
Population Health Management: New Perspectives on a Familiar Concept

Introduction

Over the past several years, population health management (PHM) has become a catchphrase for what many believe is a transition to a more outcomes-based approach to health care. While there has been a renewed focus on outcomes and treatment of entire patient populations, this is hardly a new phenomenon. Managing population health in various ways has been used for decades as a way to address public health concerns, along with use in areas outside of the traditional “health care” realm.

PHM has become more formalized as a tool of health care delivery and payment systems. According to the Department of Population Health at the New York University School of Medicine, “Population health complements the individualized practice of clinical medicine by placing its focus on the health—both determinants and outcomes—of entire populations of persons, promoting proactive approaches to disease prevention and management at the community, health system and policy levels.”¹ Many modern definitions of population health and PHM use similarly broad terms, acknowledging that this paradigm of health care should not be restricted to one purpose or goal.

In order to understand the emphasis on population health management, it is important to know how “population health” is distinguished from “individual health,” how it has been defined in the past, what it constitutes today, and the benefits of its use to stakeholders.

Individual vs. Population Health

Modern health care has centered on treatment of the individual patient. In what we think of as traditional medicine, a patient sees a doctor or other clinician who performs a given procedure, test or other service based on the characteristics of that patient. Treatment is based on prior evidence or professional experience or opinion that the clinician believes will result in a positive outcome for the patient. Payment is generally made on a fee-for-service (FFS) basis; doctors are paid based on how many services, procedures and tests they provide.

The transition to population health is, in part, a result of the problems that have emerged from the individual health model. Under the FFS model, clinicians are incentivized to provide services rather than focus on outcomes. PHM often shifts the focus away from a service-intensive intervention and toward interventions that create quality outcomes for the largest number of people. Additionally, while preventive services are often a part of individual-based health, intervention is most often reactive. PHM that maintains a focus on outcomes allows clinicians to focus even more on prevention.

PHM, conversely, involves analysis and intervention for a group of individuals—it can be targeted directly to the group, without knowledge of the individual, or it can be targeted to individuals within a pre-defined group. The group can be chosen for a specific reason that the intervention is designed to address. In this instance, a professional identifies multiple individuals at risk for a given malady, and

implements an intervention that has worked for this type of individual in the past, or is hypothesized to work based on evidence or professional opinion. Payment is made mostly for measurably achieving quality outcomes using valid methodologies within a population rather than for performing specific services. Determining the right population, what the appropriate intervention is, and measurably affecting the population are therefore the most important aspects in PHM.

Because PHM is so broad, it can also involve a population that is not targeted, but instead blanket entire communities or even nations. Most commonly, these types of interventions have been associated with public health issues.

Historical Perspective

While historical efforts to improve the health of populations have not been called “population health management,” people have been using techniques to make these improvements for centuries. The most common type of PHM in this sense is public health. Public health interventions have been used throughout the world as civil society has acknowledged a need to improve the quality of life for communities. Public health interventions focus on entire populations and do not usually target specific groups of people or specific individuals.

One of the most well-recognized and important population health interventions in modern times was the establishment of sanitation systems. The widespread use of modern sewer systems in the Western world during the late 19th and early 20th Centuries led to dramatic reductions in diseases like typhoid and cholera.ⁱⁱ While it is not a health care intervention in the obvious sense, providing sanitation for different populations addressed one of the most serious health issues of the time. And like many other public health issues, sanitation systems help entire communities and are not targeted to specific people based on their conditions or other factors.

Similarly, the advent of motor vehicle safety measures during the 20th century can be considered a health intervention, albeit a nontraditional one, that government and private industry have taken to reduce mortality and injury rates among the public. Speed limits, guardrails, seatbelts and other precautions have positively affected population health, despite the fact they do not treat any disease or ailment.

History contains an enormous number of interventions that sought to improve the health of entire populations. PHM as we know it today, however, is a more modern phenomenon, and one that often targets smaller, more specific individuals.

Population Health Management Today

The prevalence and popularity of PHM has grown exponentially over the past several years, including the establishment of organizations like the Population Health Impact Institute in 2003.ⁱⁱⁱ Several factors have contributed to this phenomenon, including passage of the Patient Protection and Affordable Care Act (ACA) in 2010. No factor, however, has had more of an impact in the move to implement PHM practices than the increasing costs associated with FFS medicine. By practicing PHM, advocates believe that not only can unnecessary health care services be curtailed, but outcomes, measured in defined population and

using valid methods, can be improved. Altering payment structures to incentivize positive outcomes within a population, for example, should lead to a greater effort to improve outcomes across the board.

Improving outcomes and reducing costs by intervening in a given population is, of course, an admirable goal. However, for health care delivery systems seeking to implement PHM strategies, the question becomes how to create and validly measure an effective program.

By its nature, PHM must involve strict measurement and accountability. When attempting to impact the health of a large group of individuals, it is essential the correct population is chosen, an effective intervention implemented, and the effectiveness appropriately determined by measuring outcomes. PHM programs break down if measurement and analysis are not conducted accurately.

In measuring the process of PHM, a potential program must determine who is being placed into a population and how to ensure they are receiving the intervention. Does the patient population exhibit attributes the intervention is meant to address? Are there engagement metrics that provide detailed analysis of how effective strategies were to reach a population? This aspect becomes especially important in care management PHM.

Just as important as process measurement is outcomes measurement. A program must define outcomes as well as targets to reach those outcomes. An effective PHM program will state a specific goal to reach through the intervention. The program must also be able to measure whether the outcome achieved is attributable to the intervention used and what effect confounding factors may have had. Because confirming causality is difficult in any study, this can be one of the more challenging tasks. Without the confidence that an intervention is effective in achieving an outcome, however, the usefulness of PHM as a way to improve the health of populations breaks down.

Not only have PHM programs become more common in the past several years, they have also grown more sophisticated. Many believe the use of epidemiological techniques to measure “success” within health care systems has the potential to bring more accountability to the health care field and result in better, less expensive outcomes. Two of the main vehicles of PHM growth are accountable care organizations (ACOs) and Patient Centered Medical Homes (PCMHs).

Care Management & Population Health

The emerging PHM approach today overlaps and supports existing care management programs, but also includes additional tactics to improve clinical and financial outcomes. Among other benefits, this allows for the customized management of targeted individuals in designated populations.

With the advent of managed care in the 1970s, we have seen an evolution of different types of care management activities, starting with utilization review. Although payers, providers and others began with a focus on managing the population through actuarial criteria, the care management system evolved into more dynamic management models, such as case and disease management programs.

Today, care is coordinated through robust and complex condition management programs that are evidence-based and supported through technology. This new approach allows PHM programs to create customized care treatment plans that control for co-morbidities throughout the continuum of care. Simply put, PHM strategies are re-writing how medical care is delivered and managed, a scenario in which fragmented or episodic care is no longer in vogue.

Like case management, this model is based on utilizing a team of caregivers including case managers, attending physicians, nurses, relatives and others. Populations and individual patients are targeted across a wide range of medical conditions and social/physical environments. Having access to a data-rich environment also is a key element used in care management programs that support PHM goals.

When PHM programs rely on care management techniques, a dynamic array of solutions can be deployed. Examples include:

- Using population risk identification and access to stratification processes;
- Assessing physical, psychological, economic and environmental needs;
- Managing high-risk patients to prevent acute episodes;
- Accessing evidence-based protocols to diagnose and treat patients in a consistent, cost-effective manner;
- Creating customized care treatment plans that control for the patient’s co-morbidities;
- Promoting transitions of care to reduce unnecessary hospital readmissions;
- Relying on patient engagement strategies promoting personal responsibility and self-management; and
- Integrating and using dashboards and reports to use as feedback loops for patients, providers and program sponsors.

Among other market drivers, PHM is more important than ever due to shifting reimbursement strategies such as performance-based compensation. For example, hospital revenues are shifting from inpatient care to outpatient, and physician reimbursements are moving from individuals to entire patient populations and from volume to value. In addition, the emergence of value-based purchasing criteria is promoting both quality-based and more cost-effective solutions.

ACOs and PCMHs

Among many reforms instituted by the ACA aimed at helping encourage cost-effective health care solutions, ACOs stand out as a noteworthy change that is bringing PHM to areas throughout the country. ACOs are an attempt to coordinate care among different clinicians by providing services that are as integrated as possible. The premise is to allow clinicians to work together for the benefit of the patient, reducing costs and focusing on a more holistic approach to treating individuals and, while procedures may drop, ensuring payments to ACOs are still robust enough to encourage fee for outcomes, rather than fee-for-traditional services.

The Centers for Medicare and Medicaid Services (CMS), which is running the government’s main ACO programs, has called these organizations “groups of doctors, hospitals, and other health care providers,

who come together voluntarily to give coordinated high quality care to their Medicare patients.”^{iv} PHM factors into the ACOs because of the emphasis on coordinated care and departure from the traditional fee-for-service model, but also because a specific population of at least 5,000 seniors are chosen to participate in the program. Providers focused on these groups can use population-based interventions including an emphasis on chronic care, which may disproportionately benefit the older population being treated.

The number of ACOs nationwide has risen dramatically and networks not associated with the CMS program have also been established, meaning private parties see the potential for cost savings even without the benefit of government incentives.

Another health care delivery system with goals that dovetail with those of PHM is the Patient Centered Medical Home (PCHM). Medical homes share many of the same characteristics as ACOs—they both emphasize the importance of coordinated care and positive outcomes. Unlike ACOs, however, PCHMs are not comprised of hospitals and other varying types of providers. The emphasis is on primary care, with a primary care physician acting as the hub of a patient’s health care experience. Care is coordinated between specialists and other clinicians, but centered on the importance of primary care and prevention. As we see in many of the models using PHM, a population of patients is treated in a coordinated manner, engaged by a primary care provider during and between visits. This differs greatly from the FFS model where patients are treated on more of a case-by-case basis.

ACOs and PCHMs are just two of the models being tested by health care providers nationwide. As PHM continues to grow, we will likely see similar strategies being deployed in varying contexts.

Conclusion

As the health care field continues to evolve in the coming years, PHM will likely play a central role in how health care delivery systems function. In recent years new, innovative health care models have emerged, such as ACOs, PCHMs and others. As in any industry, some of these models will succeed by using valid tools to measurably reduce costs and improve outcomes. Others will prove to be unpopular or unworkable, but learning will result from these as well. The key is establishing appropriate metrics to measure the process and outcomes of these models and the interventions they implement compared to valid expectations of outcomes had these not been implemented.

Many advocates believe PHM has the potential to make systemic change in health outcomes. By treating entire populations and focusing on the entire continuum of care, instead of simply treating individuals on a strictly fee-for-service basis, advocates of PHM claim clinicians can make meaningful improvements to the health status of large populations.

ⁱ Overview. Department of Population Health. NYU Langone Medical Center. Retrieved from <http://pophealth.med.nyu.edu/about-us/overview>

ⁱⁱ (2007, January 5). *Sanitation*. BBC News. Retrieved from <http://news.bbc.co.uk/2/hi/health/6233859.stm>

ⁱⁱⁱ Population Health Impact Institute, www.phiiinstitute.org, has contributed the organization structure this white paper

^{iv} *Accountable Care Organizations (ACO)*. Centers for Medicare and Medicaid Services. Retrieved from <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/index.html?redirect=/ACO>

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