

## Impacts of Social Determinants of Health (SDoH) on Health Equity

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### ABSTRACT

Healthcare access is a universal right for all human beings. The Access to Healthcare in America report published in 1993 defines access as “the timely use of personal health services to achieve the best possible health outcomes<sup>1</sup>.” Access to health care is important to ensure overall well-being of the population both physical and mental, detection and treatment of diseases and improve life expectancy. Even though there is significant investment made in the healthcare industry to provide quality of care for everyone, access to affordable healthcare and the subsequent health outcomes are determined by the social and economic conditions of the members.

Social Determinants of Health, or SDoH, is defined as “Conditions in the places where people live, learn, work, and play which affect a wide range of health and quality-of-life risks and outcomes.” SDoH are non-medical factors that significantly influence health outcomes. Health equity means everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health care access such as poverty, discrimination, and their consequences, including powerlessness and lack of access to jobs with fair pay, quality education, lack of health insurance and housing, safe environments, and health care. Therefore, there is an urgent need to eliminate health disparities and ensure all people have opportunities to reach their well-being potential.

**Keywords:** Social Determinants, Health Equity, Economic status, Health outcomes

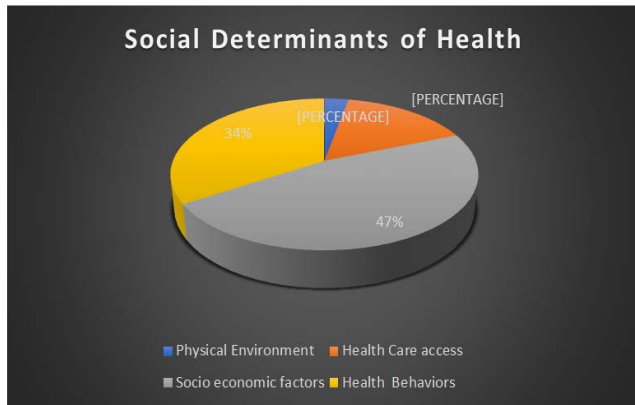
### Introduction

Covid-19 highlighted the unfair treatment, lack of health care accessibility, barriers to care and structural flaws in the health care system. A study conducted determined the impacts of SDoH on health outcomes and it concluded that while clinical care impacts 20 percent on the outcomes, SDoH can impact as much as 50%, further explaining that 47% of the health outcomes is determined by socio-economic factors compared to individual's health behavior at 34%, clinical care is 16% and finally the physical environment impacts 3% as shown in the figure 1 below<sup>2</sup>. Few examples of SDoH that have high impact of quality of care and health equity include lack of nutritional food resulting in chronic conditions such as congestive heart disease

and diabetes, financial insecurity due to lack of employment impacting well-being, lack of access to health care due to affordability, unsafe housing options and lack of transportation.

The United States despite spending more money on health care in comparison with other countries in Organization for Economic Co-operation and Development (OECD) has very poor health outcomes and large inequalities when compared to high income countries<sup>3</sup>. The disparity in health care access has predominant effect on population that face systematic obstacles based on race, religion, economic status, gender, geographic location, and other characteristics that are linked to discrimination historically leading to health inequality. The aim of this article is to discuss how SDoH is impacting the access and health care

outcomes and the mitigation strategies to improve overall health equity.



**Figure 1:** Social determinants of health.

## 2. Impact of SDoH on Health Equity

The current health care delivery model in United States is creating a significant financial burden on the health care eco system and is no longer sustainable.

A model prepared by Deloitte looked at all the high-cost chronic conditions like diabetes, asthma and cancers demonstrate the significant financial burden due to health inequities. The study determined that racial inequity and income disparities are significant factors contributing to late diagnosis resulting in delayed access to appropriate care and medication. The study concluded that for diabetes 4.8% of spending is due to disparities which resulted in \$15 billion being spent unnecessarily as against the annual cost of \$327 billion . It also noted that black adults are 60% more likely to be diagnosed with diabetes with two or three times with complications due to diabetes than the white adults. The study also revealed that asthma spending due to poverty levels and income disparities is \$2.4 US billion as opposed to annual cost of disease. The 4.3% unnecessary spend is due to the income disparities. The figure 2 below sourced from the Deloitte report<sup>4</sup> shows how health disparities can increase the health care spending.

Disease area	Health disparity	Annual cost of disease (in US\$ billions)	% of spending associated with disparity	Unnecessary spending associated with the disparity (in US\$ billions)
Diabetes	Black adults are 60% more likely than white adults to be diagnosed with diabetes and are two to three times more likely to have complications	\$327	4.8%	\$15.6
Asthma	The asthma rate for those living under the FPL is 11% compared to ~7% for those that are >2x the FPL	\$56	4.3%	\$2.4

**Figure 2:** How health disparities can increase health care spending

While these numbers do not include costs for mental health, conditions like diabetes and asthma can lead to or worsen depression, anxiety further increasing the cost of care. The issues related to mental health can increase the individual’s susceptibility of developing poor physical health in turn impacting social and cognitive function resulting in unhealthy habits and resort to substance abuse. These types of health inequities would further increase the health care cost in United

States projecting a \$1 US trillion spend in 2040 compared to \$320 US trillion in the present day<sup>4</sup>.

Though quality health care is an essential right of every individual , research shows that health outcomes are driven by multiple factors, that includes the underlying health behavior, social and environmental factors, and affordable access to health care. To champion “ health equity” ensuring better quality health standards for all individuals, it is important to address the SDoH factors including social , cultural, and environmental that would have tremendous impact on individual’s health outcomes as these factors have around 80% impact on the health outcomes as opposed to the 20% of the individual’s overall health. Of 80% of the impacts due to SDoH , environmental factors such as lack to access to food, transportation, housing ,education accounts to 50% and the substance abuse in the form of alcohol and drug consumption accounts for the remaining 30%<sup>2</sup>.

A study conducted by Hahn and Truman concluded that there is a direct relation between educational attainment and mortality and morbidity. The study showed that people with lower educational attainment has high chances of developing conditions such as diabetes, liver diseases and feeling of worthlessness<sup>5</sup>. Homelessness is another key factor that has a close influence on poor physical and mental health. There is an increased rate of health issues such as HIV, tuberculosis, substance abuse in homeless people<sup>6</sup>. Lack of access to nutritional food or food insecurity will have significant impact on health. One study conducted on children revealed that food insecurity was associated with various health issues in children including birth defect, aggression, anxiety, behavioral problems, bad oral health, and high hospitalization<sup>7</sup>.

Another factor influencing the health outcome is the bias surrounding the individual’s race, ethnicity, language and disability and this bias whether conscious or unconscious creates a segregation among the society. This impacts the way the members are provided with the services resulting in discrimination and lack of fair access to health care resources.

## 3. Health Equity Initiatives to Address Disparities in Health Outcomes

Health equity interventions and programs play a significant role in addressing health disparities and improving health outcomes by targeting the underlying determinants and promoting health equity. The main goal of these initiatives is to create a health care system that is more affordable and ensures everyone has access to quality care.

### 3.1. Community health worker programs

Community Health Worker programs play a critical role in promoting health equity by providing community-centered services such as health education , outreach, and support activities to overcome barriers to health care access in the underserved communities and address the social determinants that impact health equity. The CHWs serve as a liaison between the hospitals or the health care systems and the community-based resources to promote equitable healthcare delivery. They empower individuals to make healthy choices and raise awareness about health issues to enable them to take an active role in their well-being. The CHWs help with a wide range of services from conducting health education sessions on nutrition, medication adherence, chronic disease management to helping the members in the health care system navigation in the form

scheduling appointments and monitoring health status for the members with chronic conditions and provide services in terms of food and transportation. There are various successful programs such as implemented as part of CHW programs such as the Bangladesh Rural Advancement Committee (BRAC) Community Health Worker program was instrumental in reducing the maternal and child mortality rates in rural Bangladesh through their interventions and programs. During the past year, the community health workers have provided over 477,000 antenatal care services, over 255,000 prenatal care services, and delivered 14,000 babies safely<sup>8</sup>.

### 3.2. Patient navigation programs

Patient navigation programs play a critical role in promoting health equity by addressing social, economic, financial, and cultural barriers. It enables appropriate care and improves health outcomes. These programs measure the impacts and outcomes using metrics such as utilization, hospital readmissions and cost savings. The patient navigator or the patient advocates help patients overcome the barriers, provide them with the diagnosis and treatment options and necessary access as they navigate the health care ecosystem. The Patient Navigation programs address a wide range of issues including financial barriers such as excessive cost of insurance, logistics barriers such as non-availability of transportation or language issues and social barriers such as stigma related to seeking mental health services. The results from the Patient Navigation Research Program (PNRP) set up by National Cancer Institute showed a decrease in the abnormal cancer screening findings, improved treatment initiation rates and improved health outcomes among racial and ethnic minority populations, and patients with economic disparities<sup>9</sup>.

### 3.3. Health education and promotion campaigns

Health education and promotion campaigns play a significant role in advancing health equity by promoting health literacy, enabling individuals to make informed decisions about their health using outreach activities, workshops and targeting messaging. These foster collaborations with the schools for preventative screenings, hospitals, and government agencies to enable larger outreach and create sustainable outreach activities with maximum impact. The campaigns are tailored considering the unique needs of the communities they are serving including racial and religious minority groups, low-income communities, LGBTQ, and individuals with language barriers.

### 3.4. Affordable housing, food security and economic development program

Housing instability and homelessness are the important barriers to quality health care and affordable housing aims to address this barrier by providing support with access to subsidized housing units, rental assistance, housing vouchers. The program also provides supportive services such as mental health management and case management to individuals experiencing housing instability.

Food security program caters to the dietary and nutritional needs of the members with access to affordable healthy choices in the form of food banks, farmers markets, promoting local food production which is important for maintaining good health. The Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and school meal programs are few food

security programs aimed to support with financial assistance for low-income groups.

Economic development initiatives support job opportunities and provide training programs for jobs, small business support programs thus reducing economic disparity by creating a steady source of income to the underserved communities.

### 3.5. Policy and advocacy efforts

Policy and Advocacy efforts are particularly important to address the barriers that exist in the communities when it comes to health care access and provide equitable resources and services in the form of regulations and laws at every level both locally and nationally. Strategic partnerships with decision-makers, health care organizations, local communities and advocacy groups can help with grassroot campaigns to raise awareness and build support for initiatives that would promote health equity. It is important to monitor the impacts of these initiatives periodically and identify areas for improvement to ensure that these policies can mitigate the barriers in achieving health equity.

## 4. Conclusion

Addressing socio, economic and environmental related issues is crucial to attain health equity. This requires a multi prong top-down approach that includes regulatory and policy changes that would ensure universally accessible healthcare and the creation of health programs for the underserved communities. Provide sustainable conditions so the members have access to nutritious diet, transportation to hospitals, access to care coordinators, and health literacy so the communities are empowered to make informed health decisions. By addressing the underlying determinants of health equity, a more equitable healthcare system that promotes quality of care and health outcomes can be created.

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