MAYO CLINIC

COMMENTARY

Population Health as a Means for Health Care Organizations to Deliver Value

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Poor population-level health outcomes relative to other advanced countries, rising health care costs, the increasing prevalence of chronic disease, persisting health care disparities and access issues, and the aging population drive an urgent need for change in the US health care system to simultaneously improve health and reduce costs.[1-3] This imperative emerges during a time of increasing awareness of the major impact of environmental and social factors on health relative to health care, a time of expanding health data resources and health information technologies, and a time of substantial opportunity for health care reform through the Affordable Care Act.[4-7] Convergence of these trends and opportunities creates unprecedented potential for transforming health care delivery in the United States and affecting sustainable advances in population health. The US Department of Health and Human Services, recognizing this potential, has called for an intensification of efforts around health care reform focused on value-based payment models, integrated team-based models of care, and increased attention by health care providers to population health.[8]

Transforming Health Care to Deliver Value

Improving value for patients lies at the heart of health care transformation, where value is defined in terms of outcomes that matter to patients relative to the cost of achieving those outcomes. Accordingly, improving value requires improving outcomes without a corresponding increase in costs or, alternatively, reducing costs without a corresponding sacrifice in outcomes. Pursuit of value in health care requires, in part, a restructuring of care delivery and relevant changes in measurement of outcomes that matter to patients. The call for a new focus on value in health care that attends to access to care, quality of care, quality of life, length of life, patient satisfaction, cost of care, and the distribution of those outcomes in the population points to a need to shift from paying for the volume of services delivered to paying for the outcomes delivered.[9] As we move toward such financial incentives, health care organizations should seek to discard services that have no beneficial effect on outcomes and to deliver services that offer benefits more efficiently and, therefore, less expensively. Health care organizations should also work with community partners to achieve positive effects on the nonclinical determinants of health that will enhance the value of the services they directly provide and the outcomes to which they may be held accountable.[10,11] Furthermore, and more to the point of this commentary, health care organizations should also seek to replace beneficial but problematic (too expensive, too inefficient) services with alternative interventions that deliver outcomes at less cost or with higher efficiency. While acknowledging that much of the work of population health improvement lies outside of the health care sector, we argue that health care organizations can deliver value through population health interventions. In this commentary we describe examples wherein health care organizations can successfully adopt population health approaches across the prevention continuum to improve population health.

Population Health Approaches to Health

As described by the Canadian Institutes of Health Research, "Population health interventions are policies, programs and resource distribution approaches that impact a number of people by changing the underlying conditions of risk and reducing health inequities."[12] Examples of population health interventions include immunization programs, population screening programs (eg, colonoscopy), housing and transportation policies that support healthy behavior, and taxes and laws that reduce unhealthy behavior (eg, smoking bans). Although population health, of course, includes policy-level and community-

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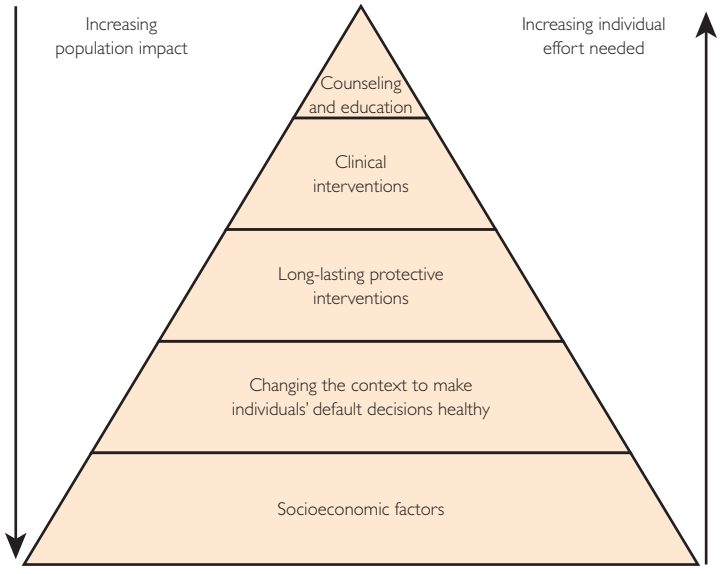

FIGURE. The health impact pyramid. From *Am J Public Health*,[16] with permission.

based efforts—such as fluoridation of public water and iodization of salt—it also includes interventions that can be pursued by health care organizations independently or in cooperation with relevant stakeholders. Population health interventions may be arrayed across the determinants of health: clinical care, health behaviors, socioeconomic factors, and environmental factors. Indeed, solutions to the pressing public health issues in the United States, including the obesity epidemic, substance abuse issues, and continued use of tobacco, will require ongoing multisectorial engagement. Health care organizations have an important role to play in addressing these issues. The focus of this commentary is on the ways in which health care organizations can pursue population health approaches across the prevention continuum to improve population health.

Health care organizations pursue these efforts through a sense of responsibility to all their patients, sometimes referred to as their *populations of empaneled patients*. Health care organizations, sometimes in partnership with others in the community, address the broader determinants of health. These population health interventions complement individual interactions during traditional clinical encounters. It is these population health interventions that we consider in this commentary regarding health care value.

It is recognized that with traditional roles of health care and typical encounter-based care, traditional clinical services account for 20% of a population's health.[13] To improve the value of the care delivered, health care organizations must expand in vision, reach, and practice to affect health through population health interventions. Not all population health interventions will take place at the policy, government, or regional level. Some will, instead, require practitioners and health care organizations to take a broader and more proactive approach to the practice across panels or populations of patients and in partnership with community organizations.[14,15] We reviewed examples of well-studied population health interventions conducted by health care organizations whose documented value—patient outcomes relative to total cost—justifies their broader implementation.

The Health Impact Pyramid: A Framework for Population Health Primary Care

Thomas Frieden, director of the Centers for Disease Control and Prevention, introduced a conceptual framework, the health impact pyramid, that organizes health interventions across the prevention continuum into 5 categories (Figure).[16] He offered this pyramid to correct previous conceptualizations that tended to emphasize aspects of traditional clinical health services and ignore most of the known population health determinants. In this pyramid, the base represents interventions that have the greatest population health impact and require the least individual effort. Forming this base are improvements to the socioeconomic factors or social determinants of health. As one moves up the pyramid, the impact to population health decreases and individual effort increases. The next level includes changes in the environmental context to make the individual's default choice the healthy choice. The middle level includes long-lasting protective interventions, such as immunizations. The second-to-the-top level includes traditional encounter-based clinical interventions. At the top of the pyramid, Frieden placed individual counseling and education, representing interventions that have the least impact on population health and the greatest requirement for individual effort. In this commentary, we

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