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Behavioral Electronic Health Record (BEHR)

Category: Cross-Boundary Collaboration & Partnerships

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Executive Summary

In 2018, a project to transition from paper charts at the Colorado Mental Health Institutes at Pueblo and Fort Logan to a Behavioral Electronic Health Record (BEHR) was completed. The Institutes were the first state psychiatric hospitals in the nation to go live with the selected solution. This monumental project was a joint effort between the Department of Human Services (CDHS), the Governor's Office of Information Technology (OIT), and a vendor, and helped build a healthier future for Coloradans.

BEHR is a digital version of a patient's paper chart. It is real-time, patient-centered records that make information available instantly and securely to authorized users. While BEHR contains medical and treatment histories of patients, it is also capable of being shared with other providers across more than one health care organization.

BEHR was built to share information with other health care providers and organizations - in our case, the Colorado Mental Health Institutes in Fort Logan and Pueblo - as well as laboratories, specialists, medical imaging facilities, and pharmacies. In other words, BEHR contains information from all the clinicians involved in a patient's care.

The implementation of BEHR provided:

- Patient's medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, and laboratory and test results.
- Access to evidence-based tools that providers could use to make decisions about a patient's care.

The decision to move to BEHR required a lot of time and effort. Before this implementation project began, it was important to understand the benefits that BEHR would bring to the Colorado Mental Health Institutes. It was also important to set realistic expectations with both the health care staff, nursing informatics managers and the information management staff.

Our chosen vendor, Cerner EHR, provided industry-leading solutions to digitize paper processes, from public health and correctional agencies to long-term care and behavioral health facilities. They provided an evolving EHR that was provider-based, research-based, and policy-based via clinical and financial solutions.

Concept - The Implementation

Move paper-based records to a modern, electronic solution so that health care providers with the state-run mental health institutes have the most up-to-date, accurate, and complete view of a patient's health care.

The implementation team was led by a Sr. Project Manager from the Governor's Office of Information Technology, and included Nursing Informatics Managers and Information Management Analysts from the Department of Human Services and the Colorado Mental Health Institutes, and the vendor, Cerner EHR. The team made sure to include physicians, nurses, medical assistants, compliance office staff, and administrative staff in the project. Although the software was designated as an EHR, we had to configure the software (BEHR) for use at the Colorado Mental Health Institutes in Fort Logan and Pueblo, Colorado.

Using OIT's CAP PM Project Life Cycle Methodology, the Sr. Project Manager worked closely with the vendor and staff (both clinical and technical) to keep stakeholders focused on their timelines, track project progress, and managed day-to-day issues. One of the first actions was identifying the need for the vendor to configure BEHR to meet appropriate security measures. A HIPAA risk assessment was performed, which resulted in a list of build elements external to BEHR such as importing demographics, treatment regimens/protocols, medication management settings, standing orders, and default patient history settings. Next, we determined the approach for migrating legacy data from former recordkeeping systems to BEHR. We prepared a checklist of items to be entered into BEHR to ensure that no critical information was missed during the transfer.

As a team, we decided on the big bang launch approach. This is when all end-users convert to all of BEHR's functions and all patients on the same day. This had the advantage of minimizing the time spent managing both a paper record and the BEHR system simultaneously.

We initiated an extensive training plan but Clinical members played dual roles by teaching BEHR skills to colleagues and also bringing clinical challenges back to the implementation team. Training staff and physicians was critical to ensuring BEHR implementation success. The Nursing Informatics Managers created a training plan to make sure everyone had the necessary knowledge and skills to use BEHR at the time of launch. One of the first actions performed was assessing basic computer skills of

staff. The Nursing Informatics Managers then conducted additional BEHR mandatory training to help end-users come up to speed on the functionality as well as important timesavings tricks, etc. Super users in each discipline were specifically trained for each type of role in their department. In addition to pre-implementation training, we planned for ongoing learning and improvement. Over time, we provided BEHR updates with new and/or improved functionality, which required additional training.

The project team developed a formal tracking system for submitting and tracking BEHR defects and enhancement recommendations so that change management could actively set improvement priorities. We encouraged end-users who were constantly interacting with the system to actively engage in improving BEHR.

The project team developed downtime procedures so that physicians and staff had clear instructions about workflows should BEHR become unavailable due to a power outage or severe system malfunction. Some key components of those procedures include how the downtime will be communicated to physicians, staff, and patients and how the patient care flow will continue (e.g., check-in and visit documentation). Downtime procedures and supplies were made available electronically and on paper for greater accessibility. All disciplines compiled the procedures in a three-ring binder to be stored near the department.

This project was initially envisioned approximately four years ago but for a variety of reasons, it never got the traction it deserved. This project team recovered the BEHR implementation project in August 2017 and launched it on May 1, 2018. Among our first tasks was gathering as many success factors as possible, including:

- Readiness.
- Executive Leadership to champion the cause.
- Stakeholders who perceived BEHR as useful.
- Teamwork (clinical/health care staff end-users, information management analysts, and nursing informatics managers).
- Understanding that any planning would address both the initial and ongoing effects that BEHR would have on the Colorado Mental Health Institutes.

With the old paper-based system of physical file folders (charts), clinicians could easily have health records spread across several doctor’s offices. If a patient were to move to a new office, files would need to be copied and sent or faxed to their new doctor to give them a full picture of the patient’s health. One can easily see how many potential problems could come up with this: a patient not remembering their

previous office's contact information, lost or partial records, hard-to-read handwriting - the list goes on.

BEHR aimed to digitize patient health records so they are consistent across all health care providers. Providers took notes within the BEHR system so that any providers in the patient's future can access, easily read, and add to them, if necessary. In addition, the BEHR project allowed access to evidence-based tools that providers could use to make decisions about a patient's care.

A comprehensive strategy relies on health care staff and team engagement to create a culture of empathy in the practice that is tangible to patients. In the BEHR project, health-care staff needed to be asked by information technology analysts what challenges they faced daily to identify areas where fixes can be resolved and additional BEHR training could be useful. By sharing information, staff created an environment of continuous quality improvement that kept employees engaged.

Significance to Patient Healthcare Information

Our world has been radically transformed by digital technology and the practice of medicine is an information-rich enterprise. A greater and more seamless flow of patient health information within a digital health-care infrastructure, created by BEHR encompasses and leverages digital progress and transformed the way care is delivered and compensated. With BEHR, information is available whenever and wherever it is needed.

BEHR provides:

- Improved Patient Care
- Increased Patient Participation
- Improved Care Coordination
- Improved Diagnostics and Patient Outcomes
- Practitioner Efficiencies and Cost Savings (practitioners are more efficient when working electronic vs paper records, and are cheaper to maintain)

More complete patient health information available from BEHR enables providers to make well-informed care decisions quickly, helping to improve care and reduce safety risks. The BEHR project eased the transition from paper to electronic health records.

Impact of BEHR on Colorado Health Care

Today, almost 95% of medical providers say that EHR systems have made collecting, storing and fetching of vital records hassle free. EHRs such as BEHR are consistently enabling healthcare providers to deliver better patient care. Patient experience has been boosted by exposing them to features such as e-prescribing. Thus, possible gaps in healthcare delivery domain are fortified. BEHR empowered healthcare providers with information in formats that were not possible with the ordinary paper chart approach. Not only is it possible to access and print charts such as blood pressure, weight, cholesterol levels, and body change with a blink of an eye, it has also become possible to share vital records with other healthcare providers in a discreet and secure manner. Plus, one of the best EHR healthcare benefits is patient satisfaction. When BEHR reduces patient wait time as well as boost communication amidst patients and physicians, patient satisfaction can certainly be achieved. More than 3,500 Colorado Mental Health Institute staff members use BEHR on a daily basis for a more comprehensive patient history than electronic medical records (EMR).