Brockton Neighborhood Health Center's new HIE-based workflows reduce readmissions

Brockton Neighborhood Health Center (BNHC) has been providing services to its community for over twenty years. Operating out of a mobile medical van in a church parking lot in the beginning, BNHC was thrilled to move to a new facility in 2007. This move doubled their ability to provide care for patients. BNHC is dedicated to serving low-income, diverse, medically underserved patients in Brockton and the surrounding areas.

Challenge

BNHC recognized a concern in the process of sending referrals and transition of care documents to Brockton Hospital. It was difficult to maintain the continuity of care for their most vulnerable patients, specifically those in need of Section 12A evaluation for the emergency hospitalization and restraint of persons posing risk of serious harm by reason of mental illness. It was a challenge for BNHC to send transition of care documents ahead of the patient's arrival at the hospital, which was necessary to ensure doctors had everything they needed to provide appropriate care. Consequently, the BNHC Mental Health staff had to call the Emergency Department staff at Brockton Hospital to alert them of an incoming patient and to provide the necessary information. However, this method was proven to be inefficient and time consuming.

Solution

In response to the need for improvement, BNHC started a project to implement electronic Health Information Exchange (HIE). The goal of this project was to establish a collaborative healthcare environment in the Brockton community, where BNHC and Brockton Hospital can use HIE to improve communication and coordinate care for behavioral health patients, despite having different Electronic Health Record (EHR) systems.

BNHC and Brockton Hospital created new workflows and communication trees to send protected patient health information electronically using the Mass HIway. BNHC staff now sends a Continuity of Care (CCD) and Referral document from their NextGen EHR system to a Mass HIway webmail inbox at the Emergency Department at Brockton Hospital. Brockton Hospital can then send messages and Discharge Summaries back to BNHC as needed.

Use of the webmail inbox was necessary because Brockton Hospital's Meditech EHR system did not have the capability to receive the documents sent from BNHC's NextGen EHR system. This setup resolved that the two EHR systems used by the two organizations are not yet interoperable.

Implementation began in June 2017. Staff at BNHC and Brockton Hospital developed communication charts with the names, phone numbers, and email addresses of the essential staff members at each organization. From there, the Mental Health staff at BNHC were trained on

sending CCDs and using the new workflows. BNHC started to utilize the new workflows and ended the process of manually faxing referrals from BNHC to Brockton Hospital.

Staff Input

Staff feedback was generally positive, though many noted that without reminders, they would not always remember to send CCD and Referral documents to the hospital prior to the patient's arrival. However, they also indicated that they expected this need would diminish over time, as staff became more used to the workflows and the process of sending the forms electronically.

Challenges

Despite positive feedback and success, several challenges were identified during implementation and use of the new workflows. These included:

1. Competing Health IT priorities at the participating organizations
2. Integrating HIE could complicate workflows and overwhelm the clinical staff
3. Limited time and resources
4. Staff turnover

These risks were taken into consideration during implementation and roll-out, and were mitigated in a variety of ways to ensure success. Bearing in mind the competing HIT priorities, BNHC continuously emphasized the importance of HIE when exchanging patient information. HIE leads to timelier and more efficient communication. This aspect is increasingly important in an Accountable Care Organization (ACO) structure, and may assist in keeping HIE as a higher priority among the trading partner organizations.

Additionally, keeping direct care staff actively involved in troubleshooting and soliciting their feedback during training helped to integrate the HIE workflows into the existing processes. Adjustments were made as needed using the comments and suggestions gathered.

Taking into account the time and resource limitations, BNHC maintained regular meeting times for staff and any external partners. The intention of these meetings was to identify opportunities to continue improving HIE between organizations and discuss possible funding for additional relevant projects to work on in the future.

To address potential staff turnover, BNHC will add EMR/CCD training to their standard onboarding procedure and IT new hire training. They will document the steps of sending the CCDs and Referrals electronically, and make the documentation available to all staff. This will make the process sustainable, allowing for continued success for years to come.

Recommendations

Staff provided several recommendations for BNHC to consider in the future to further improve and update the workflows. These included:

1. Have a dedicated supervisor to oversee the project
2. Include any trading partners or stakeholders in the design of the project
3. Give trading partners adequate time to plan

Those involved in the project noted that it would be difficult to complete such a large endeavor without having someone solely dedicated to ensuring its success. They recommended such a position to be included in the design and implementation of similar projects in the future. They commented on the necessity of having partners and stakeholders involved from the beginning, to build trusting and lasting relationships among organizations to guarantee everyone knows where information should be coming from or going to, and make certain the patients receive the best care possible.

Furthermore, staff noted the extreme importance of having sufficient time to discuss the project to allow for any issues or complications to be identified and be dealt with. The more time given for these discussions, both internally and externally to the organization, the more opportunities and issues may be raised. So having adequate time to work through the concerns is crucial to the success of the project.

Impact

Implementation was successful, and BNHC and Brockton Hospital observed that the new workflows have significantly improved care coordination and readmission rates for their vulnerable patients.

The swift electronic transmission of CCDs and Discharge Summaries via the Mass HIway provides prime examples of the improved standard of care coordination that now occurs for BNHC's most at-risk patients.

For instance, one clinician from BNHC reported that a phone call she received from Brockton Hospital led to an exchange of information that was crucial to the care of her patient. This exchange was the direct result of the new HIE-based workflows, staff training on the workflows, in person meetings between staff at BNHC and Brockton Hospital, and the use of the communication trees.

BNHC had multiple measures to assess the impact and success of this project:

- Send all referral and transitions of care documents before patients arrive at the hospital.
- Reduce time required in the workflow process to send Discharge Summaries from Brockton hospital by 20 minutes (75 minutes to 55 minutes)
- Reduce inpatient readmission rate at Brockton Hospital for patients with a behavioral health diagnosis by two percentage points (11 percent to 9 percent)
- Reduce Emergency Department readmission rate at Brockton Hospital for patients with a behavioral health diagnosis by two percentage points (20.4 percent to 18.4 percent)

Implementation was a success. BNHC now reliably sends all referral and transition of care documents to Brockton Hospital prior to the patients' arrivals.

The time required to send the Discharge Summaries was measured between January–March 2018. The new workflow is longer and more time consuming because it usually requires an accompanying phone call for care coordination. Nevertheless, BNHC and Brockton Hospital

were able to reduce the time for completion from 75 minutes down to 50 minutes, shorter than their intended target of 55 minutes.

Based on the three month measurement period from December 2017 to February 2018, BNHC recorded a 5.3 percent inpatient readmission rate, or a 51.8 percent reduction in the inpatient readmission rate, significantly better than the target. The target for the Emergency Department readmission rates turned out to be too ambitious, but nevertheless was reduced from 20.4 to 19.9 percent, or a 2.5 percent reduction in Emergency Department readmission rates.

Next Steps

The use of the Mass HIway and the new HIE-based workflows, communication tools, patient consent templates, and HIT tools developed during this project will enable BNHC to offer improved care coordination, increase the number of patients served, and improve health and wellness in their community for years to come.

Moving forward, Brockton Hospital is undergoing an upgrade to its EHR system. In the future, it will be able to receive CCDs directly into its new system. This will further enhance the speed and quality of the care coordination process.

To read the full case study, click here.

To learn more about Brockton Neighborhood Health Center, visit
http://www.bnhc.org/main.html