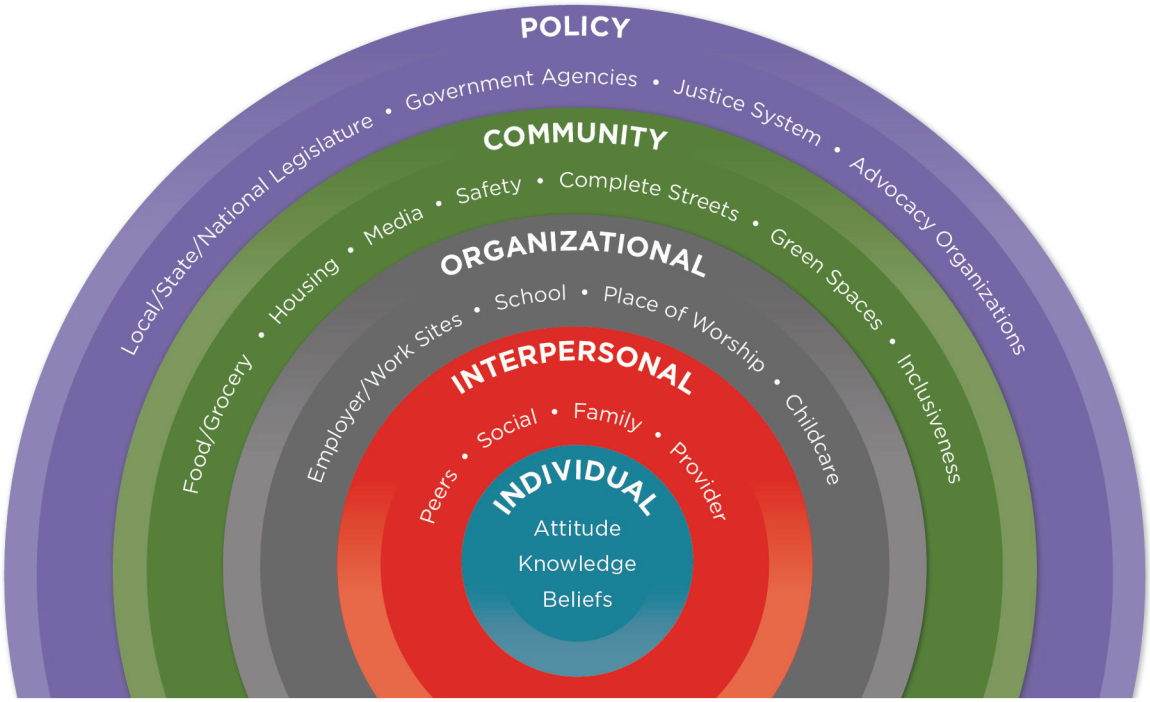
This wide range of social and policy factors that influence health are the *social determinants of health*. The *social determinants* not only directly impact our health and health behaviors, they exacerbate stressors for individuals and families and can impact the prevalence of early childhood abuse or physical deprivation, which can result in changes to the expressions of our genes.[7]

What We Mean by Health Equity

Health equity is achieved when we provide the systems and supports necessary to create the opportunity for all to achieve good health.[5] Creating *health equity* is the process of reducing *disparities* by altering the *social ecology* and promoting good health for all population groups. Supporting the health of those with the greatest need makes it easier to move the needle for all. *Health equity* is also a lens that can be used to view and measure the effectiveness of health systems and improve the outcomes these systems produce.

The Value of Systems Design and Thinking

Systems thinking holds many lessons for understanding how to create *health equity* by altering the *social ecology*.



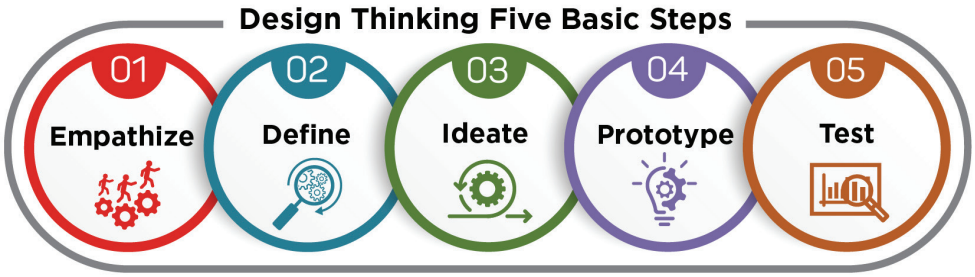
Systems thinking enables us to understand the many interrelated factors that cause specific health outcomes—good or bad—and to understand how those factors work in relationship to each other through feedback loops and over time.[8]

For example, safe, stable, affordable housing in a healthy neighborhood promotes good health.[9] Unsafe, unstable, orunaffordable housing exacerbates health inequities. A child who lives in pre-1978 housing with peeling lead paint may suffer from unsafe blood lead levels that may have lifelong impacts on cognitive ability, impulse control, and long-term employability, increasing their risk of chronic diseases and homelessness. A single adult who does not have stable or affordable housing may find they have to move frequently or may be evicted, increasing their social isolation and negatively impacting their mental health and credit score. These problems can potentially lead to moving into unsafe housing or no housing at all, as well as difficulties accessing other social services.

In another example, eating the right foods, such as fruits and vegetables, reduces the risk of cancer.[10] However, there are significant *disparities* in fruit and vegetable consumption in the United States by household income—the higher the household income, the more likely the adults in the household are to consume the recommended numbers of fruits and vegetables per day.[11] How much and what type of fruits and vegetables we have access to is determined by the *social determinants of health*. This includes where we live, how much money we have available to spend on perishable foods, the quality and strength of the agricultural and food distribution systems, and the policies for preparing food for us in institutions like schools.[9] Inadequate consumption at a population level leads to a variety of negative health outcomes, such as increased colon cancer incidence. Cancer not only causes human suffering, but also reduces household income, creating a negative feedback loop for affected households.[12]

Dynamic systems theory also says that systems are not closed. For example, the amount of fruits and vegetables we eat is impacted by external systems, like the food distribution systems that are needed to make available an adequate supply of fruits and vegetables, which are in turn affected by policies that subsidize food production or purchases. Most systems that influence health are dynamic systems and therefore can be shaped or changed by variations inside the system or in surrounding systems. However, understanding that systems shape our health is not enough if our aim is to improve health equity. *Design thinking* provides tools for understanding and reshaping these systems, including the *social determinants of health*, to increase *health equity*.[13] It can allow us to address the upstream opportunities to address the drivers of poor health.

Design thinking is a solution-oriented methodology that consists of five basic steps: 1) empathize, 2) define, 3) ideate, 4) prototype, and 5) test. The empathize stage is focused on attempting to understand the experiences of all the people who interact with the system. In the define stage, the specific outcomes desired from the new system are identified. Next, participants in the process ideate around the various ways to reach those outcomes, experimenting with the various outcomes that might arise from new designs. Next, when a potential approach is identified, the ideas are prototyped and tested. At each stage, individuals who most directly interact with or are impacted by the system should be engaged. Sometimes existing natural experiments, like differences in state policies, can provide comparative information instead of necessitating the need for testing. Data modeling can also be used to test system changes virtually. *Design thinking* can help enable the system to be understood from the perspective of those impacted by it, wwand to test new solutions that improve *health equity*.



For example, taking our fruit and vegetable system and applying design thinking would require starting by taking an empathetic approach to understanding the system and the various experiences of the people who interact with the system, including households of lower socioeconomic status that struggle to afford fruit and vegetables, or individuals who prepare food on a budget for institutions like schools, and the people and organizations that grow, distribute, and sell fruits and vegetables. Next, the problem to be solved is defined.

If we assume that the problem is lack of access to affordable fresh fruits and vegetables for households of lower socioeconomic status, then next we would ideate on solutions, prototype those solutions, and test them. Some of those solutions might be proximate, or close, to the people who most directly experience the problem, such as directly providing the fresh fruits and vegetables. Other solutions might involve altering the relevant policies or changing the conditions within the community to enable impacted individuals and families to improve access to economic supports and employment opportunity that will enable them to purchase fruits and vegetables, which will in turn strengthen the economics of the long food systems.

Often in public health, we spend much of our time on defining the problem, and some time on ideating on solutions that provide an immediate service, but often fail to prototype and test or implement the solutions at scale. *Design thinking*, especially thinking about systems at scale, can help us move past thinking of the problems associated with the *social determinants of health* and toward an approach that closes the *health equity gap*.

Three Critical System Components

We propose there are three critical components of the system on which all of us in public health, health care, and human services should focus to improve *health equity*—1) who, how, and what we measure (data collection and systems); 2) who, how, and what we fund (program implementation and evaluation); and 3) where and how we work (workplace and workforce diversity, equity, and inclusion).

Who, How, and What We Measure

Measuring health disparities is central to identifying opportunities for intervention and policy change to improve health equity.[14,15] One of the three core functions of public health is assessment, or measurement of the public's health, including the practice of epidemiology. However, numerous studies have demonstrated that there are significant challenges associated with the collection and quality of race and ethnicity data in observational databases, with discordant data even within different parts of a single health system.[16] Few studies included other important demographic variables for measuring disparities and understanding health equity, such as sexual orientation or gender identity, until the last decade.[17] It is also relatively well-known that inclusion of some groups in study populations remains a significant gap. For example, women have been underrepresented in clinical trials for cardiovascular disease for decades.[18] If we want to move the needle on health equity, we need to measure what matters.

> Design thinking can help us move past thinking of the problems associated with the social determinants of health and toward an approach that closes the health equity gap.

Continuous monitoring of health disparities and evaluation of programs and policies for selected health equity indicators can help.[19] The practice of incorporating equity into program assessment and evaluation is still nascent, but models exist for measuring and promoting equity through program evaluation.[20]

The U.S. Department of Health and Human Services and the Centers for Disease Control and Prevention (CDC) have recognized this need to rethink data systems and have embarked on a Data Modernization Initiative (DMI) to expand the collection of data in various systems to include additional important social and demographic factors, make data more accessible to the communities that collect and need the data, and increase the interoperability of the data to move data to action (D2A). Abt Associates is working on DMI projects at CDC, including collecting data with a health equity lens, and implementing D2A models. For example, Abt is working on a data modernization effort being undertaken within CDC's National Center for Injury Prevention and Control

where one outcome will be to ensure the system addresses issues of equity and disparity in data capture. Abt also has experience including hard-to-reach populations in data and analysis. For example, Abt is using an existing network of sites and protocols from CDC Pandemic Flu and Global Flu contracts to study COVID-19 in pregnant women.

Who, How, and What We Fund

Public health organizations can also improve *health equity* by designing, funding, and implementing initiatives and programs that meaningfully engage diverse populations and communities facing inequities, develop and include a diverse network of partners, and consider health equity in the design, training, technical assistance, and implementation support.[21] What we fund shapes who we serve and how they are served. President Biden's executive order on equity, which requires engagement of underserved communities and equitable allocation of resources to underserved communities, recognizes this fact.[22]

Public health agencies have historically used funding streams from various categorical conditions, such as heart disease and cancer, to move the needle on modifiable risk factors like nutrition; however, anyone who has worked on those efforts knows the administrative challenges of that approach. Calls for action like those made in Public Health 3.0 suggest that braiding and blending should be encouraged.[23] However, to move the needle on health equity, funding that specifically supports the cross-cutting *social determinants of health* and common modifiable risk factors for poor health—and not categorical disease outcomes alone or just braiding those funds—is essential.

In the Surgeon General's first report on Community Health and Economic Prosperity, seven vital conditions of health are described—1) a thriving natural world, 2) basic needs for health and safety, 3) lifelong learning, 4) meaningful work and health, 5) humane housing, 6) reliable transportation, and 7) belonging and civic muscle.[24] Other frameworks group and represent the *social determinants of health* in slightly different ways, although all have many of the same domains—social connections, the environment in which we live, safe housing, basic necessities like food, and educational and employment opportunities—and emphasize the need to use interdisciplinary and transdisciplinary approaches to change the systems and the delivery of services to create lasting change.[25] The frameworks also consistently emphasize the interconnectedness of the social determinant and that health status can also be a determinant of other outcomes.

> Public health will not be able to make a difference alone; it is also essential to embed public health approaches in other funding streams, such as social services programs, and work across sectors to address *social determinants.*

The Social Determinants Accelerator Act of 2021, under consideration in the U.S. Congress, proposes a similar approach, enabling the development of plans to help jurisdictions improve the effects of the *social determinants of health*.[26] And, the President's Federal Fiscal Year 2022 Budget has proposed significant additional funding from CDC to allow all states and territories to accelerate their social determinants work by planning and implementing new approaches.[27] In previous rounds of funding, CDC has prioritized the following social determinants for its efforts: built environment, community-clinical linkages, food and nutrition security, social connectedness and tobacco-free policies.[28]

Abt Associates has deep experience providing technical assistance to communities, organizations, and government agencies that are redesigning systems to address social determinants. For example, Abt is working with CDC to implement EMPower Best Practices, a hospital-based quality improvement initiative designed to build the skills needed to close the gaps in racial/ethnic, economic, and geographic disparities in breastfeeding

rates.[29] HUD's Assessment of Fair Housing included a new rigorous and mandatory process for data analysis, mapping, and strategy development to help grantees make meaningful change and affirmatively further fair housing (AFFH). Abt was tasked with building the capacity of these grantees in the new planning process by providing training and technical assistance.[30]

Where and How We Work

Diverse health workforces are a key component of the effort to reduce health disparities.[31] Diverse workforces have been linked to improved quality of care for certain racial and ethnic groups.[32] However, recent data indicates that the public health workforce is less racially diverse in clinical and scientific roles than in administrative and clerical roles; less racially diverse in management and executive positions than in non-supervisory roles.[33]

Public health is taking action to address the problem of diversity in its leadership. For example, the Association of State and Territorial Health Officials and the Satcher Leadership Institute have developed a new leadership program, Diverse Executives Leading in Public Health.[34] In addition, the presidential executive order on equity mandates federal agencies conduct equity assessments, which should also further efforts within federal agencies to understand the various forms of diversity of their workforces and the beliefs and perceptions regarding inclusion in their workplaces.[19]

Abt has deep experience with workplace and workforce surveys, like the Work and Well-being in Science study.[35] Abt also has experience engaging in workforce development initiatives to enhance the diversity, equity, and inclusion of health workforces. For example, Abt is working with the Health Resources Services Administration's (HRSA) Bureau of Health Workforce (BHW) to increase the number of trained behavioral health paraprofessionals filling health care gaps in underserved communities.

Three Essential Tools

There are many tools that can be applied to embed and reinforce *design thinking* principles to promote *health equity*. We propose there are three tools that should receive particular consideration in public health programs as we collectively work to improve health equity: 1) technical assistance and change management support; 2) policy change; and 3) conflict resolution and reconciliation. These tools, which have a variety of uses in public health, have the potential to be particularly powerful when used together to address the systems that contribute to *health inequity*.

Technical Assistance and Change Management Support

In addition to traditional technical assistance on science and communication, change management tools from the management sciences can help organizations and communities successfully prepare for, implement, and follow-through on the changes necessary to move the needle on the *social determinants of health* and *health equity*.[36] For example, the Prosci™ change management approach is based on the idea that for organizations and systems to effectively change, the people in the systems must change, and there must be awareness, desire, knowledge, ability, and reinforcement of the changes.[37]

Policy Change

Policies and laws shape the systems that determine health and can serve as an important tool to improve health equity.[38] Many of the notable achievements over the last century in public health have been the result of policy changes, such as school vaccination mandates, seatbelt laws, and smoke-free indoor air.[39]

Policy change is both an art and a science, and existing methods like legal epidemiology, policy analysis, and policy impact evaluation offer public health practitioners a place to begin when assessing the role of specific laws on *health equity* and the *social determinants of health* and recommending changes to those laws.[40] *Health in All Policies* (HiAP) is an approach to integrate health considerations into the policies of other sectors, such as policies that impact many of the *social determinants* such as the built environment and educational settings.[41] HiAP is a collaborative approach through which health professionals engage with and educate leaders in other sectors on the opportunity and value of integrating health into their approaches. The CDC has developed a curated set of resources for leaders in other sectors around opportunities at the intersection of their field and health.[42]

Health equity is achieved when all populations have the opportunity to achieve their full health potential.

Conflict Resolution and Reconciliation

One of the key aspects of *design thinking* is empathy. However, inequities result from an imbalance of power which can discourage collaborations. To promote *health equity* in these systems we need to draw from psychology, philosophy, and the legal field to resolve conflicts and seek reconciliation. Although these approaches have been less commonly applied in public health practice, the potential to make a difference in *health equity* should not be overlooked. Mediation is one such tool that can help remove barriers.

Essential Tools	Key Opportunities to Improve Equity in Public Health Systems		
	Who, How and What We Measure	Where, How and What We Fund	Where and How We Work
Change Management			
Policy Change			
Conflict Resoultion and Reconciliation			

Conclusion

The work that will be required to improve *health equity* and the *social determinants of health* is as vast as the problem. However, there are specific areas of the public health system where we can start to build *design thinking* into our work to improve *health equity*—data collection and systems; community engagement; program implementation and evaluation; workplaces and workforces. We can advance that work applying tools like change management, policy change, and conflict resolution and reconciliation. The resulting matrix is a 3x3 framework that can help us guide our thinking about the work that needs to be done—

As with most other public health problems, closing the gap in *health equity* requires a multi-layered approach. By working across these areas and using multiple strategies in a transdisciplinary way, we have the greatest chance of making progress on what is the most important problem of modern public health.

Abt helps policymakers and practitioners:

- Identify, understand, and apply the evidence that matters to the social determinants of health.
- Assess the effectiveness of programs and put what works into practice.
- Generate new solutions to complex problems.

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