

Population Health: Making a Difference With Data

A doctor struggles to understand the complete medical history of a patient. Care staff struggles to compare notes as they hand off patients between shifts around the clock. Patients struggle to be heard by caregivers as they face a never-ending rotation of caregivers.

It is for these and other pressing reasons that population health—a mixture of best practices, technology, and incentives—burst onto the scene a few years ago, fresh on the heels of the healthcare industry's implementation of electronic health record software.

EHRs were necessary to achieve the goals of population health—improved quality and lower cost—but were often insufficient. HIEs were offered as a way of aggregating EHR data, but too frequently they fell short of providing the analytics that could help clinicians stratify their

workload and drive workflow to the sickest and costliest patients.

Concurrently, the work continues on gathering clinical data at the point of care, both inside and outside EHRs, through technologies such as remote patient monitoring—and this data must inform population health efforts as well.

According to Black Book Research, for Medicaid sponsored lives, there's a tremendous potential for public/private collaboration to pair data from those patients' EHRs, claims, immunizations, welfare/socioeconomic status, public health records, and prescription drug monitoring program data. Such an effort will also require alignment between commercial health systems and state Medicaid agencies, according to Black Book.

"It appears we are likely going through another wave of consolidation similar to what we saw in the early 2000s as organizations moved from best of breed to integrated platforms,"

says Doug Brown, managing partner of Black Book Research. "Single solutions will likely continue to merge, be acquired, or be usurped by integrated technologies within comprehensive platforms that are natively integrated at the point of care and accessible by patients and community-based organizations."

Some of the largest benefits may occur with the most vulnerable patient populations. At Services for the UnderServed (SUS) in New York City, population health technology is supporting patients who face not only physical health issues but also problems with mental health as well as intellectual and developmental issues.

Nothing illustrates the population health challenge at SUS more than a patient whose care was distributed among so many caregivers that only the data-aggregating capability of population health was able to detect a behavioral pattern that could be addressed to improve her health and well-being.

This individual engaged in constant incidents of self-harm—banging her head against a wall—but the frequency of these incidents was far higher than any individual caregiver or shift could determine. Ultimately, thanks to the population health solution, staff determined that the patient suffered from headaches caused by a growth on her brain. After doctors installed a stent to relieve pressure caused by the tumor, the self-harm episodes subsided from 800 per day to fewer than 50 in a week. SUS saved money by being able to shift the patient to less costly care and monitoring, and the patient herself was relieved of great suffering.

This finding was made possible by a technology-acquiring grant from the New York Department of Health, allowing SUS to target individuals requiring the most restrictive care and transition them to housing with fewer behavioral and social restrictions, says Vivian Attanasio, vice president of behavior services at SUS.

Attanasio's division of SUS cares for a population of 500–600 patients; the agency cares for 2,000 overall. This particular population health trial followed 50 individuals and brought paper-and-pencil population health tasks online for easier input and near-real-time patient tracking. Clinicians were able to target behaviors they wished to decrease, as well as track the kinds and frequencies of medications taken.

"We were able to do this because we were able to bring the data to each doctor," Attanasio says. "We were also able to reduce patient staffing ratios by reviewing this data. Did the patient need a person with them all the time, or were they able to be grouped?" Ultimately, the population health technology allowed clinicians to pull up information on any patient subset and identify outliers, as well as demonstrate progress to the Department of Health on a monthly basis, she adds.

Despite the conclusion of the initial grant, SUS was pleased enough with the pilot program's progress that it has expanded use of multiple

population health technologies, reaching out to other SUS departments as well as community providers who serve the patient population; this eliminates even more paper and enables progress tracking in other areas, says Attanasio.

Another benefit of population health is giving patients a voice in their care, Attanasio says. In the case of the woman who received the stent, "Now, when she goes to a doctor who she feels isn't listening to her, she will ask to not see that doctor anymore and to go see a different doctor, where before she thought she had no choice."

Right records, right place, right time

Two years ago, Coordinated Care Oklahoma had laid much of the groundwork for its population health strategy by fulfilling meaningful use interoperability requirements and connecting acute care facilities to ambulatory facilities, enabling the nearly 400 facilities belonging to the HIE to exchange continuity of care documents (CCD). The HIE's acid test came when a tornado destroyed the hospital in Moore, Oklahoma, and patients' records were retrieved from electronic copies held by the HIE.

But changing times have come to the nonprofit Coordinated Care Oklahoma, which transitioned in July 2017 to become part of the new Coordinated Care Health Network (CCHN).

Brian Yeaman, MD, a physician and former chief administrative officer of Coordinated Care Oklahoma, is now the CEO of the for-profit CCHN, and he plans to bring the nascent population health efforts of the prior organization to the new network. As part of that effort, he says, CCHN has recently added between 20 and 30 home health and hospice agencies to its network.

"The next question is, how do we better communicate across care transitions?" Yeaman says. "Making modifications to a health plan, changing coverage, changing prior approvals,

changing formularies can only get you so far. But I have to take that meaningful information and get it to a provider where that can be acted upon, or the patients' orders can be changed."

Recognizing the limitations of sending large CCDs as a means of communication, CCHN is turning to messaging to send discrete chunks of information where possible, and making alliances with population health vendors to deliver analytics services throughout the network, Yeaman says.

"We're receiving 2.5 million messages a month, which represent about 500,000 encounters in facilities over five states, and we're delivering about 350,000 medical record requests a month to providers—the right information at the right place at the right time," Yeaman says.

As part of that delivery, CCHN ensures that the data is clean and that its network providers receive it in near-real time. "If I'm a care manager, I need to be able to pull a point-of-care analytics report, and it's a lot easier to wait 30–60 seconds for our report than to generate that myself."

Getting related claims data from payers in a timely fashion remains a population health challenge, Yeaman says. "There's a minimum lag of 15 days."

To do the best they can with the data on hand, developers at the network have created a simple 10-point score to identify the relative risk a patient carries upon discharge from a network hospital. "Those help determine what kind of resources that patient needs right then and there," Yeaman says. "It is about acting at the time of clinical change, need, or transition with real-time data and allowing organizations to later use the clinical data with claims data on longer-term condition management and their reimbursement." ■

SPONSORED BY

SCIO health analytics®
Once We Understand; Change Results.

Containing Costs: Keys to Using Analytics to Target Interventions for Greater ROI

As the current healthcare coverage quandary continues to be debated, we must also address that medical costs continue to remain unsustainable. Kevin Keck, M.D., Chief Medical Officer at SCIO Health Analytics® explains how next-generation analytics can help bring costs under control while achieving value-based care delivery by targeting interventions appropriately in order to deliver the best resource management for health outcomes.

Q.: Population health management (PHM) as a concept has been around for many years. It has been shown to improve outcomes yet despite widespread programs, costs continue to rise. Why is that?

Kevin Keck, M.D.: One of PHM's biggest issues is that it tends to paint with a broad brush. The data typically shows you which patients have a chronic condition such as diabetes, hypertension, or high cholesterol but does not go any deeper than that. So a lot of money and clinician resources are often expended on these fairly large patient populations for whom there is little chance for realizing an ROI because interventions where one size fits all are too expensive.

Q.: How can healthcare organizations do a better job of focusing their limited resources more effectively?

Keck: The key is to create a very granular and actionable population analysis. The data to create this goes beyond the clinical and claims data normally used in PHM analytics and incorporate outside data, such as zip code, demographic, and psychographic data. These additional data points offer more of a 360 degree view of who those patients are, how and where they live, and what drives them. It's the old Abraham Maslow quote about every problem looking like a nail if all you have is a hammer. Healthcare organizations need more analytics tools in their toolbox. Take zip code data, for example. If you know where someone lives, down to a four-block radius, you can get a better idea of how they live. A typical intervention for diabetics is education about effective changes to their diets. But if they live in a low-income area where fast food restaurants are plentiful and full service supermarkets are relatively unavailable, the chances for success with that intervention are going to be low. Even if patients are willing to change their diets, the lack of availability of appropriate food choices and transportation due to their location and financial circumstances may prevent it. In that case, the care team will need to develop a different strategy than just saying "eat healthier" if they are going to be successful.

Q.: What else can the analytics glean from this larger data set?

Keck: There are two key areas we often talk about: impactability and intervenability. Impactability is the

likelihood a particular intervention will have a positive effect on the patient's health. Impactability is the opportunity to improve the quality of a patient's health while fully understanding the financial impact of doing so. Intervenability is the ability of the patient to be able to close their gaps in care. If a patient is dependent on a neighbor for transportation to the grocery store and pharmacy, then her intervenability is lower than average. Combining these two scores for each patient enables the intervention to be targeted to get the highest positive impact. The intervention in population health is to educate, motivate and empower the patient. If circumstances prevent success of education, motivation and empowerment of a particular patient then resources should be focused on other patients.

If a patient is high risk due to comorbidities, age, smoking, lack of exercise, etc. and has a high impactability and intervenability score, then this is a high priority, target patient. Similarly, if a patient has medium risk but has a high impactability and intervenability score, then this is also a high priority, target patient.

Health plans and provider groups can use this data and insight to identify the patients to prioritize for an intervention and the ROI and impact that intervention will have on health care costs.

Q.: How do you determine something like intervenability?

Keck: It can be difficult to determine intervenability on an individual basis, but if you have the demographic and psychographic data, you can build personas that represent cohorts of patients who have similar attributes or characteristics. You can say people from this neighborhood, who are this gender and fit in this age range, with this income and education level, who have this condition, tend to have this level of intervenability and place a score against it. The scores help identify the higher-risk patients who may need more attention versus those who are more willing to do what's needed to improve their health.

Q.: Where would you begin to apply these types of analytics?

Keck: The biggest opportunity is with patients with chronic conditions, which represents 86 percent of the \$3.0 trillion annual healthcare spend according to the Centers for Disease Control and Prevention. If you can use impactability and especially intervenability data to target interventions to keep those patients out of the emergency department or the hospital, you stand a fighting chance of containing healthcare costs – and maybe even reversing the trend.

SCIO health
analytics®
Once We Understand; Change Results.