CASE STUDY

Using Data for Quality Improvement: A Case Study from St. Joseph's Hospital Health System

EXECUTIVE SUMMARY

This case study describes how St. Joseph's Hospital Health System (St. Joseph's), a bridge organization participating in the Accountable Health Communities Model, uses screening data to monitor performance and drive quality improvement efforts. The study (1) lays out St. Joseph's process for developing data monitoring reports; (2) explains how the project management team shares the reports with staff to review performance, identify areas for improvement, and foster shared accountability; (3) showcases examples of how St. Joseph's uses the reports to guide quality improvement efforts; and (4) offers several tips for those who are looking to pursue data-driven quality improvement. The case study concludes with a discussion of future considerations for St. Joseph's as it seeks to use a similar data-based approach to monitor and improve navigation activities.

BACKGROUND ON THE ACCOUNTABLE HEALTH COMMUNITIES MODEL

The Accountable Health Communities (AHC) Model addresses a critical gap between clinical care and community services in the current health care delivery system by testing whether systematically identifying and addressing the health-related social needs of Medicare and Medicaid beneficiaries' through screening, referral, and community navigation services will impact health care costs and reduce utilization. With support from the AHC Model, bridge organizations are implementing approaches to link beneficiaries with community services to address health-related social needs stemming from housing instability, food insecurity, utility needs, interpersonal violence, and transportation needs. For more information about the design of the AHC Model, visit the website at https://innovation.cms.gov/initiatives/ahcm.

BACKGROUND ON ST. JOSEPH'S

St. Joseph's is a nonprofit health care system in Syracuse, New York, and a member of Trinity Health, a Catholic national health care system with headquarters in Michigan. St. Joseph's began implementing the AHC Model in 2018. St. Joseph's serves as the "hub" for 19 clinical delivery sites that participate in the AHC Model, which are sites where screening for health-related social needs takes place and include primary care practices, urgent care centers, a labor and delivery unit, an inpatient psychiatry ward, and an emergency department.

A project manager and clinical liaison manage St. Joseph's implementation of the AHC Model. The project manager leads the implementation of the AHC Model and is responsible for monitoring screening and navigation data. The clinical liaison supports the project manager by supervising the day-to-day activities that take place at the sites and working with local leaders at the sites to implement quality improvement efforts. The staff who offer screening for the AHC Model at St. Joseph's include existing registration staff (that is, front desk staff), new staff funded by and hired specifically for the implementation of the AHC Model, or a combination of the two.

THE PATH TO DEVELOPING AND SHARING DATA MONITORING REPORTS

This section describes St. Joseph's data monitoring reports, including the reports' content, the process for developing them, and the strategy for sharing and reviewing them with program leaders. Although St. Joseph's approach may not work for all organizations, it offers an effective blueprint that others may wish to adopt or build on to bolster their own monitoring and improvement activities for screening health-related social needs.

Why develop data monitoring reports?

When St. Joseph's began implementation of the AHC Model, many sites struggled to effectively engage existing registration staff in taking on additional screening responsibilities for the AHC Model, and consequently, many sites found it difficult to meet screening targets. To help program leaders at various levels identify screening-related performance challenges, the project manager began developing and disseminating data monitoring reports. Both the project management team and local leaders at the sites have used these reports to foster engagement and accountability among staff, which in turn has led to a noticeable increase in the average number of completed screenings.

What do the data monitoring reports include?

St. Joseph's developed two kinds of data monitoring reports that focus on key screening performance indicators.

- **The screening run chart** is a line graph that plots the number of completed screenings over time, allowing the project manager to track screening data longitudinally against a static performance target. These data are useful for assessing program-wide performance trends, including the effects of universal quality improvement efforts (Figure 1).

- **The screening dashboard** shows the number of eligible beneficiaries who (1) entered the site, (2) were offered screening, and (3) completed and returned the screening. The dashboard also calculates the percentage of eligible beneficiaries who accepted screening. The dashboard's stoplight-colored display allows the project management team to quickly assess each site's performance against program-wide benchmarks; green indicates at or above the benchmark, and yellow and red indicate just below or substantially below the benchmark, respectively (Figure 2). Developing dashboards for different time frames (daily, weekly, or monthly) and levels (program, site, or individual screening staff) enables the project management team and site leaders to drill down into and address performance issues. For example, the breakdown by time and level allows leaders to determine whether low screening numbers are the result of one individual's poor performance or poor performance across all screening staff at a particular site.

How are data monitoring reports developed?

Developing data monitoring reports can be daunting. To make the process manageable, the project management team gathers data that are readily available from two sources and imports them into Microsoft Excel to produce standardized reports. The screening run chart relies on data from the AHC Data System.[1] The screening dashboard report relies on data from a log of paper-based screenings that screening staff use to report the screening status of eligible beneficiaries who enter the site each day. This log consists of a template with standardized response options, which ensures that data are entered easily and consistently across staff and sites and supports the real-time availability of data. Most sites email completed logs to the clinical liaison on a daily basis; at a few sites, the clinical liaison collects the log each day.

Figure 1

Average Number of Completed Screenings per Day
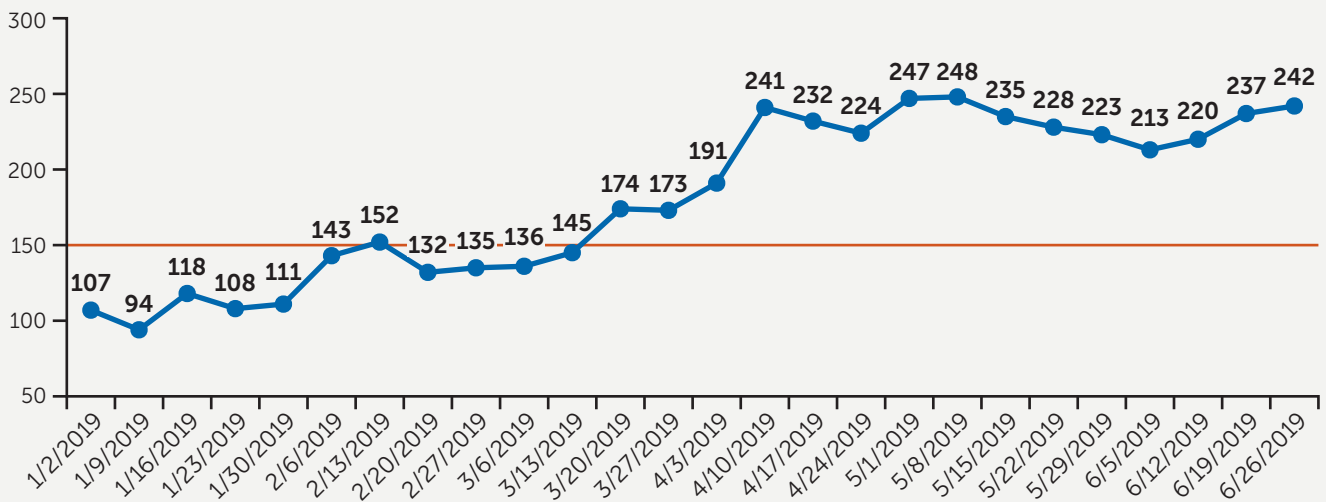
Notes: This mock chart does not show real AHC Model data. The numbers above the trend line indicate the number of screenings completed each day, on average, for each week. The orange line represents the static performance goal for completed screenings per day.

[1] The AHC Data System is a CMS-designed and -maintained data collection system that standardizes data collection for the evaluation of the model

Figure 2

Screening Dashboard

Date: 6/1/2019	Number of Eligible Beneficiaries to Enter Site	Number of Offers to Screen	Percent of Beneficiaries to Receive Offer to Screen	Completed & Returned Screenings	Percent of Beneficiaries to Accept Screening *Goal: 30%*
Site A	27	27	100%	2	6%
Site B	23	17	76%	2	9%
Site C	62	24	38%	7	29%
Site D	37	21	56%	13	64%
Site E	5	4	75%	2	50%
Site F	35	17	49%	10	57%
Site G	17	11	69%	4	35%
Site H	30	18	58%	7	38%
Site I	37	3	9%	3	76%
Site J	16	7	41%	6	85%
Grand Total	**289**	**149**	**52%**	**56**	**40%**

Notes: This mock figure does not show real AHC Model data. The stoplight colors represent progress towards site-specific screening benchmarks. Green indicates at or above the benchmark, yellow indicates just below the benchmark, and red indicates substantially below the benchmark.

How and with whom are data monitoring reports shared?

The value of the data monitoring reports lies in making them available to program leaders so they are aware of performance issues and are able to address them. The project manager, with support from the clinical liaison, shares the screening dashboards and run chart via email with (1) supervisors, who oversee screening staff at the sites, and (2) the project director, who oversees the entire program. The clinical liaison also reviews the dashboards with individual supervisors during regular visits to sites. During these reviews, the clinical liaison discusses performance at both the staff and site levels in order to understand factors that may account for differences in performance. Although the clinical liaison does not typically share data with frontline screening staff, she encourages supervisors to do so, noting that making staff aware of their performance often motivates them to improve.

USING DATA TO IDENTIFY PERFORMANCE ISSUES AND DRIVE QUALITY IMPROVEMENT

This section describes St. Joseph's approach to monitoring screening performance and provides examples of data-driven quality improvements—highlighting a few of the many ways in which organizations can dive deeper into program data to support monitoring and improvement activities.

What is the approach to quality improvement?

St. Joseph's takes the following steps to monitor screening performance and implement improvements: (1) the project management team reviews data to identify performance issues; (2) the clinical liaison investigates the underlying causes of performance issues through visits to sites, observations of workflows, and discussions with staff; (3) the clinical liaison and the site supervisors work together to create and test solutions to address performance issues at sites; and (4) the project management team reviews data to assess the effectiveness of the tested solutions and to continually identify areas for further improvement in a positive feedback loop.

How can data be used to guide quality improvement?

The following examples demonstrate how St. Joseph's uses data to guide and improve screening, showcasing just some of the many ways in which data reporting and sharing supports quality improvement.

- **Using data to inform and optimize staffing.** To determine the best way to allocate new screening staff, the project manager reviewed the screening dashboard data for all screening sites, including (1) the number of eligible beneficiaries who enter each site, and (2) the percentage of all eligible beneficiaries who accept screening at each site. He also reviewed the percentage of screened beneficiaries that were eligible to receive navigation services at each site. These data helped the project manager to identify sites that serve many high-risk beneficiaries but have lower screening success and thus could benefit from additional staff. Ongoing data monitoring has confirmed that adding staff to these sites has improved screening numbers.

- **Using data to identify and address reasons for missed offers to screen.** Through weekly reviews of the screening dashboard data broken down by individual screener, the project manager and clinical liaison discovered that a screener at one site was consistently failing to offer screenings to eligible beneficiaries.

The clinical liaison visited the site, talked to staff, and observed screening to investigate the issue. The clinical liaison found that nurses and physicians were resistant to screening beneficiaries, which intimidated the screener and undermined her efforts to offer screening. To address this issue, the project manager and clinical liaison not only started to attend meetings with physicians and nurses at the site to educate them about the benefits of screening, but they also identified a physician champion at the site to motivate clinical staff to see the value of screening while they continue to monitor screening at this site.

- **Using data to identify and spread effective strategies.** Through reviews of the screening dashboard data across all sites and the program-wide screening run chart, the clinical liaison identified sites with low and high percentages of eligible beneficiaries who accepted screening. Next, she visited the sites to compare screening processes and identified effective strategies among high-performing sites that could be adopted at the low-performing sites. For example, effective strategies at one of the highest-performing sites included: (1) screening staff use a script that explains to beneficiaries why the screening is offered, (2) screening staff give beneficiaries the screening form on a clipboard so that they can complete it in the waiting room, and (3) clinical staff help ensure that beneficiaries return completed screenings to the registration desk. These strategies were not in place at the low-performing sites, so the clinical liaison trained the staff at these sites and guided them in adopting them. The project management team continues to review data to assess the effectiveness of adopting these strategies.

TIPS FOR USING DATA TO DRIVE IMPROVEMENTS

St. Joseph's project management team shared strategies that may be useful to others who are seeking to develop a data-driven quality improvement process.

- **Focus on a few simple metrics.** St. Joseph's focuses on two measures of quality: the percentage of eligible beneficiaries offered screenings and the percentage who completed screenings. From these two simple measures, St. Joseph's has been able to monitor performance on screening and identify numerous opportunities for improvement.

- **Make data collection easy and straightforward.** St. Joseph's uses a log of paper-based screening to collect the same data

in the same way from each site. This simple but thorough log ensures consistency while minimizing staff burden.

- **Take advantage of low-tech analysis tools.** Although business intelligence tools offer extensive analytic capabilities, lower-tech options, such as Microsoft Excel, are cost-efficient and effective for running a wide range of analyses

- **Use data comparisons strategically.** Initially, St. Joseph's shared data that compared sites to each other, which fostered healthy competition. Now, data monitoring reports compare site-level data against a universal benchmark, which pushes sites to strive for the best possible screening numbers, regardless of peer performance. Focusing first on improving the sites' relative standing, not on achieving lofty benchmarks, may help to ease them into quality improvement.

- **Couple data sharing with face-to-face interactions.** Although reviewing and sharing data are necessary to identify areas for improvement, talking to frontline staff and observing workflows are critical to understanding the nature of performance issues and to determining how best to address them.

"If you really want to dig into what the issues are, that comes with face-to-face observation of the screening process, which has to happen to understand if things are being done correctly, or if they are not, what needs to change. You cannot really do that from a distance."

—Project Manager

FUTURE CONSIDERATIONS

St. Joseph's has focused on developing data monitoring reports for screening. The project manager recognizes the potential value in developing similar reports to track and improve the implementation of the AHC Model's navigation component. Although St. Joseph's can readily access navigation data, identifying metrics to track performance remains a challenge. The main impediment is the lack of widely accepted benchmarks or guidelines against which to measure the navigators' performance. To overcome this challenge, the project manager is investigating the optimal number of cases per navigator while accounting for the fact that the time navigators spend engaging beneficiaries varies, and it may not correlate with the resolution of beneficiaries' health-related social needs.

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4