

Implementation Research to Address the United States Health Disadvantage

Report of a National Heart, Lung, and Blood Institute Workshop

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ABSTRACT

Four decades ago, U.S. life expectancy was within the same range as other high-income peer countries. However, during the past decades, the United States has fared worse in many key health domains resulting in shorter life expectancy and poorer health—a health disadvantage. The National Heart, Lung, and Blood Institute convened a panel of national and international health experts and stakeholders for a Think Tank meeting to explore the U.S. health disadvantage and to seek specific recommendations for implementation research opportunities for heart, lung, blood, and sleep disorders. Recommendations for National Heart, Lung, and Blood Institute consideration were made in several areas including understanding the drivers of the disadvantage, identifying potential solutions, creating strategic partnerships with common goals, and finally enhancing and fostering a research workforce for implementation research. Key recommendations included exploring why the United States is doing better for health indicators in a few areas compared with peer countries; targeting populations across the entire socioeconomic spectrum with interventions at all levels in order to prevent missing a substantial proportion of the disadvantage; assuring partnership have high-level goals that can create systemic change through collective impact; and finally, increasing opportunities for implementation research training to meet the current needs. Connecting with the research community at large and building on ongoing research efforts will be an important strategy. Broad partnerships and collaboration across the social, political, economic, and private sectors and all civil society will be critical—not only for implementation research but also for implementing the findings to have the desired population impact. Developing the relevant knowledge to tackle the U.S. health disadvantage is the necessary first step to improve U.S. health outcomes.

“Today, not only are health problems global, but lessons, insights, and fresh solutions regarding such problems flow in all directions” [1]

Harvey V. Fineberg, Past President, Institute of Medicine

Currently, U.S. health outcomes and longevity are much worse than those found in peer high-income countries [2-4]. The National Research Council and the Institute of Medicine in seminal studies [2,3] report that such health

disadvantage “has multiple causes and involves some combination of inadequate healthcare, unhealthy behaviors, adverse economic and social conditions, and environmental factors, as well as public policies and social values that shape those conditions” [2]. Compounding this health disadvantage in the United States is the fact that these unfavorable trends continue today [5-8] alongside large variation in longevity and health status across groups of people and places within the United States—leaving

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some groups at extreme disadvantage [9-12]. Predictive modeling also finds that future U.S. life expectancy gains will remain among the lowest of peer countries [13].

NHLBI THINK TANK ON THE U.S. HEALTH DISADVANTAGE

In April 2016, the National Heart, Lung, and Blood Institute (NHLBI) convened a panel of national and international health experts for a one-and-a-half day Think Tank meeting to examine the drivers of the U.S. health disadvantage and explore key research strategies and opportunities for implementation research [14]—research studying implementation strategies for prevention and treatment of heart, lung, and blood diseases and sleep disorders. The Think Tank Panel limited discussions to the disorders aligned with NHLBI efforts but recognized the role of other important factors beyond this scope. This implementation research also aligns with the NHLBI Strategic Vision Goal 3 to advance translational research [15] and provides an opportunity for new discoveries and knowledge to be applied in an optimal and sustainable fashion, leading to population health benefits [14,16-19]. NHLBI's Center for Translation Research and Implementation Science is a focal point for advancing this research agenda [18,19]. The goal of this Think Tank was to identify robust strategies and platforms needed to organize, support, implement, and sustain studies that will determine factors associated with variation in longevity and health and to identify key implementation research opportunities that would positively modify them. The Think Tank identified key challenges and recommendations for 1) understanding the U.S. health disadvantage, 2) developing an innovative implementation research agenda for tackling it, 3) creating partnerships and collaborations, and 4) developing training and capacity-building strategies needed to implement this research agenda.

UNDERSTANDING THE U.S. HEALTH DISADVANTAGE

Several key challenges and opportunities were cited by the panel (Table 1, Understanding the U.S. Health Disadvantage). A major driver of health status and outcomes in the United States, and elsewhere, are social determinants across the lifespan including social position, wealth, education, sex, geography (e.g., urban or rural residence), and the environment (e.g., physical and social) [4,20-25]. Other drivers include health behaviors and access and uptake of quality health care [26-29] driven by limited access to facilities, providers, and health care coverage. Without universal insurance in the United States, access to primary care physicians, compared with other peer countries, is lower [30,31]. In addition, variation in health care services uptake in the United States is very large, perhaps not surprisingly, given the variation in insurance coverage within the U.S. population [32].

Another major challenge is that health determinants are highly linked, complex, and operate at several levels of the social-ecological framework [33]. Social determinants and geography [6,34] (e.g., urban/rural residence) both are critical factors. Compared with the United States, other high-income country populations also tend to have better access (i.e., availability and affordability) to the health care system, and they use [30,31] and invest comparatively more in social services and public policies to promote health. Such investment in health and social services is associated with better population health in peer countries [35], as well as among specific U.S. subpopulations with these investments [36].

The panel identified key recommendations for NHLBI to consider that would improve the likelihood for impactful implementation research. These include evaluation of long-standing cohort studies that may lead to understand geographic variation and evolving social and health inequities and these studies may benefit from tapping administrative “big” data from sources such as the Center for Medicare and Medicaid Services. One approach might be to identify where the United States is doing better in disease prevention and control than other peer countries and determine why that is the case [37].

Research groups are already undertaking transnational comparative studies focused on understanding country variations [38-41]. The European Health Care Outcomes, Performance, and Efficiency is a consortium of 7 western and eastern European countries driving efforts to evaluate the performance of the European health care systems in terms of outcomes, quality, use of resources, and costs [42-44]. European Health Care Outcomes, Performance, and Efficiency has developed >100 indicators at the national, regional, and hospital levels and created a database from national data, hospital data, and mortality registries. Substantial variations in health outcomes between and within countries have been found. Comparative research will lend better understanding to both the U.S. health disadvantage and what does and does not improve population health. Such research could focus on the extent to which the health disadvantage can be attributed to inadequate implementation of effective health policies and clinical and public health practices.

POTENTIAL SOLUTIONS FOR THE U.S. HEALTH DISADVANTAGE

Key challenges and recommendations for NHLBI to consider are found in Table 1, Potential Solutions for the U.S. Health Disadvantage. One major challenge is that a gradient of health exists throughout the entire U.S. population. Targeting interventions for the most disadvantaged U.S. population groups is a reasonable strategy, yet a substantial proportion of the total burden of health disadvantage may be missed—being found in larger, but moderately disadvantaged groups [45,46]. In addition, another major challenge for successful intervention

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