The Last Mile of Population Health Management

by Egor Kobelev and Daniel Piekarz

(This article first ran in Health IT Outcomes *on Nov. 30, 2016, and has been slightly revised.)*

The concept of population health was first introduced in 2003, when David Kindig and Greg Stoddart defined it as "the health outcome of a group of individuals, including the distribution of such outcomes within the group."[1] Population health management means taking responsibility for managing the overall health of a defined population and being accountable for its health outcomes. A population is usually comprised of individuals sharing characteristics, such as living in the same geographical area, being the same age or gender and having similar health conditions.

A set of aggregated metrics, including percentage of chronic conditions, number of admissions, readmissions and emergency room visits, could define the overall health of a population. Finally, population health management implies a goal—achieving measurable improvements in the health of a defined population; however, the concept does not suggest how to achieve that goal.

While Kindig and Stoddart might have introduced the concept, they did not necessarily invent population health. The term has been well known in the United Kingdom and Canada, and some of its components were recognizable in the United States during the 20th century. For example, in 1973, Congress passed the Health Maintenance Organization Act, which encouraged rapid growth of HMOs. Historically, this was the first form of managed care organizations (MCOs). Nobody was thinking about these MCOs might attempt to implement population health management, but some of managed care approaches were clearly in line with the population health movement.

Regulatory Considerations of Population Health Management

Moving from concept to implementation requires a legal framework. Unfortunately, while the HMO Act spurred growth of managed care, it focused too much on cost reduction through utilization management and review techniques rather than on health improvements. On the other hand, the ACA serves as a legal base for population health management.

The introduction of accountable care organizations was an attempt to learn from the mistakes of MCOs and provided the essential legal foundation to establish the population health management paradigm. Another important provision of ACA was the introduction of Meaningful Use criteria, which led to a substantial rise of electronic health record (EHR) usage. This was probably the moment when improvements in patients' and practitioners' experience—whether it was scheduling appointments online, preregistering for a visit or using touch-screen devices instead of paper clipboards to check in—became notable. Health information is finally becoming digital and could be used as a technical foundation to take the next step toward the goal of population health management.

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Today there are several active initiatives and regulation provisions that could lead to even more fundamental changes in the U.S. healthcare system, among them MACRA, which strongly advocates for rewarding providers for providing better care, not just more care. Although MACRA looks very promising, it may be too early to discuss its practical implications. Much better examples are the Health Homes (HH) Program,[2] launched in several states, and the Delivery System Reform Incentive Payment (DSRIP),[3] originally introduced in California and later followed by Texas, Massachusetts, New Jersey, Kansas and New York.

Along with other provisions, ACA created an optional Medicaid State Plan benefit for states to establish health homes and coordinate care for people with chronic conditions who have Medicaid coverage. The Centers for Medicare & Medicaid Services (CMS) expected states' health home providers to operate under a "whole-person" philosophy: Providers will integrate and coordinate all primary, acute, behavioral health, long-term services and support to treat an entire person.

In turn, the idea behind DSRIP is a transformation of the healthcare system with the ultimate goal of creating a financially stable structure that meets the needs of its specific community as measured, in part, by a 25% reduction in avoidable hospital use.[4] Health Homes is critical to this transformation as it provides care management services to the segment of the population covered by Medicaid, who are driving more than 50% of this avoidable use.

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Even though the Health Homes Program was kicked off earlier and independently of DSRIP, Health Homes is a key tool for Performing Provider Systems (PPS)—partnerships of regional care providers who will collaborate to better transition from fee-for-service payment to a risk-based, pay-for-performance approach—to leverage in order to achieve DSRIP goals. It may be easier to think of these programs in terms of an efforts/impact matrix. Improvement to care management requires a relatively small effort but could potentially have a huge impact on population health—a quick win.

Population Health Management in Action

There is a Medicaid analytics performance portal (MAPP) built by New York State, which supports both HH and DSRIP performance management technology needs. These programs require the exchange of patient health information to and from the MAPP system in order to provide New York with necessary information to gauge the program's performance and enrollment.

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While all lead organizations within HHs and PPSs have direct access to MAPP (which allows direct information entry), most, if not all, interface with the system through a batch file exchange. Every health home is responsible for accepting members assigned to them by the state, which facilitates the identification of potential enrollees.

When new members are identified, a health home then attempts to reach out to these patients to assess their interest in the HH program. Once members consent, the home must enroll them through tracking that involves creating an enrollment date with the MAPP system, which checks member eligibility for the program and Medicaid, and ensures they haven't been previously enrolled with another organization.

After members are enrolled, participating community care clinics or a care management agency (CMA) work with members to provide a lead organization with clinical data and encounter information, which in turn is sent to MAPP to complete billing support. Then services can be billed directly to Medicaid by either a lead organization or a member's MCO. Finally, lead organizations or MCOs are responsible for disbursing payment to a CMA. All of this workflow is tracked and reported through the MAPP portal.

As mentioned previously, the core of data transmission is the manual batch files exchange. With an Internet browser, lead organization staff should be able to manually upload and download files from MAPP; however, the rest of the business requirements and workflows could easily be automated to minimize the amount of human mistakes—especially when it comes to tracking and billing processes. An automated software solution should be able to generate files containing well-formed, consistent data and be sophisticated enough to regenerate tracking and billing data if any discrepancies are found later on in the process. The solution should perform as a synchronization layer between a lead organization's software infrastructure and a state portal, leveraging the following important features:

- Solid and straightforward user experience for all workflows. It should lead the user from one action to another leaving no chance for human error.
- Review and validation of all data files downloaded from MAPP and uploaded into the system. It saves staff making many last minute data corrections, which can cause new errors.
- Backend to store both current snapshots of data, as well as all the historical activities. This information provides an opportunity to revert actions taken by mistake at any point and recover the data exchange flow.

The greatest challenge is integrating a software solution into an organization's unique software ecosystem and harmonizing the data stored and updated within the organization with data coming from a state. This task requires a deep understanding of a healthcare organization's typical software setup, including its practice management system, EHR and billing software, as well as a solid knowledge of the way a state portal works, transmits and operates data.

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Needless to say, there are no off-the-shelf products on the market that can cover all aspects of the aforementioned workflows while being tailored to the specific needs of an organization. It is becoming critically important for a leading organization to have a trusted vendor, who has the capabilities necessary for a timely reaction to initiatives and programs, including health homes targeting children.

It is time for the discussion on population health management to move beyond a high-level concept to actual regulations, initiatives, programs, clear business requirements and finally, to the last mile of population health management—custom software.

[1] Kindig D, Stoddart G. "What Is Population Health?" *American Journal of Public Health*
[2] . March 2003;93(3):380-383.
[3] "Health Homes." Medicaid.gov. Accessed Jan. 5, 2017.
[4] "Delivery System Reform Incentive Payment (DSRIP) Program." Department of Health. New York State. Accessed Jan. 5, 2017.
[5] *Ibid.*

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