HOW ANALYTICS TRANSFORM A HEALTH HOME MODEL

Contra Costa Develops a Predictive Model for Their High Utilizer Population

On any given day, staff at the Contra Costa Emergency Department (ED) can expect to see some familiar faces. These individuals, some of Contra Costa's most vulnerable patients, come to the ED with numerous physical, mental and social service needs, the roots of which are complex and often driven by chronic illness. These patients return to the ED again and again, becoming high utilizers of a care setting that is not designed to address long-term, deeply complex health issues. What's more, these repeated visits account for a disproportionately high share of health care costs.

Contra Costa Health System SNAP Team

To divert high utilizers away from the ED and toward care that promotes their long-term health, Contra Costa Health System (CCHS) designed an ambulatory care model, Care Connect, with coordinated case management services at its center. Meeting these high utilizers' needs means coordinating a range of services, from primary, specialty and mental health care to substance use, physical rehabilitation and palliative care services to legal, transportation, food and housing supports. By working across multiple disciplines, this ambulatory care model can channel high-utilizers toward a daily outpatient clinic and a primary care physician equipped to address their needs.

To provide this type of enhanced care coordination, primary care teams need centralized access to data that are often fragmented across the health system, from electronic health records (EHRs) to emergency medical service (EMS) records. CCHS joined the Safety Net Analytics Program (SNAP) to learn how to bring these data threads together and elevate its data analytics capability to one that could predictively model the behaviors of high-risk, high utilizing patients.

SNAP OVERVIEW

SNAP (Safety Net Analytics Program) launched in November 2014 to increase the data analytics capabilities of healthcare safety net organizations to strengthen and improve patient care. The 14-month, cohort-based pilot provided a comprehensive set of supports to 20 organizations including learning sessions (webinars and in-person day-long conferences), individualized coaching, homework and planning tools, networking and financial support. Lessons and resources from SNAP are available at www.datadrivenculture.org.

USING DATA ANALYTICS TO COORDINATE CARE

In order to prototype the care team's analytics needs and demands, CCHS first identified an initial cohort of high utilizers to participate in the care model. The team started by compiling relevant data they were already gathering—such as tracking ED visits and hospitalizations—looking at different patient segments and using that information to identify diagnostic clusters of high utilizers. At the same time, as guided by an analytics project coach, they zeroed in on the areas where they needed to build more qualitative data management capability to keep the wheels on the ambulatory care model moving forward. This included nurturing a data-driven culture (i.e., building trust in data and making decisions with it) encouraging data stewardship (i.e., formal and informal accountability for data accuracy, completeness and integrity) and increasing staff's data literacy and ability to use self-service analytic reports and dashboards. Each quarter, the team checked in with their analytics project coach to report on progress, discuss challenges and identify action items in each of these areas. The team found discipline and structure in the accountability that their coach and tools generated. With these supports, they stayed on task via benchmarks by which they identified and addressed barriers to their progress.

A significant turning point in their management of data occurred when CCHS transformed its data governance council from one that functioned as a retrospective report-out or status checking meeting into a more proactive forum for strategizing how the organization could best collect and use data. This was a sharp turn from how the council previously functioned, which largely consisted of updates on disconnected data efforts. The data governance council meetings became a place for staff to pitch data requests (e.g., to show how the request for data aligned with the organization's strategic goals and how the benefits of collecting the data would outweigh the costs) so that the efforts and requests could be prioritized. This shift cultivated greater transparency and buy-in for how the organization used its resources related to healthcare analytics, brought more cohesion to the types of data being collected, and helped to promote more strategic use of data throughout the organization.

"Our leadership team put a strong emphasis on the importance of data driving our large projects and investments, and they provided resources for development. Having this type of leadership culture has been key to our success."

– Contra Costa Health System
SNAP team member

These efforts to improve CCHS's data-driven culture contributed to the growing infrastructure for Care Connect. Better data sharing between the ED and clinics followed. For example, once Care Connect began to enroll patients that matched their target population, the team created an alert within the EHR system that would signal if any of these patients visited a nearby acute-care facility. Integrating this kind of data sharing throughout different parts of the CCHS was a mammoth task. Whether linking data from across care services to more adequately address patients' multifaceted needs, or identifying patients that were not well-suited for the ambulatory care model, the team's work did not come without challenges. As one team member said, "to try to do a health information exchange takes a lot more work than just operating within our own little IT bubble at hospital heath centers." The CCHS team used the experience and knowledge from the other SNAP grantees to exchange ideas and troubleshoot these common problems during and in-between the webinars and in-person convenings. Challenges aside, CCHS's readiness for improvement, their clear vision of their data needs, and having the right people at the table strongly contributed towards actualizing the ambulatory care model.

At the end of their SNAP experience, CCHS rated strong improvements in several of its data analytics capabilities, particularly practicing a data-driven culture, utilizing cross-functional teams to tackle analytics efforts, better alignment of data efforts/initiatives, and more focused performance management. They also greatly expanded access to data for various teams through the creation of several dashboards that present primary care data in user-friendly, self-service ways for staff.

KEY TAKEAWAYS

- **Start small** when making big changes. The CCHS team began with data they were already gathering to identify how to use it better and then gradually built upon it. Far too often, organizations start with large ambitions, become demoralized when positive results take too long, and ultimately discontinue their work.

- To increase the likelihood of reaching goals, **plan for the desired change and establish benchmarks** to assess progress. Although extensive upfront planning may not initially seem like the best use of time, it helps those involved anticipate challenges and stay on course even with competing priorities.

- A **leadership culture must emphasize the importance of data driving large projects**, investments, resources and development. It is very difficult (perhaps impossible) to implement large-scale process and culture changes in an organization without a leadership team that supports the work and visibly endorses it. Transformational initiatives, such as developing a health home model for high utilizer patients, must leverage data and analytics to support the care team and empower them with the **information needed to manage complex care**.