FTI JOURNAL October 2013

Population Health Management to the Rescue?

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Late last year, a large U.S. regional health plan faced one of its toughest challenges in decades. Its largest client — a self-insured group with more than 100,000 covered lives — was demanding a new set of strategies to "bend the cost trend" while improving healthcare quality and member satisfaction. Failing to do so would have grim consequences: the plan would lose the contract to one of the large national players that was competing in its own backyard with sophisticated population health management (PHM) capabilities.

This story probably is familiar to executives in small and medium-sized health plans. But its relevance extends well beyond the payer world. Healthcare providers face mounting pressures to strengthen PHM capabilities. Revised forms of reimbursement such as fixed fees for an entire course of treatment for an illness are shifting risk from payers to providers. By the same token, innovative employer groups are moving ahead of plan partners and provider networks by building in-house PHM capabilities.

PHM per se isn't new. Since at least the 1930s, both payers and healthcare providers have actively managed care delivery and outcomes. Today, however, reimbursement pressures, along with the increasing availability of data and processing capability, are driving PHM to higher levels. Healthcare organizations must demonstrate the precise impact of their established case management, disease management and wellness programs — and prove that these approaches provide the best possible return on investment (ROI).

Given the pressures of these market changes and national competitors promoting analytics capabilities to transform PHM, the plan's executive team realized it had to transform existing analytics skills in order to remain competitive.

Barriers to Action

To meet the insured group's demands for lower costs, the health plan's leaders had to make specific strategic choices from a daunting array of options. Should the organization focus on reducing service volume by curbing overuse of care or concentrate on promoting wellness programs and preventative medicine? Or would the plan be better off, as some plan executives argued, if it increased the efficiency of care delivery by shifting to services and settings that offer comparable outcomes but at lower costs? Another option, which many plans tried in the 1990s and are readopting, would be to rank network providers based on cost and quality and then employ measures to encourage patients to use top-ranked providers.

Naturally, the plan's executives were well-versed in the tactics that could support these strategies. For example, the organization could steer consumers to the highest value providers with benefit design changes, manage patient health through primary care physicians, offer set prices based on outcomes, create centers of excellence or provide care concierge services. However, most of these choices are costly, multiyear undertakings, and the organization didn't have the data and insights to determine which courses would be most valuable to pursue.

The barriers the organization faced in generating the needed PHM data are commonplace — but far from trivial. Data often are created and stored within departments whose systems are designed for very different end users — everything from actuaries to case managers. There generally is no single system that aggregates information — let alone derives insights from it — across the organization. Data locked in separate systems hamper the ability to establish a complete view of a patient's healthcare history and the cost and effectiveness of treatments provided over time. Data governance compounds the problem: It rarely is charged to a single function. The result is overlapping efforts, confusion and an incomplete picture that hamstrings an organization's potential to understand its opportunities and align around them.

Overcoming the Barriers

To overcome the barriers and align its organization, the health plan embarked on a three-step approach that identified a possible $17 million in annual savings against more than $600 million in annual medical expense (see Figure 1).

The three steps were:

1. Conduct a baseline analysis.
2. Assess clinical opportunities in high-priority areas.
3. Develop strategies and set cost and quality targets.

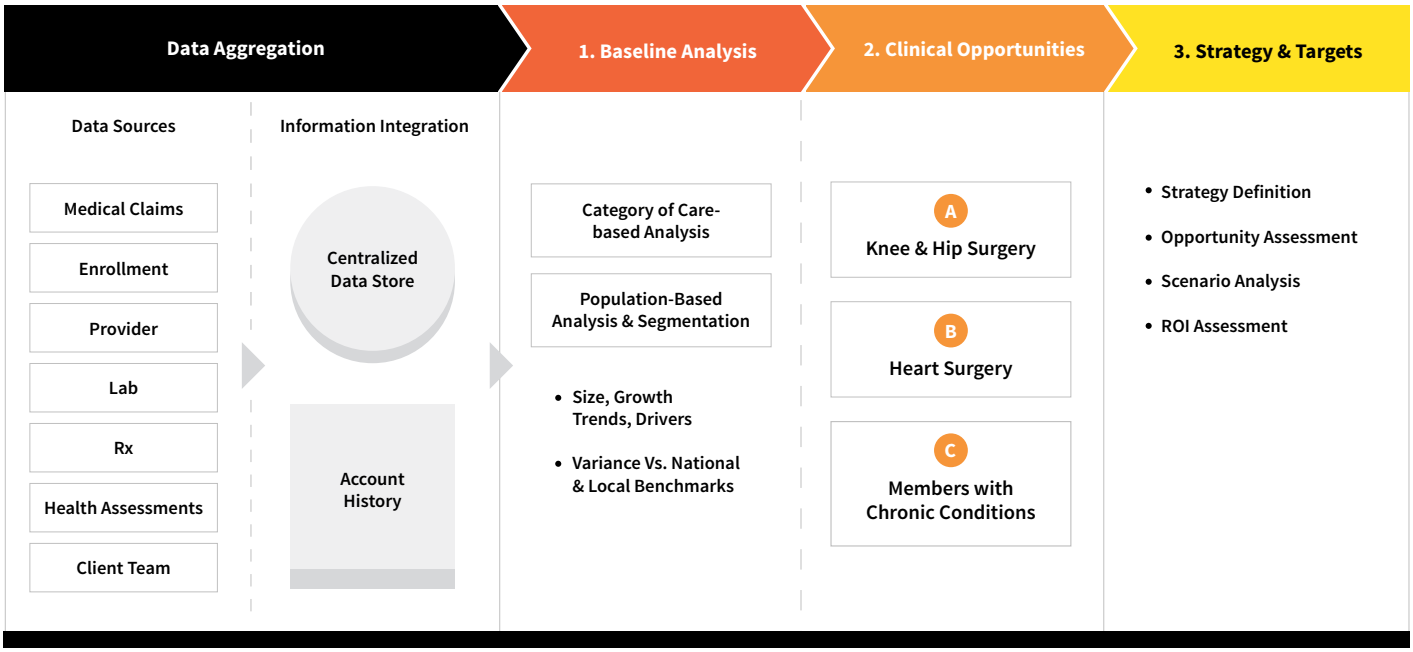

Figure 1 – Moving from data to insights

Baseline Analysis and Clinical Opportunity Assessment

Work began by pulling data together from enrollment, lab, drug, health assessment and other systems and aggregating the information in a single analytics platform. Once in the platform, data could be mined more easily to reveal the drivers of major costs and spotlight significant gaps in care.

At this point, analysts were concerned with two fundamental issues. First, they wanted to break down costs by treatment area and trends in those areas over time. Second, analysts needed to understand how cost and quality measures for a given population segment or treatment compared with national and regional benchmarks. Answering these questions would help pinpoint specific segments and treatment areas where there were the greatest opportunities to drive improvements.

Analysts began with data on general categories of care such as routine, catastrophic and chronic. The analysis showed that more than half of all expenses were going to orthopedic surgery, heart surgery and the treatment of common chronic conditions such as diabetes and kidney failure. Equally important, the plan found high growth in costs and variance across regions — with many areas exceeding the national and local averages.

The next analysis segmented members into groups that could be targeted with different clinical approaches and communication strategies. The analysts categorized members along a risk continuum from healthy to priority/end of life. Between the two points, there were those with a) multiple chronic conditions, b) a single condition or c) known risk factors for developing chronic conditions. This approach revealed that the 4 percent of members in the priority/end-of-life segment accounted for 20 percent of the group's medical expenditures. The next 25 percent — those who had more than one chronic condition — accounted for a further 60 percent of the costs. Again, costs were growing and varied greatly across regions, often exceeding national and local benchmarks.

The findings from these analyses convinced the plan executives to conduct a deep dive into opportunities and strategies to drive improvements in knee, hip and heart surgeries and in the treatment of chronic conditions.

Strategies — Knee, Hip and Heart Surgery

Benchmarking the costs and outcomes of knee, hip and heart surgeries revealed a sizable gap between the plan's costs and national averages. In theory, plan leaders could bend the cost trend significantly by closing the gap. Further analysis showed that, in most regions, an increase in the number of procedures was driving the rise in expenditures versus an increase in the cost to perform each procedure. In addition, an assessment of provider performance demonstrated that the higher costs did not correlate with better results — an all-too-common finding in dozens of similar studies conducted during the past few decades.

Understanding these trends led the plan leaders to focus on potential changes to the provider network strategy. Using models to quantify the impact of various strategies, the plan estimated it could, in theory, save as much as $2.6 million annually by shifting plan members to providers with the best outcomes and costs in the targeted surgical areas. The plan's management also could contain costs by switching from fee-for-service to a single payment for all treatments required for a given surgical episode.

In addition, the models pinpointed opportunities that didn't require significant changes in the provider network or reimbursement. For example, catheterization-related claims for heart surgery patients had cost the plan more than $20 million during the preceding two years. These levels of expenditure raised the question of whether all catheterizations were medically necessary. Analysts used a four-stage filter to identify which were not essential since they were performed in non-emergency situations and without the medically recommended stress test beforehand (see Figure 2). Approximately 15 percent fell into this category. By eliminating these catheterizations, which have their own health risks, the plan could save as much as $3 million annually by requiring, for example, prior authorization or actively engaging and educating providers.

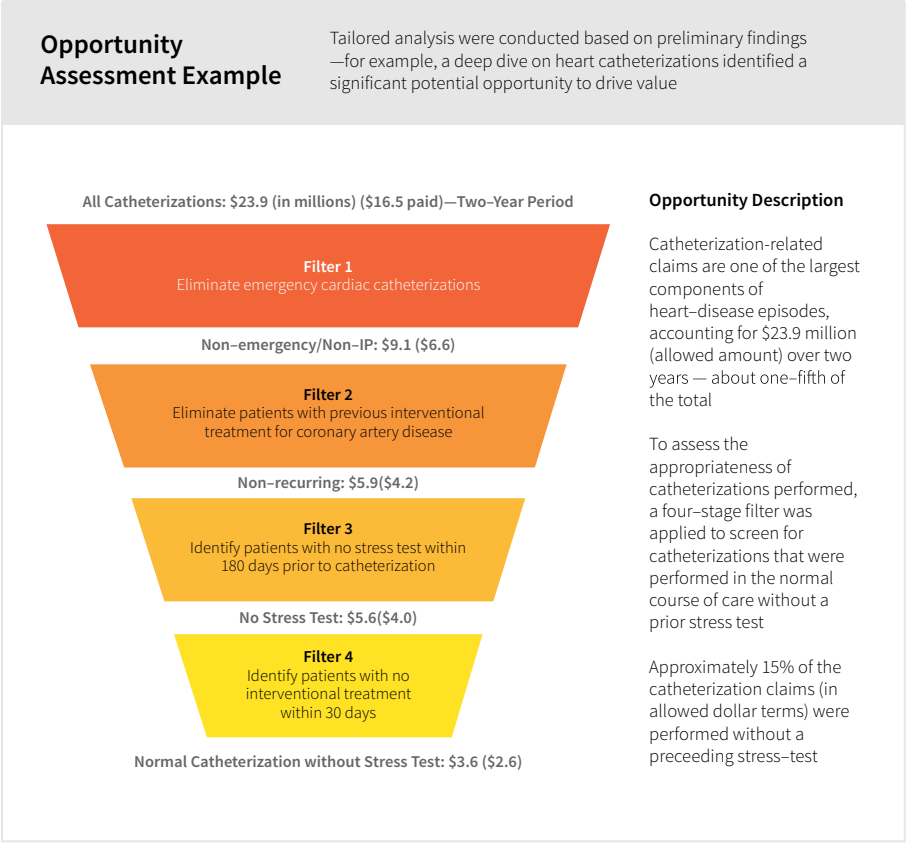

Figure 2 – Analysis of catheterizations

Strategies — Chronic Conditions

The prevalence of chronic conditions in the patient population was declining at the same time that care costs were going up. To understand why, analysts quantified the financial impact of changes in the number of treatments per member with a given condition and the cost for each treatment. Both were increasing, which canceled out any savings that would have come from an improvement in the conditions themselves. Again, the analysis found wide variation in the cost of care across the regions served by the plan.

The analysis put long-term strategic options into better perspective. For instance, with the prevalence of many chronic conditions already declining, how much more value could the plan executives expect to create by adapting long-standing disease management programs? Given the rising expenditures and widespread variations in the cost of care, would the plan be better off focusing on new ways to identify and reward physicians who delivered higher value while encouraging others to adopt best practices for managing chronic conditions?

Reducing potentially preventable admissions (PPA) was another possible opportunity. In theory, these admissions should be avoidable given proper medical care at home and in ambulatory settings. In reality, though, PPAs are all too common and typically account for a significant proportion of medical expenses for a given population — as they did in this case.

To understand the benefits of reducing PPAs in terms of reduced costs and improved quality of life, analysts examined some 2,000 PPAs across three chronic conditions: Congestive heart failure, chronic obstructive pulmonary disease and diabetes. The analysis found that the number of members with PPAs was relatively manageable. Focusing on patients who were hospitalized twice for the same condition, moreover, could have a substantial impact on cost.

Figure 3 details the results for congestive heart failure (CHF). Of 587 members who experienced PPAs in the prior two years, only 134 had multiple PPAs. Those 134, however, accounted for approximately 45 percent of volume and cost. To reduce these recurrent PPAs, the plan proposed a care concierge program to work with this subset of high-risk members. Analysts estimated that if this program could reduce repeat PPAs by 50 percent for the recurrent three largest condition categories, the savings could exceed $3 million on an annualized basis.

PAAs per member (Congestive Heart Failure)	PPAs	Unique members
1 PPA	453	453
2 PPAs	160	80
3–5 PPAs	162	47
> 5 PPAs	55	7
Total PPAs	830	587
Recurrent PPA Totals	377	134
% of Total	45%	23%

Figure 3 – Impact of repeat PPAs for congestive heart failure

The Organizational Dimension

The plan's leadership realized it needed an organization-wide PHM analytics capability. To create it, leaders would have to change deeply embedded systems and processes and adapt the organizational structure accordingly.

Plan leaders began by clearly defining the requirements for a mature analytics capability based on three key components. First, it would be necessary to develop the capability to aggregate data from multiple systems into a single source of truth or "enterprise data warehouse." This source would align the organization around a common set of facts while accommodating specific end-user needs and situations. Second, the plan must invest in hiring and developing skilled analysts with the ability to generate data-driven insights in response to specific questions impacting corporate and business unit-level strategic decision making. Finally, leaders would be required to provide a standardized set of templates and reporting processes to help clinical and administrative staff identify issues and optimize the plan's performance on a day-to-day basis.

To drive its analytics capability, the plan created a new executive position. The individual leads a small team that is developing a shared-service analytics capability to disseminate clinical and administrative data and insights across the organization. In the short term, this team is integrating data from across the organization and seeking to replicate the successes of this project with other patient populations. Over the longer term, the executive and other plan leaders will increasingly look to this team to help inform strategic decisions such as the appropriate balance between maintaining a broad network of providers and actively channeling members to providers that offer the greatest value.

A Look Ahead

When speaking with executives across all healthcare sectors, we hear a single unifying theme of uncertainty: uncertainty about how quickly local markets will transition to risk-based provider contracts; uncertainty about which business models are sustainable and for how long; and uncertainty about whether organizations should shape market trends or react to them as "fast followers." But with more than 250 organizations now experimenting with contracts that reward advanced PHM, there is little debate about the future importance of healthcare analytics. Many large national payers have made big bets, forcing regional plans to follow suit in order to remain competitive. Meanwhile, large self-insured employers and providers that already are taking on risks recognize the potential of Big Data to help manage population health in the future.

In short, there is growing consensus that the healthcare industry is in the early days of an information revolution. That revolution has the power to radically disrupt the status quo and shift advantage to companies that can rapidly harness information for competitive advantage. The question, then, is not whether healthcare organizations should respond to this trend — but how they are going to do so. ■

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