The Ethics of Population Health Management: Collapsing the Traditional Boundary Between Patient Care and Public Health

Thomas May, PhD¹, Joseph Byonanebye, MPH² and John Meurer, MD, MBA²

The Evolution of Population Health Management

Population health is the health outcomes of a group of individuals, including the distribution of such outcomes within the group. These groups are often geographic populations such as nations or communities, but also can be other groups such as patient panels, employees, health plan members, ethnic groups, or any other defined group. Medical care is only one of many factors that affect population health outcomes. Other factors include public health interventions (eg, immunizations, fluoridation), the social environment and policies (eg, education, employment, social support), the physical environment (eg, urban design, clean air, water), genetics, individual lifestyle and behavior (eg, diet, physical activity), and stress (eg, depression, racism).

Population health management (PHM) has evolved as a key approach in health care systems to efficiently improve health outcomes. Practicing population-based care is a central focus of the Affordable Care Act (ACA) and a key component of implementing health reform. PHM has developed because of the challenge of increasing health care costs, the capabilities of medical informatics and big data, the consolidation of health plans and health care systems, the clinical integration of accountable care organizations, and the need for chronic disease management for an aging population. Because of the prominence of financial motivation in social policy, PHM is often viewed as a resource allocation mechanism and, in fact, finds itself playing a central role in the ACA implementation. However, as we discuss, PHM is much more than a resource allocation mechanism. It represents a new framework for understanding disease and health care delivery that will inevitably assume a central role as emerging technologies such as genomic or precision medicine translate to clinical care.

The purpose of this article is to outline a key shift in the moral framework for understanding the relationship between patients and health care practitioners that occurs under the PHM model. This shift collapses traditional distinctions between clinical medicine and public health by emphasizing the symbiotic relationship between individual patients and broader populations. This relationship, in turn, will inevitably require new models for understanding informed consent and the fiduciary duties of health care practitioners as well as the interests of patients and communities as the practice of PHM emerges.

Ethical Perspectives on Population Health

A recent article by Deborah Stone¹ highlights the type of value struggle, and competing views of justice, that allocation debates often represent. Stone lays a contrast between 2 principals—Solidarity on the one hand and Actuarial Fairness on the other—that assume very different perspectives on fairness and give different guidance for how justice should approach health insurance reform in the United States. Solidarity focuses on mitigating misfortune through shared risk among an entire population, whereas Actuarial Fairness reflects a concern to "profile" risk categories so that each person is only required to share the burdens of risk mitigation with others who have similar "risk profiles." Understanding the relevance of these concepts for PHM requires that we first relate the central concerns of each to more basic philosophical concepts of luck and fairness.

Stone’s principle of Solidarity reflects concerns best understood in terms of philosopher Ronald Dworkin’s concept of Brute Luck. Dworkin’s view of brute luck envisioned an individual’s welfare as constituted by factors beyond her or his control, such as when a tornado strikes one house and leaves the house next door untouched.² In such circumstances, the idea of insurance is that we are all equally at risk of the damage being inflicted. If those unlucky people who are struck by the tornado share the costs of reconstruction with those who were lucky enough to avoid being struck, then the costs to any one individual or group of individuals are not that devastating, whereas requiring the

¹HudsonAlpha Institute for Biotechnology, Institute for Health and Aging, University of California San Francisco, San Francisco, California.
²Institute of Health and Society, Medical College of Wisconsin, Milwaukee, Wisconsin.
unlucky to bear the entirety of the costs would be devast-
tating to that person.

Stone’s principle of Actuarial Fairness, in contrast, re-

flects ideals that are at the heart of what Dworkin dubs option luck. This concept centers on those things that are either exacerbated or mitigated because of conscious choi-
ces. Consider a person who eats more than he or she should. I gain certain “goods” from my behavior, but these come at a cost placing me at higher risk of heart disease and dia-
betes. Stone’s principle of Actuarial Fairness recognizes that, for example, over a population of obese people or smokers, unhealthy choices will result in more health care payouts; thus, everyone shares the burden of covering through health insurance premiums.

In the United States, personal responsibility for health and individualism is highly valued. Employee health insurance programs with penalties are an example founded on the premise that individual choices, such as obesity and smoking, constitute an economic harm to others who share in the costs of the chooser’s health care. Under the ACA, employers have a mandate of providing health care coverage for their em-
ployees from a pool of limited resources. Penalties are ad-
ministered to employees if their voluntary actions result in harm to fellow employees. Contrast this view of harm to Stone’s principle of Solidarity: If we brace for damage to-
gether and share as a group in the burdens of whatever bad luck may befall any particular individual in the group, then together—as a group reflecting solidarity with each other—the burdens can be overcome.

Public Health, Clinical Practice, and Population Health

Public health has traditionally been viewed as promoting better choices and, through this effort, mitigating the effects of option luck, whereas clinical medicine has traditionally been viewed as addressing those unfortunate disadvantages we suffer through no fault of our own, or those realms in which “public health” is unable to or unsuccessful at substantially reducing risk; for example, if we contract a contagious con-
dition or suffer from a genetic predisposition that results in our ill health. (To be certain, this dichotomy is not rigid. Public health campaigns often address “unfortunate circum-
sances”, such as polluted water, and clinical medicine certainly does not neglect care for patients who have health problems directly attributable to choices, such as sexually transmitted infections. But even these overlaps can be seen as falling into realms: For public health, issues of brute luck are addressed as “systems problems,” whereas for clinical medicine, issues of option luck are addressed once they manifest as acute conditions rather than through a preventive lens.)

It should come as no surprise, then, that the focus of each “realm of health care” is different: public health practitioners focus on populations and groups, whereas clinicians focus on individual patients. It is this very foundational focus that PHM is challenging, by recognizing the symbiotic relation-
ship between these long-separated “realms” of health care.

The revolutionary aspect of PHM is that it moves away from the false dichotomy of “realms” distinguishing clinical medicine from public health and, in so doing, both captures a richer and more accurate characterization of health and dis-
ease, whereas simultaneously removing the moral salience of “blame attribution” from the health care delivery equation.

PHM and Social Determinants of Health Impact on Clinical Decisions

PHM programs generally contain 3 elements: (1) the pri-
cary care physician plays a central role in a team caring for a patient; (2) care is augmented by care coordination and, in some cases, intensive case management by specially trained nurses; and (3) increased engagement by patients themselves enables them to play a more active role in their care. PHM uses a variety of individual, organizational, and cultural in-
terventions to help improve the morbidity patterns (ie, the illness and injury burden) and the health service utilization behavior of defined populations. PHM is distinguished from disease management by including more chronic conditions, by use of a single point of contact and coordination, and by predictive modeling across multiple clinical conditions.

To achieve broad population health goals, we need to un-
derstand and intervene across the whole spectrum of determinants, not just health care. To this end, PHM incorporates social determinants of health. Social factors are powerful determinants of health. Under this framework, behaviors (eg, smoking, physical activity, nutrition, alcohol use), stress (depression and racism), socioeconomic status (educational attainment and income), genetics, access to medical care, and environment (pollution, infections, and toxins) are major determinants of health outcomes.

Physicians and other health care professionals should advocate for health, education, and social policies that ad-
dress the social determinants of health. They should advocate for what they believe, on balance, are the ethically best approaches for advancing social justice and the health of the population. The triple aim or value proposition includes improving the experience of patient care, improving popula-
 tion health outcomes, and reducing per capita costs. The physician as a key decision maker within an integrating organization has a responsibility for these 3 aims for the population of patients served by that organization. Partnering with patients and their families, care redesign, and PHM are all important activities in system integration.

Physicians, in particular, make decisions about individual patient hospital admissions and discharges, prescriptions, lab-
oratory tests, and imaging studies that comprise about 60% of health care expenditures. These decisions cumulatively affect the deployment of resources to the panel or population of pa-
tients. An integrating physician also promotes disease pre-
vention and counsels healthy lifestyles for patients.

PHM programs aggregate patient data across multiple health information technology resources, analyze these data into a single, actionable patient record, and act through health care practitioners to improve both clinical and financial out-
comes. By applying technology to population health strate-
gies to continually identify, assess, and stratify provider panels, physician groups can use technology and automation to augment the role of care teams, manage the patient popu-
lacion more effectively and efficiently, drive better outcomes, and decrease overall cost, as demanded by new payment incentives focused on value.

PHM Integrates the Individual Patient and the Population for Health Care

PHM dissolves the traditional distinction of clinical medicine and public health. At root, PHM represents a fundamentally
different approach to the practice of medicine in that it broadens the focus of concern for physicians beyond the single immediate patient encounter. In this approach, PHM represents a new paradigm for understanding the fiduciary duties within the physician and patient relationship. The quality domains of safety, accessibility, care coordination, effectiveness, efficiency, and equity depend on population-based approaches to care delivery. In PHM, physicians aim to maximize value, remove harms, and minimize costs for patients.

Genomic or precision medicine provides perhaps the best example of how individual patient concerns will be intertwined with larger population contexts. First, interpretation of genomic data often requires several related individuals, and even then what can be known about the meaning of an individual’s specific variants is, and will continue to be, a function of “big data” analysis of the genomic data of many thousands or even millions of individuals. The distinction here between individual and population concerns is thin, if applicable at all. Furthermore, the implications of genetic information for other individuals will require that we rethink both our concept of risk and of informed consent6 in this emerging realm of clinical practice.

One of the great strengths of PHM is its ability to not only adapt to but also embrace the symbiotic relationship between these individual and population realms traditionally perceived to compete and/or balance against each other. The disciplines of primary care and public health historically have operated independently of one another; however, both share a goal of promoting the health and well-being of all people. The Institute of Medicine advises integrating the 2 fields to improve population health.7

Acknowledgment

The authors gratefully acknowledge grant support from the Medical College of Wisconsin Advancing a Healthier Wisconsin research and education program for this work.

Author Disclosure Statement

The authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article. The authors received no financial support for the research, authorship, and/or publication of this article.

References


Address correspondence to:
Joseph Byonanebye, MPH
Institute of Health and Society
Medical College of Wisconsin
8701 Watertown Plank Road, H2400
Milwaukee, WI 53226-0509

E-mail: jbyonanebye@mcw.edu