

ADDRESSING SOCIAL DETERMINANTS OF HEALTH IN THE PREVENTION AND CONTROL OF HIV/AIDS, VIRAL HEPATITIS, SEXUALLY TRANSMITTED INFECTIONS, AND TUBERCULOSIS

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This special issue of *Public Health Reports (PHR)* focuses on innovations and advances in incorporating a social-determinants-of-health (SDH) framework for addressing the interrelated epidemics of human immunodeficiency virus (HIV), viral hepatitis, sexually transmitted infections (STIs), and tuberculosis (TB) in the United States and globally. This focus is particularly timely given the evidence of increasing burden and worsening health disparities for these conditions, the evolution in our understanding of the social and structural influences on disease epidemiology, and the far-reaching implications of the global economic downturn.

The global trends and adverse health impact of HIV, viral hepatitis, STIs, and TB remain among the major and urgent public health challenges of our time.¹ These conditions account for substantial morbidity and mortality, with devastating fiscal and emotional costs to individuals, families, and societies. Despite decades of investment and support, the U.S. still experiences a disproportionate burden of these conditions compared with other Western industrialized nations, with substantial health disparities being observed across population subgroups and geographic regions.² The reasons for these inequities are multifaceted and complex. It is true that individual-level determinants, including high-risk behaviors such as unsafe sexual and drug-injecting practices, are major drivers of disease transmission and acquisition risk. However, it is also clear that the patterns and distribution of these infectious diseases in the population are further influenced by a dynamic interplay among the prevalence of the infectious agent, the effectiveness of preventive and control interventions, and a range of social and structural environmental factors.^{3,4} Many of these conditions arise because of the circumstances in which people grow, live, work, socialize, and form relationships, and because of the systems put in place to deal with illness, all of which are, in turn, shaped by political, social, and economic forces.

Understanding the multilevel and overlapping nature of these epidemics, and their social and structural determinants, is key to designing and implementing more effective prevention programs.⁵ Individual risk behaviors influence the probability of contact with other infected or infectious individuals. However, these behaviors do not occur in a vacuum. With respect to STIs, an individual's sexual risk behavior occurs within the context of a sexual partnership or partnerships, which are, in turn, located within a wider sexual network. For other infectious diseases, including TB, the built or physical environment can influence patterns and opportunities for interpersonal contact, social mixing, and probability of onward transmission of the infectious agent.⁶ These more proximal determinants of transmission risk also occur within the context of wider social and structural determinants.^{7,8} Structural factors include those physical, social, cultural, organizational, community, economic, legal, or policy aspects of the environment that impede or facilitate efforts to avoid disease transmission. Social factors include the economic and social conditions that influence the health of people and communities as a whole, and include conditions for early childhood development, education, employment, income and job security, food security, health services, and access to services, housing, social exclusion, and stigma.

Our understanding of the connections between these determinants, and their relative importance to each other, has evolved over time. Earlier models for infectious disease transmission highlighted the primacy of the interactions among the individual, the infectious agent, and the environment, with infectious disease prevention and control programs being focused predominantly on targeting interventions toward the individual—e.g., individual-level counseling, testing, screening, and treatment interventions. Thus, HIV prevention has been dominated by individual-level behavioral interventions that seek to influence knowledge, attitudes, and behaviors, such as promotion of condom use, education about sexual health, and education of injecting drug users about the dangers of sharing equipment.⁴ While there has been some success with this approach, public health programs have failed to achieve sustained reductions in incidence or achieve elimination of these conditions and their associated inequities. There is also a growing appreciation that although some individually oriented interventions have shown results in reducing risk behavior, their success is

substantially improved when HIV prevention addresses the broader structural factors that shape or constrain individual behavior, such as poverty and wealth, gender, age, policy, and power.⁹

The growing recognition of the social and structural barriers to prevention and control efforts for HIV, viral hepatitis, STIs, and TB have allowed prevention experts to employ more comprehensive approaches to their interventions. Such structural approaches include actions implemented as single policies or programs that aim to change the conditions in which people live, multiple structural actions of this type implemented simultaneously, or community processes that catalyze social and political change (e.g., social mobilization to oppose a harmful traditional practice). They also include policy or legal interventions (e.g., legal actions to combat or reform a discriminatory practice), interventions to influence the way services are delivered through promoting collaboration and integration,¹⁰ contingent funding, and economic and educational interventions.¹¹ These approaches can be applied in combination with behavioral or medical interventions targeted at individuals, and aim to address factors affecting individual behavior, rather than targeting the behavior itself.

It is within this context that this special issue of *PHR* has been brought together to reflect upon the influences, opportunities, and impact of SDH on the transmission of HIV, viral hepatitis, STIs, and TB. Major strategic priorities for the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) at the Centers for Disease Control and Prevention (CDC)¹² are promoting health equity and reducing health disparities through adopting a social-determinants approach to our prevention activities. NCHHSTP also intends to place more emphasis on structural and contextual determinants of health, particularly health policy and legislation, economic and social interventions, and cross-sectoral collaboration.

COMMUNITY AND SOCIETAL CHARACTERISTICS

Five articles discuss the intersection of community and societal characteristics as a social determinant of health. Awofeso¹³ discusses the effects of prisons as social institutions that contribute to the health status and health outcomes of the incarcerated population. The article highlights the effects of prisons in mediating the risk of hepatitis C and TB transmission, and interventions and policy approaches for limiting the harmful effects of incarceration on the transmission and clinical course of these diseases.

Iralu and colleagues¹⁴ assessed the impact of socio-

economic factors and the use of traditional healing on HIV disease progression in a rural American Indian community. The study identified recent alcohol abuse, incarceration, and use of traditional medicine as important social factors affecting HIV disease management among American Indians. Winscott and colleagues¹⁵ analyzed rates, geographic distribution, and time to treatment of chlamydia, gonorrhea, and early syphilis among American Indians residing in Arizona compared with those of non-Hispanic white people. The results of this study have implications for the design of STI prevention and education programs to promote expeditious screening, diagnosis, and treatment in the American Indian population. Both articles help to address the paucity of published studies that focus on health and SDH among Native Americans.

Satcher Johnson et al.¹⁶ examine the extent to which foreign-born people contribute to the current HIV epidemic among non-Hispanic black people in the U.S. The authors found three important differences in the epidemiology of HIV among foreign- and native-born black people. First, the predominant mode of HIV transmission among foreign-born black people is heterosexual contact vs. male-to-male sexual contact for native-born black people. Second, the HIV epidemic heavily affects foreign-born black women, whose rate of HIV diagnosis in 2007 was nearly equal to that of foreign-born black men and considerably higher than native-born black women. Finally, foreign-born black people were more likely than native-born black people to be diagnosed with acquired immunodeficiency syndrome (AIDS) within one year of their HIV diagnoses. These findings have implications for the design and conduct of HIV intervention, care, and treatment programs for black people in the U.S.

Finally, Pouget and colleagues¹⁷ report on the associations of having multiple opposite-sex partners with male-female sex ratios and male incarceration rates. The authors found that sex ratios and male incarceration rates are associated with the number of opposite-sex partners in some groups. This study is important because it highlights the influence of gender imbalance on HIV and STI rates in a community.

INCOME AND SOCIAL STATUS

Four studies in the supplement focus on income or social status as a social determinant of health or examine a policy intervention. Fox¹⁸ investigates the social determinants of HIV serostatus in sub-Saharan Africa, and describes an inverse relationship between poverty and acquisition of HIV. The author reviews the literature on the positive-wealth gradient in HIV infection

in sub-Saharan Africa and discusses the implications of this finding for policy and future research around the social determinants of HIV infection in developing countries. Further, the article discusses the implications of the positive-wealth gradient for traditional HIV behavioral interventions, and suggests that economic and social policies can be leveraged as structural interventions to prevent HIV in sub-Saharan Africa.

Reed and colleagues¹⁹ examine the context of economic insecurity and debt among female sex workers (FSWs) in India, how this varies among FSWs, and its association with experiences of violence and sexual risk factors for HIV. FSWs who reported debt were more likely to report recent physical violence and risky sexual practices, including sex with occasional clients in the past week and at least one STI symptom in the past six months. This study contributes to the literature by characterizing the nature and scope of economic insecurity and HIV risk.

Dunkle et al.²⁰ explore links among economically motivated relationships, transactional sex, and HIV and STI risk among unmarried African American and white women. Study results indicate that, regardless of race, a large number of women reported staying in a relationship longer than they wanted to for economic reasons. In addition, notable percentages of black and white women reported starting a relationship in response to economic concerns. The results of this study point to the need to address economic empowerment of women in HIV/STI risk-reduction policies and programs in the U.S.

Sirotnin and colleagues²¹ compare demographic and socioeconomic factors, working conditions, HIV-related risk behaviors, and prevalence of HIV and STIs among registered and unregistered FSWs. Results from their study indicate that compared with unregistered FSWs, registered FSWs lived and worked in the same location, earned more money per transaction, were more likely to have had an HIV test, and were less likely to test positive for HIV and other selected STIs. This study adds to the literature on the influence of structural determinants such as policy interventions (e.g., sex worker registration) on disease prevalence and risky sexual behavioral practices.

STIGMA

Stigma is an important social determinant and has direct relevance to health-seeking behaviors and the control and management of diseases of interest in this special issue. Courtwright and Turner²² performed a systematic review of the literature on TB stigma to identify the causes of TB stigma, and to evaluate the impact

of stigma on TB diagnosis and treatment. The review emerged with several themes: “fear of TB infection is the most common cause of TB stigma; TB stigma has serious socioeconomic consequences, particularly for women; qualitative approaches to measuring TB stigma are more commonly utilized than quantitative surveys; TB stigma is perceived to increase TB diagnostic delay and treatment noncompliance; and interventions exist that may reduce TB stigma.” The authors suggest methods to characterize TB stigma; instruments to measure TB stigma and study the effects of TB stigma on diagnosis and treatment; and interventions to reduce TB stigma.

EDUCATION

One study assesses the contribution of education to reducing STI disparities. Annang et al.²³ describe the association between education and STI diagnosis among young black and white women, and examine racial differences in this association. The authors found an inverse associated relationship between education and STI diagnosis, with the association moderated by racial group. The authors suggest that other factors besides education play an integral role in determining STI risk for young black women.

ACTIONS TO ADDRESS SOCIAL DETERMINANTS

Three articles in the supplement focus on proposed actions for addressing SDH. Satcher²⁴ issues a call to elevate the profile of SDH in public health. He expounds on four areas to ensure success: (1) “health in all policies,” as nearly all social determinants are outside the direct control of the health sector; (2) public health building stronger partnerships with non-traditional partners in the private sector, industry, and other government entities such as the transportation, education, and justice sectors; (3) including equity effectiveness analyses along with cost-effectiveness analysis in all public health work; and (4) expanding resources to address social determinants. He suggests a proactive, collaborative, inclusive, and deliberate process to advance the use of a social-determinants approach to reducing health inequities among and between populations.

Foege²⁵ introduces the concept of “the last mile”—identifying the specific outcome to be achieved by addressing SDH. He proposes to develop a metric for health and to incorporate prevention as part of medical practice, allowing practitioners to be reimbursed for preventive medicine. Adverse social determinants could be added to the metric, and health-care reimbursement

would be linked to the impact of the determinants. He suggests that CDC develop health outcome criteria and devise a surveillance system to monitor and reward programs successfully using prevention to improve outcomes. With these expanded responsibilities, public health would serve an important role in coordinating public health and health-care delivery systems for the improvement of individual and community health.

Finally, Sharpe et al.²⁶ present a summary of a CDC consultative meeting of national public health partners to identify priorities for addressing social determinants of HIV/AIDS, viral hepatitis, STIs, and TB. The meeting resulted in a list of suggested priorities for public health policy, improving data collection methods, enhancing existing and expanding future partnerships, and improving selection criteria and evaluation of evidence-based interventions.

MOVING FORWARD: INTEGRATING SDH INTO PUBLIC HEALTH PRACTICE

Responding to increasing concern about persisting and widening health inequities, the final report of the World Health Organization's 2008 Commission on Social Determinants of Health²⁷ contained several overarching recommendations for addressing the social and structural barriers to health: improve daily living conditions; tackle the inequitable distribution of power, money, and resources; measure and understand the problem; and assess the impact of action. All of these strategies are applicable and appropriate for enhancing HIV, viral hepatitis, STI, and TB prevention programs in the U.S. and abroad. What is now needed is a paradigm shift in the willingness of prevention partners at national, state, and local levels to adopt this more inclusive approach. It is increasingly unacceptable for those planning and delivering prevention services to claim that addressing SDH is outside their jurisdiction, thereby absolving themselves of further action. In contrast, prevention specialists must begin the process of determining what collaborations, partnerships, research, and policy interventions may facilitate innovative and impactful action to address these social and structural determinants over time.²⁸

Many jurisdictions are already implementing approaches such as improving program collaboration and service integration; investing in economic interventions (e.g., micro-finance); examining opportunities for more aggressive policy and legislative approaches that change the context for prevention; shifting prevention programming to encompass a more diverse portfolio of prevention approaches that includes individual-, network-, and community-level interventions; and

investing in research to understand and address the social and structural barriers to disease prevention and control.

We hope that the information presented in this special issue will increase the dialogue about the role and impact of SDH on the epidemiology, prevention, and control of these important infectious diseases, and promote a new, re-energized, and honest dialogue that can advance and accelerate our elimination goals.

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The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of CDC.

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