

Socioeconomic Determinants of Health Outcomes and Healthcare Access in the United State of America: A Review Approach

Olayemi Michael Lawanson^{1,2*}; Ahmed Abu-Halimeh¹; Oluwatomiwa Ajiferuke¹

¹Department of Information Science University of Arkansas at Little Rock,
United State of America (USA)

²Business Information and System Analytics Department, University of Arkansas, Little Rock,
United State of America (USA)

Corresponding Author: Olayemi Michael Lawanson^{1,2*}

Publication Date: 2025/07/03

Abstract: Investment in the healthcare sector has long been viewed as a means of ensuring that everyone has access to health services in the United States, a nation with a predominately privatized health system. Nonetheless, there is mounting evidence that other non-health factors frequently have a significant impact on the utilization of healthcare services. The access to and usage patterns of health services are influenced by socioeconomic variables, which have a significant impact on health outcomes. Access to healthcare is more readily available to the affluent than to those in poorer socioeconomic conditions. In order to achieve the Sustainable Development Goals (SDGs), it is imperative that more people have access to health care. This study examined the effect of socioeconomic status (SES) and other social and economic factors on the health of immigrants in the US, using secondary data. The primary focus of this review was the socio-economic factors that influence health outcomes in the US. It conducted a review on how socioeconomic factors affect US health outcomes. Without regard to chronological constraints, the research was carried out by searching through the databases of pertinent publications and only contained papers written in English. Included studies were those that analyzed socioeconomic factors as key variables in healthcare access and usage among US residents. The results of this study demonstrate that, in developed nations, especially the US, a variety of health outcomes, including the usage and accessibility of health care services, have been linked to occupation, higher income, education, ethnicity/racism, and poverty status. The majority of the evaluated research has demonstrated a correlation between various health outcomes and socioeconomic variables. The study concluded that social and economic determinants play a critical role in shaping health outcomes and healthcare access in the US. In order to address non-medical, social determinants of health within the framework of the health care delivery system, policies should be implemented to include health outcome considerations into non-health policy sectors.

Keywords: Socio-Economic Characteristics, Health Systems, Health Outcomes, Healthcare Access.

How to Cite: Olayemi Michael Lawanson; Ahmed Abu-Halimeh; Oluwatomiwa Ajiferuke (2025) Socioeconomic Determinants of Health Outcomes and Healthcare Access in the United State of America: A Review Approach.

International Journal of Innovative Science and Research Technology, 10(6), 2393-2405.

<https://doi.org/10.38124/ijisrt/25jun1277>

I. INTRODUCTION

For individuals and groups, "good health is an internationally acceptable goal" at the moment. Thus, although there are still disparities in health between the rich and the poor, there have been significant advancements made in some health indices over the past century, such as life expectancy¹. Health is a complex subject whose supply, development, and destruction are influenced by a number of circumstances. The creation and receipt of health outcomes are influenced by every individual, system, and organization in the community^{2, 3, 4}. According to a number of research,

differences in healthcare access may have an impact on how pandemics turn out^{5, 6, 7, 8}. In early March 2020, the World Health Organization (WHO) pointed to healthcare access inequalities as key determinants of health outcomes during global health emergencies⁹. In a similar vein, Chen and Krieger's¹⁰ analysis of the United States reveals that the highest death rates—19.3 per 100,000 compared to 9.9 per 100,000 in other counties—were found in the most impoverished countries concerning poverty. The health care system has historically been viewed as the primary driver of health and health outcomes in attempts to enhance health in the United States. However, more and more reports indicate

that attaining health equity and enhancing health will call for more comprehensive strategies that take into account the social, economic, and environmental determinants of health¹¹.

The phrase "social determinants of health refers to both specific features of and pathways by which societal conditions affect health and that potentially can be altered by informed action"¹² does not provide a clear and universal definition of the term. Another way to define social determinants of health is as "life-enhancing resources, such as food supply, housing, economic and social relationships, transportation, education, and health care, whose distribution across populations effectively determines length and quality of life"¹³, according to the US Centers for Disease Control.

"The social determinants of health (SDH) are the conditions, in which people are born, grow, work, live, and age as well as the wider set of forces and systems shaping the conditions of daily life," according to the World Health Organization¹⁴. Social determinants of health are aspects of the social milieu in which individuals are raised, work, learn, and play that have an impact on a variety of risks and outcomes related to health, functioning, and quality of life¹⁵.¹⁶ Social scientists use the term "socioeconomic position" to refer to an individual's status or rank within the social hierarchy as well as the material and social resources that are available to them. A large corpus of research shows that individuals in lower social and economic situations die at higher rates than those in higher positions¹⁷.

Individual and population-level health and well-being have been demonstrated to be significantly impacted by these social and/or demographic traits of people, groups, communities, and societies. Social determinants at the individual or group level can include things like gender, race/ethnicity, SES, social class, income, education, occupation, job status, housing tenure, immigration status, language use, status as a disabled person, and social capital. Population-level social determinants include physical and built environments, transportation, infrastructure, racial/ethnic population composition, medically underserved or shortage areas for health professionals, spending on public safety, social and welfare services, and the rate of poverty, income inequality, educational opportunity, labor market structure, affordable housing, and access to healthy foods and good nutrition. Population-level social determinants are thought to be more fundamental, underlying, or upstream causes of health and illness, and they can be altered by public policy^{18, 19}.

According to Marandi²⁰, the percentages of biological, physical, environmental, behavioral, and socioeconomic determinants that affect health are 25%, 15%, 10%, and 50%, respectively. Socioeconomic status (SES) or social determinant conceptual models are thought to be crucial since a deeper comprehension of health disparities necessitates a grasp of their primary causes as well as its direct and indirect effects²¹. The significance of socioeconomic determinants of health is emphasized, and new efforts to address them are covered¹¹. Accordingly, health care is a relatively weak health factor even though it is vital to health (Michael McGinnis and

William, undated). Improving health and lowering health inequities require addressing social and economic determinants of health²².

A substantial and convincing body of research has emerged, especially in the last 20 years, which indicates that social determinants of health, aside from medical treatment, have a significant impact on a variety of health indicators, environments, and demographics^{23, 24,25}. This evidence suggests that medical care may have fewer effects than previously believed, especially when it comes to determining who gets sick or injured in the first place. It does not refute the influence of medical care on health; rather, it shows that it is not the only influence^{25, 26}.

However, there are ongoing debates about the quality of the data demonstrating a causal role for specific social factors, and the links between social factors and health are rarely straightforward. According to Anderson et al, Fielding & Briss, Glasgow & Emmons^{27, 28,29} and other scholars, there is a growing body of work challenging the suitability of conventional standards for evaluating the evidence. There are several ways in which social conditions and associated environmental risks and exposures affect health. Social determinants of health (SDOH) are situations that have an impact on health and are commonly understood as such in the United States. According to the US Playbook to Address Social Determinants of Health, "the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks" is how the Department of Health and Human Services (HHS) defines it.

By 2010, neither Washington nor the country had succeeded in eradicating health disparities, including those associated with low social and economic status. Indeed, differences increased for numerous SEP and health³⁰. Health disparities by race, ethnicity, sexual orientation, gender identity, and disability continue to exist in the United States despite large investments to increase access to high-quality healthcare, as do disparities by economic and community-level variables including location, employment, and poverty status. Compared to their White, heterosexual, urban counterparts and those without disabilities, those with disabilities and those living in rural areas experience inferior outcomes.

These differences are present for a wide range of health outcomes, including total life expectancy, mental illness, substance abuse, cancer, chronic illness, diabetes, hypertension, heart disease, and maternal and infant mortality^{31, 32, 33}. Up to 50% of health outcomes at the county level are attributed to social and economic determinants. The biggest influences are socioeconomic ones, like the availability of education, the frequency of jobs, earning a livable wage, and poverty³⁴.

Lawanson et al³⁵ explore how telemedicine can bridge access gaps in the healthcare system, particularly in rural areas. They identify key barriers—including infrastructure

deficits (e.g., limited broadband), regulatory hurdles, and low digital literacy—and recommend establishing national telehealth frameworks and user-friendly platforms. The fragmented electronic health record landscape in the U.S., especially across under-resourced hospitals and clinics, mirrors global challenges such as workforce training deficits and data governance issues. Lawson et al.³⁶ further highlighted that investments in workforce training and data systems interoperability are equally crucial domestically. Digital reminders (e.g., SMS, emails) and health portals also play growing roles in improving immunization coverage among disadvantaged populations in the U.S., addressing equity gaps.

Health indicators influenced by SDOH include life expectancy, chance of catching an infectious disease, chance of developing a chronic condition (e.g., diabetes, heart disease, depression), and more. For instance, independent of any other demographic characteristics, profession is linked to an increased risk of dying from heart disease, according to a groundbreaking study that tracked a cohort for almost 25 years³⁷. According to Gregory³⁸, there is a 15% chance that an individual would experience food insecurity. Even if being able to afford high-quality medical treatment is crucial for treating illnesses when they develop, access to care is insufficient on its own to produce the best possible health results. To enhance people's health and well-being, communities and individuals need to address the entire environment in which they live, from economic security to neighborhood infrastructure to the availability of healthy food³⁴. The fact that chronic illnesses like diabetes, cancer, and cardiovascular disease have replaced infectious diseases as the leading causes of mortality in Washington and across the country in the last 100 years is extremely concerning. However, variations in life expectancy and mortality rates according to socioeconomic status continue, indicating that this correlation may not be entirely due to shifting causes of death³⁹. Studies frequently discover a progressive, negative link between death rates and socioeconomic characteristics: for every incremental drop in socioeconomic indicators, the mortality rate rises⁴⁰.

Even though the United States of America has a more developed health care system than many other nations and has made significant investments in infrastructure related to healthcare, there is growing worry about the prospect that non-health variables could have a significant impact on people's health outcomes. The impact of health factors on health outcomes has been the subject of previous studies. The determinants and drivers of health outcomes from this perspective were not addressed in previous studies, however, suggesting that there may be growing interest in the potential relationship between non-health factors, particularly socioeconomic and environmental factors, and health outcomes in the nation.

Furthermore, it doesn't seem that the United States of America now has a clear conceptual policy or framework that incorporates social and economic features into the framework for the nation's health policy. Despite the country's supposedly ongoing importance, there are few, if any, well-

established policy instruments that address health outcomes through the social and economic lens as of yet. The current study intends to close this knowledge gap by presenting data from earlier research on the impact of social and economic factors in achieving health outcomes in the United States of America. Evidence from scientific study is regarded as being quite important when formulating strategies in this direction.

II. THE CONCEPT OF SOCIAL AND ECONOMIC DETERMINANTS OF HEALTH OUTCOMES AND THEORETICAL BACKGROUND

In order to investigate how families use health care, Andersen⁴¹ created a three-stage model. The three parts of Andersen's model are need, enabling, and redising. The model consists of subcomponents for each component. Family structure, health beliefs, and societal structure are some of the predisposing factors. Family and community resources make up the enabling component, while disease and reaction make up the need component. Predisposing factors, according to this model, include age, sex, family size, marital status, race, socioeconomic status, and ethnicity. The factors that influence the use of health care include family income, work, occupation, education, and health insurance as enabling factors and symptoms, disability, and health status as need factors.

The World Health Organization defines determinants of health as the social and economic environment, the physical environment, and the individual characteristics and behaviors of the person; in addition, income, social status, education, and the physical environment (safe water and clean air, safe houses, communities, and roads all contribute to good health) are included. Social support networks (families, friends, and communities), culture (customs, traditions, beliefs), genetics, personal behavior, coping skills, health services, and gender are also considered determinants of health.

The 1972 Journal of Political Economy paper "On the Concept of Health Capital and the Demand for Health" by Michael Grossman is the source of the most widely used economic model of the demand for healthcare and health. The demand for the commodity of "good health," and consequently, each person's need for healthcare services, was first examined using an economic model in this article. When people get unwell, the provider's role is primarily that of a healer, according to Grossman's Human Capital theory.

According to Grossman, "health" is a durable capital asset that yields benefits through both direct utility (we feel better when we are healthier) and healthy time that can be allocated to both non-market (like leisure time) and market (like working or starting a business) activities. Like other capital assets, people are born with an initial stock of health, which depreciates over time at an accelerated pace depending on factors such as age, disease, accidents, or healthy activities. To improve their health stock and, hence, their utility, people invest in their health. Thus, the need for personal utility drives the demand for good health, and the want for healthcare services drives the demand for good health as well.

The efficiency of health investment determines the pace of health production, and higher income or education levels can boost this efficiency. When the health stock drops below a certain threshold, death results. Individual decisions about nutrition, exercise, and healthcare use are examples of positive investments in health. According to the approach, people can choose through those investments how healthy they want to be and, consequently, how long they will live. Time and wage constraints, as well as production issues, affect health care investments. The efficiency of health care expenditures can be raised by investing in human capital through higher education.

➤ *Implications of Grossman's Model for Providers*

The paradigm states that biological and behavioral factors at the individual level determine health. People are in great control of their own health, and by making an investment in their own education, they may make their health investments work harder. Individuals must make informed decisions about their time, money, and healthcare consumption in order to produce health, according to the economic model. Grossman's model suggests that healthcare practitioners should take a reactive approach to promoting health. Due to their personal preferences for optimal health and the fact that increased healthcare utilization results in the maintenance and/or enhancement of general health, people who are looking for health services will approach providers when necessary.

Ill people or those who refuse primary care services do so because they do not benefit from using them. Since that duty rests with the individual, providers are not held to a high standard when it comes to interfering in any other aspect of the health production function. The US healthcare system's rising costs despite stagnating health results have been attributed to this paradigm, which upholds the idea that clinical physicians' sole function in the production of health is to treat illness. We have missed important factors that affect health, as evidenced by the U.S. healthcare system's considerable time and financial investment in developing science and technology that can treat disease, but nonetheless yields comparatively poor population health outcomes.

Providers, legislators, and their community partners will need to rely on an alternate theory in order to successfully execute change in order to raise the effectiveness and caliber of the healthcare system.

III. MATERIALS AND METHODS

The primary socio-economic determinants of health outcomes in the United States of America were identified, and the processes supporting favorable health outcomes were investigated, through a methodical collection and review of pertinent academic publications and a small number of policy documents. The search approach is in line with that used by Adenuga, Singirankabo & Ertsen^{42,43}. There were five phases to the review process: (1) study objectives formulation; (2) search strategy development; (3) desktop literature review; (4) filtering of compiled literature to retain the most relevant; and (5) analysis and interpretation of the literature.

➤ *Using Relevant Terms, the Following Search Query was Created for the Study:*

- Social and Economic health outcomes;
- Socio-economic factors influencing health outcomes;
- Determinants of health outcomes;
- Challenges of studying socio-economic determinants of health outcomes;

The World Wide Web and Google were used as resources for a thorough search of academic research articles, and a manual search was also conducted for papers that were cited in important publications and journals that were evaluated. We also used a variety of databases, including Elsevier, Google Scholar, and Scopus. Duplicate articles were removed from the collection by a casual visual screening process. Title-abstract-keyword screening and full text screening were the other two screening stages that were completed. Geographic location was restricted during the search process (with a focus on research conducted within the United States).

Nevertheless, the publication date was not stated. After looking through 150 research that were found through the search, we finally took 80 papers into consideration. Of these, 72 journal articles, 4 theses, 1 book, 1 conference paper, and 2 reports were used for the qualitative analysis. The flow chart for the quantitative search and screening is presented in Figure 1.

➤ The Flow Chart for the Quantitative Search and Screening is Shown below in Figure 1:



Fig 1 Flow Chart for Quantitative Search and Screening

IV. SOCIO-ECONOMIC DETERMINANTS OF HEALTH OUTCOMES

One of the main predictors of health is social and economic circumstances. Our biology, health-related behaviors, environmental exposures, access to and utilization of medical services, and neighborhood circumstances are all impacted by the intricate interactions of income, wealth, education, employment, and social policies. The negative effects of poverty on one's health can start before birth and worsen over the course of a lifetime (Health of Washington State, undated). While access to high-quality, efficient

healthcare is vital for improving community health, it is insufficient to meet health challenges and overcome health inequalities, of which SES is a major factor and the cause of many health issues^{18, 44}.

Social determinants of health are aspects of the social milieu in which individuals are raised, work, learn, and play that have an impact on a variety of risks and outcomes related to health, functioning, and quality of life^{45, 16}.

If we comprehend the potential causes that result in differences in health care, we can better address the goal of

reducing racial health disparities. The three major categories of unequal response to therapy, differential access to high-quality care, and differential treatment prescription can be used to identify potential reasons of racial health disparities. Differential reactions and availability to care are probably significant drivers of the discrepancy, but they are not sufficient to fully explain it^{46, 47, 48}. Disparities continue even after adjusting for significant socioeconomic and access-related variables, suggesting that there are still injustices that go beyond these considerations.

Research indicates that cultural differences and provider discrimination are significant factors in treatment and outcome discrepancies in the inpatient setting⁴⁷. Numerous health disparities are probably influenced by the placement of healthcare facilities and the division of society into socioeconomic zones. The most talented doctors, who have the freedom to select where they practice, will probably be located in more affluent locations because black patients are more likely to reside in lower socioeconomic areas. As a result, less skilled physicians also frequently work in medical facilities that disproportionately treat minorities⁴⁷.

Individual and population-level health and well-being have been demonstrated to be significantly impacted by these social and/or demographic traits of people, groups, communities, and societies. Social determinants at the individual or group level can include things like gender, race/ethnicity, SES, social class, income, education, occupation, job status, housing tenure, immigration status, language use, status as a disabled person, and social capital. Population-level social determinants include physical and built environments, transportation infrastructure, racial/ethnic population composition, medically underserved or shortage areas for health professionals, spending on public safety, social and welfare services, and the rate of poverty, income inequality, educational opportunity, labor market structure, affordable housing, and access to healthy foods and good nutrition.

Population-level social determinants are thought to be more fundamental, underlying, or upstream causes of health and illness, and they can be altered by public policy^{18, 19}. A substantial body of research shows that countries with more equitable healthcare systems are more effective at controlling disease^{49, 50}. Unequal burden of disease as a result of unequal access to healthcare may indicate more systemic injustices in a society. Encouraging equitable access to healthcare through government action is probably a sign of broader cultural processes that prioritize justice and equality.

The economic historian Eichenengreen⁵¹ contends, in fact, that the differential between Black and White mortality in the United States from COVID-19 can be directly linked to variations in welfare policy, which can then be linked to racial injustice and racism. His research is grounded in the well-accepted theories of the vulnerability of welfare states in areas with high rates of ethnic disparity and low levels of social capital and trust^{52, 53}.

The most important elements of sickness are currently tied to the socioeconomic situations in which people live and work⁵⁴, and the most fundamental causes of health inequities are related to various socioeconomic conditions²⁰. The term "the causes of the causes" refers to this situation in the literature⁵⁵. Many research have tried to evaluate how social influences affect health. According to a review by McGinnis et al⁵⁶ medical treatment accounts for just 10%–15% of preventable death in the United States. Although Mackenbach's research indicate that this figure may be underestimated, they nevertheless confirm the paramount significance of social variables.

McGinnis and Foege came to the conclusion that behavioral factors account for half of all deaths in the United States; however, additional research has demonstrated that social factors, such as employment, money, and education, have a significant influence on health-related behaviors⁵⁷. According to Jemal et al⁵⁸, who examined death statistics from the United States from 2001, "nearly half of all deaths among working-age adults in the U.S. are attributable to potentially avoidable factors associated with lower educational status." Galea et al⁵⁹ conducted a meta-analysis and found that the number of deaths in the United States in 2000 that were related to racial segregation, low social support, and low education was comparable to the number of deaths related to lung cancer, myocardial infarction, and cerebrovascular disease, respectively.

The impact of social determinants on health is further corroborated by the robust and extensively documented correlations between a plethora of health indicators and indications of an individual's socioeconomic resources or social standing, most commonly income, educational attainment, or position within an occupational hierarchy. Both American and European statistics show that this relationship frequently exhibits a stepwise gradient pattern, with health progressively getting better as social rank increases. Braveman and associates verified their conclusions with up-to-date U.S. statistics. Socioeconomic gradient patterns were more prevalent in non-Latino black and white groups, but less so in Latino populations, according to studies by Pamuk et al and Braveman et al⁶⁰

In the absence of overtly discriminatory episodes, living in a society with a significant heritage of racial discrimination may harm one's health through psychobiologic pathways^{61, 62}.

Lower SEP can have long-lasting health effects that start before birth and continue to worsen throughout time. The average wealth and educational attainment of a community have an impact on health in addition to individual SEP⁶³. Although poverty and other early life stressors may not have an immediate negative impact on an individual's health, they can have a substantial long-term effect. For instance, long-term stress on mothers affects how hormones are regulated throughout pregnancy. Low birth weight is a result of both premature labor and slowed fetal growth, which are both caused by excess stress hormones like cortisol⁶⁴.

Recent data indicates that low birth weight, which is more common in babies born to low SEP mothers than high SEP mothers, raises the risk of diabetes and coronary heart disease⁶⁵. An increasing corpus of studies also relates traumatic childhood experiences to altered immune system and brain development that impacts an individual's lifetime health^{66, 67}. The degree of inequality in income distribution, or the income gap, has an impact on health as well. Populations in nations with higher levels of income disparity typically have worse health than those in nations with more equitable income distribution⁶⁸. Before African American patients even get to the hospital for an episode of care, they experience systemic health-related inequities⁴⁷. A further discrepancy in hospital treatment choices may be shown by differences in inpatient surgery rates between black and non-black patients.

The ways in which health services are used can be influenced by socioeconomic factors. Better socioeconomic status makes it easier for people to access health care services than it does for less fortunate people. According to Doorslaer⁶⁹, countries with universal health care tend to have less social inequality in access to healthcare than those with private health systems, where people must pay for insurance plans and medical services out of pocket. The likelihood that an older adult in the best quintile will see a doctor is double that of an older adult in the lowest quintile in the United States, a nation with a predominately private health system⁷⁰. Medical care after a person becomes ill is not as important to the population's health as the conditions that lead to poor health⁶⁶. However, access to high-quality healthcare, particularly preventative programs, can help reduce health disparities. As a result, in European nations that ensure universal access to healthcare, individuals with lower socioeconomic status generally have worse health⁶⁸.

Age is a significant socioeconomic factor that influences health outcomes. Among the demographics that need health services the most are senior individuals and the prevalence of illnesses and disabilities is known to rise with age. Because of this, using health services tends to rise at this stage of life⁷⁰. Apart from personal attributes, societal disparities in the utilization and availability of healthcare services also mirror the features of the healthcare system. Studies reveal that a variety of factors, such as underlying genetics, health practices, social and environmental factors, and health treatment, influence health outcomes.

Research suggests that social and economic factors, along with health behaviors like diet, exercise, and smoking, are the main drivers of health outcomes, and that social and economic factors can influence an individual's health behaviors. However, there is currently no agreement in the literature regarding the exact proportion of each of these factors that contribute to health. Children born to parents who have not finished high school, for instance, are more likely to live in unsanitary conditions, such as inadequate housing, open trash, and a lack of safety. Additionally, according to Gopal et al.⁷¹, they are less likely to have access to recreation facilities, walkways, parks, or playgrounds.

A conceptual model that depicts a phased approach to life was offered as a predictor of health condition. This model defined health determinants as a range of socioeconomic variables, with an emphasis on income, occupation, and education⁷². According to economic historian Eichenengreen⁵¹, variations in welfare programs may be directly linked to the differential between Black and White mortality in the United States from COVID-19, and these policy discrepancies can then be attributed to racism and social injustice. His research is grounded in the well accepted theories of the vulnerability of welfare states in areas with high rates of ethnic disparity and low levels of social capital and trust^{52, 53}.

There are widespread socioeconomic disparities in mortality and, more especially, health. People from lower socioeconomic classes die at a higher rate than those from higher socioeconomic classes^{73, 74, 75, 76} poor people die at a greater rate than rich people^{77, 78, 79, 77} and so on.

Moreover, there seems to be no threshold. Every degree of socioeconomic level improvement typically results in a corresponding reduction in the risk of death. Because of this, we must take into account and study socio-economic mortality gradients that traverse the entire socioeconomic hierarchy of society, not only the health disparities between the impoverished and the affluent (or those living beyond a certain threshold)⁸⁰. In order to explain why racial minorities have poorer health outcomes, Cutler and Lleras-Muney address the ways in which socioeconomic advantage interacts with education, financial resources, rank, and race⁸¹. While other systemic issues including access to care are probably significant contributors to disparities, they are not sufficient to explain the observed result disparity⁸².

Socioeconomic status (SES) has been found to have varying effects on a wide range of health outcomes and disparities in prior study^{83, 84, 85} for example, show that there is a relationship between income and health, with the lower the income, the poorer the health. Additionally, those who are not well often have lower levels of schooling. Conversely, poor health outcomes are associated with low levels of education. Elo⁸³ came to the conclusion that people with higher socioeconomic status (SES) are generally healthier than people with lower SES after reviewing the evidence. According to Robinette et al.⁸⁴ residents of wealthy communities in the United States had a lower likelihood of experiencing issues related to their physical and mental health.

Additionally, prior studies have indicated that racial groups interact differently with the health care system over the course of their lives. For example, research conducted by Charles et al. revealed that over the course of a lifetime, black Americans spend less than equivalent white Americans on personal investments like health⁸⁶. A disparity in one's health status could result from some of these variables. According to Simeonova⁸² patient and physician deviation from clinically advised recommendations is the primary cause of reported racial inequalities in health outcomes in an equal access system. Future health issues are more likely to arise in children from socioeconomically poor backgrounds^{87, 88, 89}.

According to Braveman and Gottlieb⁸⁹ children from low socioeconomic backgrounds frequently experience emotional and psychological stressors such as instability and family issues. While this is going on, those who are economically disadvantaged are unable to receive the necessary medical care, which leaves them more susceptible to health declines. Elderly people in particular need continuous access to medical facilities and treatments to maintain their health⁹⁰.

For instance, socioeconomic position in the US is correlated with education and wealth, but it is also significantly correlated with race and ethnicity^{91, 92}. As measures of social and economic standing, occupation, income, and education have all been employed in Europe^{93, 94, 95}.

Evidence also suggests that social determinants including poverty, education, and environment can contribute to antibiotic resistance, even if the advancement of modern medicine and research throughout time can explain many of these aspects. It might be helpful to identify areas of focus for public health initiatives that aim to prevent antibiotic resistance internationally by comprehending and investigating these social aspects. One further long-term benefit of addressing these socioeconomic determinants of health is that it may increase the use of preventive medication⁹⁶.

V. CHALLENGES OF STUDYING THE EFFECT OF SOCIOECONOMIC FACTORS ON HEALTH OUTCOMES

Lower SEP can have negative health effects that start before birth, build up over time, and last a lifetime⁹⁷. The average wealth and educational attainment of a community have an impact on health in addition to individual SEP⁹⁸.

Reducing health disparities associated with SEP probably necessitates significant adjustments to educational and economic⁹⁹. It could be challenging to make such adjustments. For instance, a 2012 study by the Washington State Office of Financial Management¹⁰⁰ and a 2013 national study by the Institute on Taxation and Economic Policy both find that low- and middle-income families in Washington face higher tax burdens than do the wealthiest families due to the state's tax structure. Despite this, there hasn't been much talk about meaningful changes to our tax system. Health inequities related to social determinants of health may take decades to disappear, even with rapid improvement. For people from poorer socioeconomic backgrounds, deprivation and stress from conception through early childhood can raise the risk of poor health throughout life.

A society's larger social and economic structures contain many elements that impact health that are not only related to the healthcare system. Social scientists refer to an individual's material and social resources as well as their position or standing within the social hierarchy as their socioeconomic position (SEP). A substantial amount of research shows that individuals with lower SEPs had greater

death rates than those with higher SEPs¹⁷. In other words, those with lower SEP die younger than those with higher SEP. Put another way, poor people's health suffers.

Despite significant progress in identifying and comprehending the social, especially socioeconomic, determinants of health, there are still many unsolved issues on the mechanisms behind the effects of these variables on health compared to the number of answers that are already available. Research on the upstream social determinants of health (SDH) is particularly difficult, partly because of the intricate causal pathways and the extended time spans in which they frequently occur^{25, 101, 102, 103}. However, all rigorous research is difficult.

Instead of only reporting and recording the association, research on the social and economic determinants of health is now focused on understanding why the relationship occurs. There's no one component that explains the association, rather, a number of variables build up over time. The relationship between health and the elements that comprise social determinants of health is explained in the summary that follows. Widening gaps in outcomes are the result of inadequate access to social and health care services in many parts of the nation. We all gain from policies aimed at enhancing the health of our communities with the greatest needs as our society grows more intricate and linked. In order to achieve health equity in the US, coordinated efforts to address the impact of all types of health disparities must be made¹⁰⁴.

Addressing the ways in which social determinants of health (SDOH) raise or lower the risk of poor health outcomes is essential to enhancing the health and welfare of the country, even as possibilities to advance health equity through clinical care remain vital (WHO, undated). As per the U.S. Department of Health and Human Services (undated), the conditions under which people are born, live, learn, work, play, worship, and age have an impact on several aspects of health, functioning, and quality of life. These conditions are known as SDOH. When any of these diseases present difficulties, they may turn into risk factors for unfavorable health consequences. The evaluation of social health determinants has been significantly impacted by industrialized countries since the majority of research has been applied in these areas. People with higher levels of education, money, and work status tend to be healthier than those with lower levels, according to studies that use standard measures to determine socioeconomic status^{105, 106}. A person's socioeconomic standing is determined by their income, level of education, and type of work in relation to others¹⁰⁷.

VI. CONCLUSION AND RECOMMENDATIONS

Globally, there is a growing awareness that the need to achieve optimal health outcomes is the root cause of many preventable harms and deaths. It is necessary to address the social and economic factors that influence health outcomes if America is to see improvements in health and well-being. Millions of Americans will bear the weight of the knock-on effects of these social circumstances if we don't make sure

people have access to clean air and water, stable employment and income, adequate housing, wholesome food, dependable transportation, and a host of other necessities. This study examined the literature to identify the socioeconomic determinants of health outcomes in the United States of America.

There appears to be a growing body of study examining the socioeconomic factors that influence health outcomes in industrialized nations, with a specific focus on the United States of America. Socioeconomic factors influence people's access to health care, but they also have a significant impact on people's overall wellness and health. Lack of access to basic needs at an early age affects an individual's health outcomes throughout their adult life, not just in terms of health care utilization. The study's findings suggest that socioeconomic factors like age, sex, marital status, family size, education, and social standing are statistically significant drivers of health care service consumption, which is something that many other researchers have also found. The findings demonstrate that a number of indicators of socioeconomic level in the US are connected to several predisposing variables and things like visiting a US doctor.

As a result of the review's findings regarding the social and economic determinants of health outcomes in Nigeria, the researcher concludes that all of the predisposing socioeconomic factors found during the course of the study have a significant impact on health outcomes in the United States of America. The social determinants of health, which also impact access to healthcare, include things like socioeconomic status, education, employment, ethnicity/racism, and social capital. These findings have significant policy implications for a number of nations, including the United States.

Reducing long-standing inequities in health and health care access across the nation and enhancing health require addressing the social and economic determinants of health. The results of the study suggest that social and economic factors that affect health outcomes have a significant impact on social policies and can significantly influence health outcomes. Policy that can address the widening inequality gap should be implemented to help address a variety of health outcomes, as the conditions under which people are born, grow, live, work, age, income, wealth, and education, among other factors, are the fundamental drivers of negative health outcomes. Lastly, policies should be implemented to address non-medical, social determinants of health within the framework of the health care delivery system, taking health outcome considerations into account in non-health policy sectors.

REFERENCES

[1]. Huynen M, Martens P, Hilderink H. (2005). The health impacts of globalization: a conceptual framework. *Global Health*, 1(1):14. [PMC free article] [PubMed] [Google Scholar]
 [2]. Bayati M, Akbariyan R, Kavosi Z, Sadraei Javaheri A, Amini Rarani M, Delavari S. (2012). Socioeconomic

determinants of health in the countries of West Pacific: analysis of panel data. *Social Welfare*, 12 (47): 111–30. [Google Scholar]

- [3]. Brooks E, Burns D, Gamble K, et al. (2002). *Strategies for public health: a compendium of ideas, experience and research from Minnesota's public health professionals*. Vol. 2 Minnesota: Minnesota Department of Health. [Google Scholar]
 [4]. Emamgholipour, S, Nakhaei M, Kazemi Karyani A, Ghazanfari S. (2015). Decomposition socioeconomic inequality in infant mortality in EMRO countries. *Int J Pediatr*, 3(4-1): 749–56. [Google Scholar]
 [5]. Garoon, J.P., and P.S. Duggan (2008). 'Discourses of Disease, Discourses of Disadvantage: A Critical Analysis of National Pandemic Influenza Preparedness Plans'. *Social Science and Medicine*, 67(7): 1133–42. <https://doi.org/10.1016/j.socscimed.2008.06.020>
 [6]. Tricco, A., E. Lillie, C. Soobiah, L. Perrier, and S. Straus (2012). 'Impact of H1N1 on Socially Disadvantaged Populations: Systematic Review'. *PLoS One*, 7: 1–17. <https://doi.org/10.1371/journal.pone.0039437>.
 [7]. Quinn, S.C., and S. Kumar (2014). 'Health Inequalities and Infectious Disease Epidemics: A Challenge for Global Health Security'. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*, 12(5): 263–73. <https://doi.org/10.1089/bsp.2014.0032>.
 [8]. Mamelund, S., C. Shelley-Egan, and O. Rogeberg (2019). 'The Association between Socioeconomic Status and Pandemic Influenza: Protocol for a Systematic Review and Meta-Analysis'. *Systematic Reviews*, 8(5):1–6. <https://doi.org/10.1186/s13643-018-0931-2>.
 [9]. WHO (2020). WHO Timeline—COVID-19. Geneva: World Health Organization. <https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19>.
 [10]. Chen, J. T and Krieger, N (2020). Revealing the unequal burden of COVID-19 by income, race/ethnicity, and household crowding: US county vs ZIP code analyses. Harvard center for population and development studies, HCPDS Working Paper, Vol 19, No 1.
 [11]. Samantha, A & Elizabeth, H (2018). Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity
 [12]. Krieger N. (2001). A glossary for social epidemiology. *J epidemiology Community Health*, 55(10): 693–700. [PMC free article] [PubMed] [Google Scholar]
 [13]. Brennan R., Ramirez, L.K., Baker, E.A, and Metzler, M. (2008). Promoting Health Equity, a Resource to Help Communities Address Social Determinants of Health. National Center for Chronic Disease Prevention and Health Promotion (U.S), Division of Adult Community Health
 [14]. World Health Organization (2015). Health Equity. <https://www.who.int/health-topics/health-equity>

- [15]. US Department of Health and Human Services. *Healthy People 2020*. <http://www.healthypeople.gov/2020/default.aspx>. [PubMed]
- [16]. World Health Organization (2016) *Social Determinants of Health*. 2016. http://www.who.int/social_determinants/en.
- [17]. Lynch J, Kaplan G. (2000) Socioeconomic position. In: Berkman LF, Kawachi I, eds. *Social Epidemiology*. New York, NY: Oxford University Press;13-35.
- [18]. Wilkinson R, Marmot M. (2003). *Social determinants of health: the solid facts*. 2nd ed Copenhagen: WHO Regional Office for Europe. Copenhagen. [Google Scholar]
- [19]. Singh, G.K. (2000) Socioeconomic and behavioral differences in health, morbidity, and mortality in Kansas: empirical data, models, and analyses. In: Tarlov AR, St. Peter RF, editors. *The Society and Population Health Reader, Volume II: A State and Community Perspective*. New York: The New Press; 2000. pp. 15–56. [Google Scholar]
- [20]. Marandi, S. A. (2013). *Social determinants of health*. In: *Handbook of public health*. Hatami, et al. Tehran: Arjmand, Tehran, Vol. 3 pp: 2037–47. [Google Scholar]
- [21]. Hosseini, S.M., Arab, M., Emamgholipour, S., Rashidian, A., Montazeri, A., Zaboli, R. (2017). Conceptual Models of Social Determinants of Health: A Narrative Review. *Iran J Public Health*. Apr;46(4):435-446. PMID: 28540259; PMCID: PMC5439032.
- [22]. Healthy People 2020: Social Determinants of Health,” Office of Disease Prevention and Health Promotion, accessed April 25, 2018, <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>
- [23]. Marmot M, and Bell R. (2012) Fair society, healthy lives. *Public Health*. ;126 (Suppl 1): S4–10. [PubMed] [Google Scholar]
- [24]. World Health Organization, Commission on Social Determinants of Health. Geneva: WHO (2008). Closing the gap in a generation: health equity through action on the social determinants of health. CSDH final report. [Google Scholar]
- [25]. Braveman, P. A, Egerter, S.A, Woolf, S.H, Marks, J.S (2011). When do we know enough to recommend action on the social determinants of health? *Am J Prev Med*. 40(1 Suppl 1): S58–66. [PubMed] [Google Scholar]
- [26]. Kelly, M.P, Morgan, A., Bonnefoy, J., Butt, J., Bergman, V. (2007). The social determinants of health: developing an evidence base for political action. Final report of the Measurement and Evidence Knowledge Network to the World Health Organization Commission on the Social Determinants of Health. [Google Scholar]
- [27]. Anderson, L.M, Brownson, R.C, Fullilove M.T, Teutsch, S.M, Novick, L.F, Fielding J, et al. (2005). Evidence-based public health policy and practice: promises and limits. *Am J Prev Med*. 28(5 Suppl):226–30. [PubMed] [Google Scholar]
- [28]. Fielding, J.E, Briss, P.A. (2006). Promoting evidence-based public health policy: can we have better evidence and more action? *Health Aff (Millwood)*, 25:969–78. [PubMed] [Google Scholar]
- [29]. Glasgow, R.E, Emmons, K.M. (2007). How can we increase translation of research into practice? Types of evidence needed. *Annu Rev Public Health*. 28:413–433. [PubMed] [Google Scholar]
- [30]. Health of Washington State Washington State Department of Health (undated). Social and Economic Determinants of Health, updated: 05/14/2013.
- [31]. Ely DM, Driscoll AK. Infant Mortality in the United States (2018): Data from the Period Linked Birth/Infant Death File. National Vital Statistics Report; vol 69 no 7. Hyattsville, MD: National Center for Health Statistics. July 2020.
- [32]. Schopfer, D.W. (2021). Rural health disparities in chronic heart disease. *Prev Med*. Nov;152(Pt 2):106782. doi: 10.1016/j.ypmed.2021.106782. Epub 2021 Sep 7. PMID: 34499971.
- [33]. Arias, E., Tejada-Vera, B., Ahmad, F., Kochanek, K.D. (2020). Provisional life expectancy estimates for 2020. *Vital Statistics Rapid Release*; no 15. Hyattsville, MD: National Center for Health Statistics. July 2021.
- [34]. Hood, C.M., Gennuso K.P., Swain G.R., et al. (2016). County Health Rankings: Relationships Between Determinant Factors and Health Outcomes in 45 States. *American Journal of Preventive Medicine*. February 2016; 50(2): 129-35. doi: 10.1016/j.amepre.2015.08.024.
- [35]. Lawanson, O.M., Berleant, D., and Ajiferuke, O. (2025). Effect of Information Communication Technology and Immunization on Infant Mortality in Nigeria. *World Journal of Advanced Research and Reviews*
- [36]. Lawanson, O.M., Abu-Halimeh, A., and Ajiferuke, O. (2025). Leveraging Advanced Technologies to Improve Telemedicine Delivery in Nigeria. *World Journal of Advanced Research and Reviews*
- [37]. Marmot, M. G., and M. J. Shipley. "G, Rose. (undated). Inequalities in death-specific explanation of a general pattern." *Lancet*: 1003-1006.
- [38]. Gregory, C. A., & Coleman-Jensen, A. (n.d.). Food insecurity, chronic disease, and health among working-age adults. <http://www.ers.usda.gov/publications/pub-details/?pubid=84466>.
- [39]. Link, B.G, Northridge, M.E, Phelan, J.C, Ganz, M.L. (2000). Social epidemiology and the fundamental cause concept: on the structuring of effective cancer screens by socioeconomic status. *Milbank Q*. 76(3):375-402.
- [40]. Marmot, M. G., Bosma, H., Hemingway, H., Brunner, E., & Stansfeld, S. (1997). Contribution of job control and other risk factors to social variations in coronary heart disease incidence. *Lancet*, 350, 235-239.

- [41]. Andersen, R.M. (1968). Behavioral model of families' use of health services. Research (series No. 25). Chicago, IL: Center for Health Administration Studies, University of Chicago.
- [42]. Adenuga, A.H., Jack, C., Olagunju, K.O., Ashfield, A. (2020) Economic viability of adoption of automated oestrus detection technologies on dairy farms: A review. *Animals* 10, 1241.
- [43]. Singirankabo, U.A.; Ertsen, M.W. (2020). Relations between Land Tenure Security and Agricultural Productivity: Exploring the Effect of Land Registration. *Land* 9: 138.
- [44]. Irwin A, Valentine N, Brown C H, et al. (2006). The Commission on Social Determinants of Health: tackling the social roots of health inequities. *PLoS Med*, 3(6): e106. [PMC free article] [PubMed] [Google Scholar]
- [45]. U.S. Department of Health and Human Services. Healthy People (2020). Social Determinants of Health. <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>.
- [46]. Fiscella, K., Franks, P., Gold, M.R., Clancy, C.M. (2000). Inequality in Quality: Addressing Socioeconomic, Racial and Ethnic Disparities in Health Care. *Jama* 283 (19), 2579-2584.
- [47]. Nelson, A.R., and Smedley, B.D. (2003). Racial and Ethnic Disparities in Diagnosis and Treatment: A Review of the Evidence and Consideration of Causes. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*
- [48]. Simeonova, P. (2009). Update on Carbon Nanotube Toxicity. *Nanomedicine*, 4 (4), 373 – 375
- [49]. Kawachi, I., and B. Kennedy (2002). *The Health of Nations: Why Inequality is Harmful to Your Health*. New York: The New Press.
- [50]. Wilkinson, R., and K. Pickett (2009). *The Spirit Level: Why More Equal Societies Almost Always Do Better*. London: Allen Lane.
- [51]. Eichengreen, B. (2020). 'Rage Against the Pandemic'. *Project Syndicate*, 8 June 2020. Available at: <https://www.project-syndicate.org/commentary/covid19-racial-disparities-fuel-usa-protests-bybarry-eichengreen-2020-06> (accessed June 2020).
- [52]. Alesina, A., E. Glaeser, and B. Sacerdote (2001). 'Why Doesn't the US Have a European-Style Welfare State?'. HIER Working Paper 1933. Cambridge, MA: Harvard University.
- [53]. Rothstein, Bo. (2001). The Universal Welfare State as a Social Dilemma. *Rationality and Society*, 14:2: 190 – 214.
- [54]. Link BG, Phelan J. (1995). Social conditions as fundamental causes of disease. *J Health Soc Behav*, Spec No: 80–94. [PubMed] [Google Scholar]
- [55]. Marmot M. (2007). Achieving health equity: from root causes to fair outcomes. *Lancet*, 370(9593): 1153–63. [PubMed] [Google Scholar]
- [56]. McGinnis JM, Williams-Russo P, Knickman J. 2002. The case for more active policy attention to health promotion. *Health Affairs* 21(2): 78-93.
- [57]. Egerter S, Braveman P, Williams, D.R.(2011). The social determinants of health: coming of age. *Annu Rev Public Health*. 2011;32:381–98. [PubMed] [Google Scholar]
- [58]. Jemal A, Thun MJ, Ward EE, Henley SJ, Cokkinides VE, Murray TE. Mortality from leading causes by education and race in the United States, 2001. *Am J Prev Med*. 2008;34:1–[PubMed] [Google Scholar]
- [59]. Galea S, Tracy M, Hoggatt KJ, Dimaggio C, Karpati A. (2011) Estimated deaths attributable to social factors in the United States. *Am J Public Health*. 101:1456–65. [PMC free article] [PubMed] [Google Scholar]
- [60]. Pamuk E, Makuc D, Heck K, Reuben C, Lochner K. *Health, United States, 1998 with socioeconomic status and health chartbook*. Hyattsville (MD): National Center for Health Statistics (US); 1998. [Google Scholar]
- [61]. Nuru-Jeter A, Dominguez TP, Hammond WP, Leu J, Skaff M, Egerter S, et al. "It's the skin you're in": African American women talk about their experiences of racism. An exploratory study to develop measures of racism for birth outcome studies. *Matern Child Health J*. 2009; 13:29–39. [PMC free article] [PubMed] [Google Scholar]
- [62]. Williams DR, Mohammed SA. Discrimination and racial disparities in health: evidence and needed research. *J Behav Med*. 2009; 32:20–47. [PMC free article] [PubMed] [Google Scholar]
- [63]. Chaix B, Rosvall M, Merlo J. Recent increase of neighborhood socioeconomic effects on ischemic heart disease mortality: A multilevel survival analysis of two large Swedish cohorts [published online ahead of print September 14 2006]. *Am J Epidemiol*.2007;165:122-126.
- [64]. Weinstock M. The potential influence of maternal stress hormones on development and mental health in offspring. *Brain Behav Immun*. 2005;19(4) 296-308.
- [65]. Barker DJ. The developmental origins of insulin resistance. *Horm Res*. 2005;64(Suppl 3):2-7.
- [66]. Braveman PA, Cubbin C, Egerter S, Williams DR, Pamuk E. Socioeconomic disparities in health in the United States: what the patterns tell us. *Am J Public Health*. 2010;100(Suppl 1) : S186–96. [PMC free article] [PubMed] [Google Scholar]
- [67]. Anda RF, Felitti VJ, Bremner JD, et al. The enduring effects of abuse and related adverse experiences in childhood: a convergence of evidence from neurobiology and epidemiology. *Eur Arch Psychiatr Clin Neurosci*. 2006;256(3):174-186.
- [68]. Mackenbach, J. P., Stirbu, I., Roskam, A.-J. R., Schaap, M. M., Menvielle, G., Leinsalu, M., & Kunst, A. E. (2008). Socioeconomic inequalities in health in 22 European countries. *New England Journal of Medicine*, 358(23), 2468-2481.
- [69]. Doorslaer E, Masseria C, Koolman X. Inequalities in access to medical care by income in developed countries. *CMAJ*. 2006;174(2):177-83. <https://doi.org/10.1503/cmaj.050584>.
- [70]. Almeida APSC, Nunes BP, Duro SMS, Facchini LA. Socioeconomic determinants of access to health

- services among older adults: a systematic review. *Rev Saude Publica*. 2017; 51:50.
- [71]. Gopal K. Singh, Mohammad Siahpush, and Michael D. Kogan, "Neighborhood Socioeconomic Conditions, Built Environments, and Childhood Obesity," *Health Affairs* 29, no. 3 (March 2010):503-512
- [72]. Hambleton IR, Clarke K, Broome HL. (2005). Historical and current predictors of self-reported health status among elderly persons in Barbados. *Rev Panam Salud Publica*, 17(5-6):342-52. [PubMed] [Google Scholar]
- [73]. Fox, A., & Goldblatt, P. (1982). Longitudinal Study 1971-1975: Socio-demographic mortality differences. London: Her Majesty's Stationary Office: Office of Population Censuses and Surveys.
- [74]. Marmot, M. G., Shipley, M., & Rose, G. (1984). Inequalities in death – specific explanations of a general pattern? *Lancet*, 1003-1006.
- [75]. Pearce, N., Marshall, S., & Borman, B. (1991). Undiminished social class mortality differences in New Zealand men. *NZ Med J*, 104, 153-156.
- [76]. Sorlie, P., Eric, B., AND Jacob, B.K. (1995). "U.S. Mortality by Economic, Demographic and Social Characteristics: The National Longitudinal Mortality Study". *American Journal of Public Health*, 85: 949 – 956.
- [77]. Backlund, E., Sorlie, P. D., & Johnson, N. J. (1996). The shape of the relationship between income and mortality in the United States: Evidence from the National Longitudinal Mortality Study. *Ann Epidemiology*, 6, 12-20.
- [78]. Davey Smith, G., Hart, C., Hole, D., MacKinnon, P., Gillis, C., Watt, G., Blane, D., & Hawthorne, V. (1998b). Education and occupational social class: which is the more important indicator of mortality risk? *J Epidemiology Community Health*, 52, 153-160.
- [79]. Kaufman, J., Long, A., Liao, Y., Cooper, R., & McGee, D. (1998). The relation between income and mortality in U.S. Blacks and Whites. *Epidemiology*, 9, 147-155.
- [80]. Howden-Chapman, P., & Tobias, M. (2000). Social Inequalities in Health: New Zealand 1999 (pp. 219). Wellington, NZ: Ministry of Health.
- [81]. Cutler and Everett. (2010). Thinking outside the pillbox: Medication Adherence as a High Priority for Health Care Reform. *New England Journal of Medicine*. 362: 1553- 1555.
- [82]. Simeonova, P. G. (2013). Prediction of Outcome in PolyTrauma Canine Patients. *Acta Veterinaria (Beograd)*, Vol 63, No 2 – 3, 291- 301
- [83]. Elo, I. T. (2009). Social class differentials in health and mortality: Patterns and explanations in comparative perspective. *Annual Review of Sociology*, 35, 553-572.
- [84]. Robinette, J. W., Charles, S. T., & Gruenewald, T. L. (2017). Neighborhood Socioeconomic Status and Health: A Longitudinal Analysis. *Journal of community health*, 42(5), 865-871. doi:10.1007/s10900-017-0327-6.
- [85]. Marmot, M.G, Bosma, H., Hemingway, H., Brunner, E., Stansfield, S. (2008). Contribution of job control and other risk factors to social variations in coronary heart disease incidence. *Lancet*. 350:235-239.
- [86]. 86.Charles, C., Bainbridge, L., and Gilbert, J. (2009). The University of British Columbia Model of Interprofessional Education. *Journal of Interprofessional Care*, 23 (1, 1-2)
- [87]. Case, A., Fertig, A., & Paxson, C. (2005). The lasting impact of childhood health and circumstance. *Journal of Health Economics*, 24(2), 365-389.
- [88]. Reiss, F. (2013). Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Social Science & Medicine*, 90, 24-31.
- [89]. Braveman, P., & Gottlieb, L. (2014). The social determinants of health: it's time to consider the causes of the causes. *Public Health Reports*, 129(1_suppl2), 19-31.
- [90]. Blazer, D. G., Landerman, L. R., Fillenbaum, G., & Horner, R. (1995). Health services access and use among older adults in North Carolina: urban vs rural residents. *American Journal of Public Health*, 85(10), 1384-1390.
- [91]. Williams, D.R and Collins, C. (1995). U.S. Socioeconomic and racial differences in Health: Patterns and Explanations. *Annual Review of Sociology*, 21, 349 – 386.
- [92]. Brown, T. H. (2018). Racial Stratification, Immigration and Health Inequality: A life course-intersectional approach. *Social Forces*, 96 (4): 1507 – 1540.
- [93]. Mackenbach, J. P., Cavelaars, A., Kunst, A. E., & Groenhouf, F. (2000). Socioeconomic inequalities in cardiovascular disease mortality. An international study. *European heart journal*, 21(14), 1141-1151.
- [94]. Marmot, M. (2004). The status syndrome: how social standing affects our health and longevity. *London: Bloomsbury*.
- [95]. Cambois, E., Robine, J.-M., & Hayward, M. D. (2001). Social inequalities in disability-free life expectancy in the French male population, 1980–1991. *Demography*, 38(4), 513-524.
- [96]. Jama, K. (2022). "Socioeconomic Determinants of Antibiotic Resistance" Theses and Graduate Projects. 1258. <https://idun.augsburg.edu/etd/1258>.
- [97]. Wilkinson RG. *The Impact of Inequality*, New York, NY: The New York Press; 2005.
- [98]. Chaix, B., Rosvall, M., and Merlo, J. (2007). Assessment of the Magnitude of Geographical Variations and Socioeconomic Contextual Effects on Ischemic Heart Disease Mortality: A Multilevel Survival Analysis of a Large Swedish Cohort. *Journal of Epidemiology & Community Health*, 61 (4: 349 - 355)
- [99]. National Research Council and Institute of Medicine. *U.S. Health in International Perspective: Shorter Lives, Poorer Health*. Panel on Understanding Cross-National Health Differences Among High-Income Countries. Woolf SH, Aron L, eds. Committee on Population, Division of Behavioral and Social Sciences and Education, and Board on Population Health and Public Practice, Institute of Medicine.

Washington, DC: The National Academies Press; 2013.

- [100]. Office of Financial Management. *The Distribution of Income, Wealth, and Taxes Across Washington Households*. Olympia, WA: Office of Financial Management; 2012. http://www.ofm.wa.gov/reports/income_wealth_report.pdf. Accessed May 15, 2013.
- [101]. Kuh, D, Hardy, R, Langenberg C, Richards M, Wadsworth, M.E (2002). Mortality in adults aged 26–54 years related to socioeconomic conditions in childhood and adulthood: post war birth cohort study. *BMJ*;325:1076–80. [PMC free article] [PubMed] [Google Scholar]
- [102]. Lawlor DA, Batty GD, Morton SM, Clark H, Macintyre S, Leon, D.A (2005). Childhood socioeconomic position, educational attainment, and adult cardiovascular risk factors: the Aberdeen children of the 1950s cohort study. *Am J Public Health*,95:1245–51. [PMC free article] [PubMed] [Google Scholar]
- [103]. Melchior M, Moffitt TE, Milne BJ, Poulton R, Caspi A. Why do children from socioeconomically disadvantaged families suffer from poor health when they reach adulthood? A life-course study. *Am J Epidemiology*. 2007; 166:966–74. [PMC free article] [PubMed] [Google Scholar]
- [104]. The White House (January 20, 2021). Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racialequity-and-support-for-underserved-communities-through-the-federal-government/>
- [105]. Marmot M. Inequalities in Health. *New England Journal of Medicine*, 2001; 345:134-136.
- [106]. Chandola T, Bartley M, Wiggins R and Schofield P. Social inequalities in health by individual and household measurements of social position in a cohort of healthy people. *J Epidemiology Community Health*, 2003; 57:56-62.
- [107]. African Health and Development Communications Limited (AHNDCL) (2010). *Improving Access to Healthcare in Nigeria: Challenges and Opportunities*, Lagos, Nigeria, AHNDCL Publications.