

Implementing EMR in the academic environment

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The electronic medical record (EMR) market continues to grow, predominantly in medical group practices with more than nine physicians.¹ However, smaller groups are also looking at ways to incorporate EMR. Academic medical centers in particular are adopting the technology to create efficiencies across clinical departments, as well as validating quality of care to support research initiatives and improve patient outcomes.

Some of an EMR's most obvious benefits are dramatic reduction of redundant input of patient information, reduction of human error and more readily available patient information. An EMR's automated alerts increase the likelihood of patients receiving care under best-practice guidelines. For example, clinicians can scan the records of patients with chronic illnesses to determine whether they've had nutrition consultation, review of hemoglobin A1C or other

tests related to their diagnoses. The system can flag patient records not meeting these requirements to alert the provider of needed tests and treatment. An EMR can alert pediatric providers to patients' immunization requirements and other pertinent tests for children as they grow.

Additionally, the electronic prescribing abilities of an EMR obviate the need for pharmacists to interpret difficult handwriting, thus dramatically reducing medication errors.

EMR supports clinical research, teaching

The EMR can support an academic practice's research mission. The technology facilitates data collection, matching patients with clinical trial criteria, and assists study correlations that identify and validate best-practice treatment.

EMR also helps in teaching medical residents. Diagnosis-related order sets present categories of orders appropriate for a particular diagnosis. Similarly, progress-

note templates can be configured to offer structured guidance when a physician collects the history of present illness, reviews systems and performs the physical exam. The EMR may even provide suggestions for a plan of action. The encounter configuration can prompt the clinician for diagnosis association with procedural orders, coding and billing information, increasing a resident's familiarity with this aspect of practice.

Plan for adoption, implementation

The planning for an EMR implementation can determine its success or failure. Yet organizations often cut planning short because of urgency to go live with the technology.

The volume of work associated with determining how to go live, which information should go live and which practice areas will use the EMR first is overwhelming. It's essential to have a coordinated, detailed project plan and scope document outlining the deliverables and timeline. The scope document should also

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describe what is beyond the scope of the implementation. Other decisions, such as the amount of customization and staffing, will affect the demands for analysis, system structure and support. Institutions that implement an EMR with too few staff risk employee burnout, reduced efficiency and missed deadlines.

Another hurdle is the transfer of patient records to the new system. It may be too cumbersome to transfer patient demographic, billing and clinical information from legacy electronic systems. A practice may want to transfer only the most rudimentary demographics and/or billing information to a searchable database. Moving all data (especially clinical) requires nearly 100 percent validation by human review after the transfer.

Going live with an EMR can quickly become chaotic. Employees will not accept the technology if they must input significant data for every patient record. Schedules back up, frustrating patients and staff. Practice leaders must decide weeks before EMR implementation which patient information to include in the new system. Clinicians usually agree that including allergies, current medications, problem lists and significant lab work or diagnostic study reports in the patient records greatly improves the transition. Clinicians would validate this information at the first patient visit after EMR implementation.

Recruit physician champion, “super-users”

Because physician and staff acceptance of the new system is critical to EMR success, be sure to involve a credible lead physician, as well as “super-users” responsible for the flow of patient care. These people serve as positive influences on other providers considering EMR for their practice areas. Develop super-users for all staff levels. Careful analysis of patient work

flow and information work flow will facilitate EMR adoption, as will capturing data to support the organization’s research activities.

Most resistance to technology adoption arises from the fear of change. Heavy emphasis on communication and training are sine qua non for a successful EMR implementation.

Easing implementation, increasing staff buy-in

To facilitate the implementation process and increase staff buy-in of the new system:

Train staff to input patient data manually on the EMR — Instruct physicians and staff on the new system months before it goes live. At least one month before implementation, employees can enter patient data into the EMR. Give priority to patients with appointments after the go-live date. Entered information should include problem lists, current medications and allergies. This step reduces the data entry task, familiarizes staff with the new system and reduces the amount of new information users have to assimilate when the system is up and running.

Abstract data from existing systems and perform quality assurance — Abstract the legacy data and check their validity. A 100 percent validity check is required for clinical data on which treatment decisions will be made. Some facilities require their physicians to abstract information into a certain number of patient records before going live with an EMR, primarily for training purposes. Although this is excellent practice, physicians don’t have the time to input the bulk of patient data — it’s more effective to redeploy staff for this function.

Each clinic should identify the types of information necessary for it to operate with an EMR.

Scan data such as progress notes — Create

tools for scanning to decrease errors and confusion on where to store information. Consider relevance and accessibility to the clinical user when deciding where to store clinical data. Standardize the location for each type of data so that users do not have to search multiple locations. Make a table of the type of information that will be scanned and identify where it’s stored. This will reduce input time and confusion. All manual data input requires a quality assurance step for validation.

Use temporary employees — Consider hiring temporary staff to help with data entry and scanning. Using the same trained temporary employees in each clinic adopting EMR will decrease training costs and increase efficiency. Some consulting agencies do this — moving contract workers from one organizational implementation to another.

Communicate, communicate and communicate — Make general announcements to everyone in the organization. Explain what an EMR is, how it works and how it will enhance employees’ work life. Two-way communication is essential. Tell everyone — physicians, midlevel practitioners and administrative staff — about the EMR, teach them with demos and listen to their concerns.

Provide professional staff with return-on-investment data from similar organizations, if available. Involve the provider staff in decisions about building the EMR. Reassure employees that they will have support when they system goes live. Helping people envision life with the new system assists the change process.

1. Burt C, Sisk J. Which physicians and practices are using electronic medical records? *Health Aff* 2005;24(5):1334-1343.