



ELECTRONIC HEALTH RECORDS IN ACTION

The Office of the National Coordinator for Health Information Technology

Stories of Meaningful Use

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Shenandoah Community Health Center Case Study

About the Practice

The Shenandoah Community Health Center (SCHC) is a federally qualified health center that serves about 30,000 patients and averages 129,000 visits per year. It is also a Level 1 NCQA Certified Medical Home and Joint Commission Accredited. SCHC delivers care through internal medicine, family practice, pediatrics, obstetrics, gynecology and midwifery services. They first adopted their electronic health record (EHR) system, NextGen, in 2005. They are currently using NextMD, version 5.5.27, and at the time of this case study they were in the process of upgrading to version 5.6.

SCH staff members interviewed:

Randall Jacobs, Director of Administration

David Fant, MHA – President/CEO

Dawn Jones, MD – Associate Medical Director

Lori Goforth, CNM – EHR Project Manager

David Stuller – Director of IT

Meaningful Use

Objectives Addressed

- *Record patient demographics:* Patient demographic information is entered into their EHR as discrete data during the patient registration process.
- *Quality measurement.* SCHC already calculates a number of quality measures using their EHR for reporting to HRSA for the community health center minimum data set. They also calculate some quality measures for their own internal use. They have not yet finalized the clinical

quality measures (CQMs) they will report for meaningful use (MU), but will likely select a range of CQMs that are similar to the quality measures they are already calculating for those other purposes. *Maintain active medication list:* The EHR records data on what prescriptions have been written for each patient, from the EHR's e-prescribing system, from downloads from SureScripts, and from faxes sent by pharmacies.

- *Incorporate clinical laboratory test results into EHRs as structured data:* SCHC has developed interfaces with external laboratories, including LabCorp, Quest, and their local hospital, so that results of laboratory tests can be entered in the EHR electronically.

EHR Implementation Process

Prior to implementing their EHR, the same patient at SCHC could have up to five separate medical records, one for behavioral health services, one from internal medicine, one from obstetrics/gynecology, and others. SCHC established an EHR development team that looked at options for several years. The team selected the NextGen EHR system because it allowed for central documentation, and can capture practice management and clinical medical record information for the same patient in one place. NextGen also has a lot of different templates that SCHC staff can choose from and customize to their needs. They found that other vendors' EHR systems were too "cut and paste."



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Quality measurement was one of the considerations in selecting NextGen. The main concern was to have the capability to enter clinical data needed for quality measures into discrete data fields, and not into free text notes, so the quality measures could be easily calculated within the EHR. The team looked for systems with check boxes for data entry and ways to enter laboratory results in numeric fields. Check boxes help to speed the data entry process for busy clinicians and staff, so they can just click on check boxes and do not have to type text or numbers into EHR data fields.

Dr. Dawn Jones is the physician champion for the EHR at SCHC. She also chairs the SCHC quality assurance (QA) committee that monitors use of the

EHR and how it can be extended or upgraded. For example, at the time of this case study, the SCHC QA committee was considering ways to use the EHR to generate lists of patient needing reminder calls, and linking those data

in new computers to provide the hardware needed before NextGen would release their upgrade. SCHC has foregone NextGen upgrades in the past because the changes were not different enough, but now the new

A related challenge has been to get doctors and other clinicians to enter data into the discrete data fields and not in free text comments. Only if the data are in the discrete data fields can the quality measures be calculated since they require discrete data analysis. Many doctors and clinicians were more used to writing progress notes, care plans, and other free text entries in paper charts, so at the outset a number of them still did that by typing free text entries into the EHR. A lot of training has been invested by SCHC staff to help those clinicians learn to enter data more consistently in the discrete data fields, and to make the templates easier for them to use so they find the discrete data fields useful to them in their clinical work with patients.

Another challenge is how to ensure that quality measure data are collected in all of the right templates in the EHR system. For example, one question has been where to document data on smoking status. This was in the internal medicine EHR visit templates from the start of the system, but it was not initially in the pediatrics template. So that data element had to be added to the pediatrics template and the pediatrics department providers and staff trained to ensure the data are entered correctly and consistently.

In the beginning, SCHC staff were uncertain of the value the EMR might provide. Now, the majority of users are on board – some have even changed their opinions 180 degrees. Providers are now seeing a range of benefits:

- Instant access to anyone's chart; no more waiting around or lost charts
- Off-site access to the EHR, such as from home when called by needy patients in the evenings Not worrying about possible loss of patient data if charts lose pages or are lost all together
- Continuity of information between SCHC and the hospital
- Ability to obtain information on the number of patients not having flu or pneumococcal vaccines
- Ability to track patients and visits by week for care management follow-up

A range of data collection templates were set up in the EHR for each department (internal medicine, pediatrics, etc.) to tailor to the needs of their patient visits.

with an automated telephone calling system.

Dr. Jones worked with a multidisciplinary team of SCHC staff to implement the EHR at SCHC. The team included Lori Goforth, the Project Manager, David Stuller, the IT Director, nursing staff, and others. When the EHR was first implemented in 2005, training was mandatory for all SCHC staff. The training was job-specific, so staff working in similar jobs were trained together. Training was conducted for about three weeks before the EHR went live. SCHC chose to do its own training, using in-house staff, since they believed that it is important for staff to be trained by someone who is, "speaking their own language."

A range of data collection templates were set up in the EHR for each department (internal medicine, pediatrics, etc.) to tailor to the needs of their patient visits. The quality measure data are entered into the templates by the providers, nurses, or other department staff. In the beginning, each provider had a "scribe" follow in his or her practice to help enter data into the EHR. This was set up as a two-person "bonded team" that had established trust between them, and was made up of one physician and a nurse or medical assistant serving as the scribe. These teams are used less frequently now that the EHR has been used by providers for a number of years, but they were helpful in the beginning of EHR implementation to ensure that data were captured accurately and consistently.

At the time of this case study, SCHC was getting ready to upgrade their NextGen system. They had just recently invested

functionalities provide a better match with the new clinical and management directions that SCHC believes it needs to go. Management is hesitant to upgrade and modify the EHR unless there is a really good reason to do so. As one manager put it, "Providers don't like us messing with them. Even as little as changing the radio buttons in one of their templates from the right side to left side."

Working with the West Virginia REC

The West Virginia REC is the West Virginia Medical Institute (WVMI). Their staff have worked with SCHC to share their over five years of experience with EHR implementation and utilization with other practices around the state.

SCHC is considered by WVMI to be a "superuser" for NextGen EHR systems in particular. WVMI has set up arrangements so that SCHC staff can serve as consultants on NextGen systems for other practices around the state who may be considering adopting an EHR from that vendor.

Challenges

One of the challenges SCHC has had with collecting data for quality measures is to ensure that the data are entered properly or consistently in the EHR. Lori Goforth serves as an EHR trainer for the whole organization, and she sometimes gets involved to help the departments with these training efforts. For example, she may follow a provider in his or her practice to help eliminate bad documentation habits. When providers or nurses are entering essential data, the EHR is set up so that they cannot leave a particular page of the template to finish up their visit until they enter the important information.

or for public health issues with infectious diseases

a patient last had a mammogram – this should be a nurse, not a doctor.

- Well-child visits are better scheduled Rejection rates on insurance claims are lower because documentation is better (bringing in more income to the practice)
- Save money on space (needed to house paper records)
- Reduce risk of lost information (losing charts, damage due to disasters (tornados, floods))

Train lower level staff to do as many MU tasks as possible. It is unrealistic to think that doctors will do them.

As a result, providers are not just looking at the EHR as just one more thing they need to do, they are seeing how it improves the quality of care they can provide and also improves the quality of life for providers by making their jobs easier.

Behavioral health remains a clinical area that has been slow to adopt the EHR. Concerns about the privacy of their patients with mental health and substance abuse conditions delayed the adoption of the EHR by the Behavioral Health Department but at the time of this study the department was in the process of implementing the EHR.

Lessons Learned

- When first implementing an EHR, staff need to first agree on what information that needs to be transferred from the paper charts. Then, start by transferring the paper records to the EMR one week in advance by including problem list, medication list, and the last visit.
 - While not always feasible, physicians should be encouraged to complete all documentation in the EHR during the visit. Meaningful use will require practices to provide patients with a “summary” of the visit prior to their departure from the provider.
 - Nurses should be trained to help physician with health maintenance quality measure reminders (e.g., cardiac patients due for EKG, or any patient due for a flu shot)
 - Load the EHR with each provider’s “favorite phrases”. This will help the doctor by making it easier to fill those in automatically.
 - Train lower level staff to do as many MU tasks as possible. It is unrealistic to think that doctors will do them. Identify which things that providers, nurses, or medical assistants should do. Think about who can check when
- IT needs to be able to write in business rules in the backend of the EHR system to point all the same fields from the different templates into one place. This way each department can have different templates that work for their doctors and other clinical providers. At the same time, on the data capture and reporting end, IT can still easily pull the fields for quality measurement because the same fields in the different templates are all pointing to the same single location in the backend of the system.
 - Once committed to an EHR vendor, a practice needs to commit at least one-third of the original cost of the EHR per year, for hardware and software upgrades
 - To use an EHR effectively for quality measurement and improving population health outcomes can require a practice to invest consistent effort over a number of years for training staff, customizing the templates and reports to the needs of the practice, and refining the system so that it is actively used by staff for quality improvement. It has taken SCHC over 3 years to get its EHR working effectively toward those quality improvement goals
 - Return on investment for EHRs comes from a number of different factors that improve practice efficiency and quality of care:
 - Workflow is better within the practice operations
 - Easier recall and review of patient records
 - Public health improvements (know where to find tuberculosis patients and those who came in contact with the tuberculosis patients)
 - Preventive health is more consistent (flu shots, other health maintenance)

Next Steps

SCHC staff next want to enhance their EHR to be able to recognize physicians’ practice patterns and automatically fill in information based on historical practice patterns. Clinicians dislike “too many clicks.”

They would also like to broaden the range of data captured in the EHR. They have standardized clinical data captured now, but are still working on ways to enhance that information to better help providers improve an expanded range of “whole patient” outcomes. For example, by expanding the efforts for clinicians to use the EHR to share information across the different clinical departments at SCHC when a patient is treated by more than one department.

SCHC staff would also like to utilize the information in their EHR in new ways. For example, by using the information from the EHR to better identify patients needing health education interventions. Another possible application would be to use the EHR to improve peer consultations and collaboration among physicians and other clinical providers; by identifying cases where providers could share success stories on how to better educate and motivate patients.

Taking Action

Consider creating and using templates to allow providers to customize their EHR experience and to ensure that data needed for clinical quality measurement has been entered.

For more information about these and other aspects of Meaningful Use, contact Allen Traylor, MPH, MBA, Office of Provider Adoption Support Office of the National Coordinator for Health Information Technology U.S. Department of Health and Human Services
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