IOM Roundtable on Population Health Improvement

Advancing the Science to Improve Population Health: A Workshop

Resources/Readings

September 2015

Items shared by workshop speakers

Maqbool, N. J. Viveiros, and M. Ault. 2015. A primer -- The Impacts of Affordable Housing on Health: A Research Summary: http://media.wix.com/ugd/19cfbe_d31c27e13a99486e984e2b6fa3002067.pdf


Individually-authored perspectives published under the auspices of this (and another) IOM roundtable


Dose Matters describes the concept of “population dose”—an approach to strengthening and evaluating the impact of complex multisector, multilevel, place-based initiatives. This discussion paper reports on what is promising about the approach while recognizing the measurement and other challenges that still lie ahead. The concept emerged from ongoing evaluations of Kaiser Permanente’s Community Health Initiative investments, conducted by the Center for Community Health and Evaluation (CCHE) at the Group Health Research Institute in collaboration with partners at the University of California. Following an overview of the Community Health Initiative, this report describes the concept in more detail and explains how it can be used to estimate the population-level impact of a set of related interventions. The estimated impact or dose of an intervention is the product of reach (the number of people touched by the intervention) and strength (the effect size or impact on each person reached). The dose concept can also be used in planning and implementation to yield greater impact. We hope that Dose Matters will introduce the concept of population dose in enough detail that a broad audience of community health researchers, evaluators, practitioners, and planners will be both prepared and eager to apply these analyses and approaches to their own work. Additional
guidance is available in the form of an interactive toolkit developed by CCHE and Kaiser Permanente (see the Related Resources box). Together, Dose Matters and the toolkit will describe in detail the uses of dose for both evaluators and researchers, who will use the quantitative calculations, and community-based organizations and funders, who will apply the overall concept to strengthen every phase of improving community health outcomes, from planning to implementation to evaluation.


Not only does the United States spend more per capita on medical care than any other nation, and more than twice as much as the average for all other countries in the Organisation for Economic Co-operation and Development, it spends more on medical research as well. Yet despite the high level of spending, our health outcomes are mediocre at best; the United States ranks 26th in life expectancy and 31st in infant mortality among developed nations. This discrepancy raises the question about the value derived from the governmental and nongovernmental investments in medical research. In contradistinction to basic science research, for which the goal is arguably to advance science for the development of knowledge, translational science seeks to improve health through the development of bench-to-bedside interventions and to assure their use in patients and populations that would benefit from them. To improve health measurably, translational research needs to focus on identifying interventions that are likely to provide the greatest population health benefit as well as interventions that are widely used but are ineffective or harmful.

We believe that research priorities should be heavily informed by the potential population health impact and that researchers, proposal reviewers, and funders need to understand those impacts before intervention studies are initiated. This approach was recently used to estimate the expected value of a proposed study and to justify the undertaking of a new controlled trial. To that end, we recommend that the information necessary to estimate the impact of the proposed intervention be uniformly included in research proposals and reports.


In their discussion paper, Zimmerman and Woolf provide an overview of the large body of evidence that links education and health. They discuss education in the context of a socioecological model of health, that illustrates the social and other determinants of health, and explain that the relationship between educational attainment (for example, years of education) and health is not entirely linear. Education influences multiple skills and traits that mediate its relationship to health. These skills and traits include problem solving ability, literacy, and personal control, and some provoke physiologic responses or lead to greater ability to manage one’s health. Education is also likely to increase individuals’ access to earnings and wealth, and to social networks and support. Zimmerman and Woolf describe a range of community characteristics that appear to be linked with health outcomes and educational attainment. For example, people who are more educated are more likely to live in neighborhoods that have parks and green spaces, good access to high quality foods, greater safety/lower crime rates, and lower environmental exposures (less proximity to power plants, highways, factories, etc.). The
authors explore the social policies that influence educational outcomes, especially those that shape early childhood experiences and address problems that occur along biological pathways known to be linked with poor health and educational outcomes.


A movement for population health starts with a basic understanding that health is determined by far more than health care and that the focus of health investments must go beyond health care alone. It follows that we need to invest in healthy environments, in efforts to ameliorate social and economic disparities and their impacts on health, and in creating a positive “culture of health” that both recognizes and encourages health-promoting action on the part of individuals and institutions. 2 A corollary of the population health movement is that health policy cannot be limited to health care policy. Instead, what is needed is a rallying call for “health in all policies.” Although the central tenet of population health and its policy-related corollary have gained some traction, there are a number of challenges to institutionalizing these. The framing of the quest to do so as a “movement” rather than a “paradigm change” acknowledges the political as well as intellectual components of population health. Some of the challenges to establishing population health derive from political and social concerns, while others derive from intellectual and scientific ones. In this discussion paper, we consider how the growing field of population health research can contribute to the movement for population health action. We argue that a population health movement will be most effective if it integrates both research and action and finds new ways to ensure that each informs the other.

Research funding program

Evidence for Action (http://www.evidenceforaction.org/)

Evidence for Action is a program for investigator-initiated research to build a culture of health. Evidence for Action National Program Office is housed in the Center for Health and Community at the University of California, San Francisco. The program supports the Robert Wood Johnson Foundation’s vision to build a Culture of Health across the United States.

Relevant reports from the National Academies of Sciences, Engineering, and Medicine


The United States is among the wealthiest nations in the world, but it is far from the healthiest. Although life expectancy and survival rates in the United States have improved dramatically over the past century, Americans live shorter lives and experience more injuries and illnesses than people in other high-income countries. The U.S. health disadvantage cannot be attributed solely to the adverse health status of racial or ethnic minorities or poor people: even highly advantaged Americans are in worse health than their counterparts in other, "peer" countries.
In light of the new and growing evidence about the U.S. health disadvantage, the National Institutes of Health asked the National Research Council (NRC) and the Institute of Medicine (IOM) to convene a panel of experts to study the issue. The Panel on Understanding Cross-National Health Differences Among High-Income Countries examined whether the U.S. health disadvantage exists across the life span, considered potential explanations, and assessed the larger implications of the findings.

U.S. Health in International Perspective presents detailed evidence on the issue, explores the possible explanations for the shorter and less healthy lives of Americans than those of people in comparable countries, and recommends actions by both government and nongovernment agencies and organizations to address the U.S. health disadvantage.


“At the request of the National Institute of Aging and following discussions between you and Dr. Richard Suzman, director of the Division of the Behavioral and Social Research Program at the National Institute on Aging, the U.S. National Research Council’s Committee on Population convened a panel of leading social and behavioral researchers with expertise in population aging and adult health to review the initial analytical and strategic documents of the Commission’s nine “knowledge networks.” (See Attachment A for the list of panel members.) The panel was specifically asked to identify additional recent studies on adult health at older ages that might bear on the Commission’s deliberations and identify potential areas of interventions aimed at moderating the effects of the social determinants of health among older people.” (page 1)

“Below we discuss five areas that the panel believe are promising for improving the health and quality of life of older persons through greater investment in interventions at the individual, community, or national level: (1) early life endowments; (2) social and economic security; (3) health care systems and the management of chronic conditions; (4) health behaviors; and (5) the physical and social environment. Following the brief reviews of the literature in these areas, the last section of the letter provides suggestions for interventions aimed at reducing the social gradient in older people’s health.” (pages 2 and 3)

Over the past several decades, numerous interventions have been designed with the aim of helping people live longer and improving the quality of their later life. Thus, the panel considered various types of intervention that potentially could moderate the effects of social factors on adult health. We identified five broad types of intervention: (1) legal actions, such as anti-age discrimination laws; (2) public education and policy on the human valuation of aging, including the importance of including measures of health improvements in national income accounts; (3) economic interventions, specifically, to reduce poverty and open markets for poor countries or alter the economic costs associated with certain poor health behaviors such as smoking; (4) technological interventions such as home modifications or assistive devices; and (5) individual, community, and national-level behavioral health interventions designed to either reduce particular health risks, such as falling, reduce certain risk behaviors, such as smoking or drinking, or promote beneficial health behaviors, such as maintaining a balanced diet or exercising regularly.” (page 7)
Bibliography provided by Dr. Nancy Krieger, workshop keynote speaker (attached)