Implementing Electronic Medical Records During Residency

Christian R. Halvorson, MD

In the coming months, the Department of Dermatology at the University of Maryland will be switching from our existing paper medical record to an electronic medical record (EMR). Our date to "go live" is January 2013 and we are in the midst of training and preparing our department for this important milestone. Although an EMR offers the potential for improving health care quality, efficiency, and patient safety, its use is debated and its implementation is highly complex with the potential for hidden expenses. Regardless of your thoughts on this issue, EMR use in dermatology is expanding as physicians at academic medical centers and private practices rush to take advantage of available government incentives and avoid financial penalties that are scheduled to take effect in 2015 for Medicare and Medicaid providers who fail to make the switch. Accordingly, for my final column I wanted to share my experience with this transition, discuss the pros and cons of an EMR from a resident's perspective, and describe some challenges encountered throughout the process.

Preparing for an EMR

Planning the switch from our paper medical record to an EMR began months ago. This process has involved meetings nearly every week to gradually introduce the system to the department; to regularly exchange ideas with those responsible for building the program to our needs; to create preferred medication lists, as well as patch testing, phototherapy, and patient encounter templates; and to train all staff members. Our clinic space has undergone renovations to install new computers in each examination room and other convenient locations, and our clinic schedules have been adjusted for the first few weeks of using the new system to account for anticipated delays. In all, it has proven to be an extended yet well-constructed implementation process that hopefully will result in a smooth transition and few surprises when the system is formally introduced.

One key topic that is repeatedly emphasized during our preparations is how the EMR will alter our flow of work. Currently, there is a highly structured system in place for triaging, evaluating, and discharging patients that revolves around an organized (more or less) paper medical record. When the EMR is implemented, this streamlined process naturally will change. Most notably, the dynamic of our encounters with patients will be altered, and we will all have to learn how to be efficient in reviewing and documenting in the EMR without compromising our patient interaction. Similarly, we will have to reexamine and redefine other clinical habits and routines to maintain efficiency in this dramatically new system. These alterations will be some of the more profound changes to result from the use of the EMR, will present challenges for our clinical practice, and will perhaps be the most difficult to anticipate.

Advantages of an EMR From a Resident Perspective

The potential pros of a well-implemented EMR are broad. Here, I want to focus on the advantages of an EMR from the resident perspective and how this system may improve our day-to-day lives in clinic. At the University of Maryland, our EMR will be integrated with other primary care and specialty clinics on campus. Accordingly, when new patients

From the Department of Dermatology, University of Maryland School of Medicine, Baltimore.
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present who have previously been seen at a different connected clinic, their medical, family, and social histories, as well as their medications and allergies, will have already been entered into the system, simply requiring confirmation during our evaluation. This capability will save time when seeing patients with complex histories or when interviewing patients whose understanding of their medical conditions is less than ideal. Similarly, outside laboratory test results, cultures, imaging, and notes from other physicians can be easily obtained and reviewed, ultimately improving the accuracy of our assessments, the appropriateness of our care, and our communication with other providers.

Our EMR also offers time-saving tools such as the ability to create templates for notes on common conditions and procedures (eg, isotretinoin follow-up note), conceivably improving documentation speed and consistency.[1] Additionally, by using electronic prescribing, providers can quickly prescribe new medications or refill old ones and create a "favorites" or "commonly used" list for quick retrieval, which saves us all from writing "apply a pea-sized amount to face QHS" a dozen times daily. It also is possible to create customized laboratory panels for various clinical scenarios, such as medication monitoring (eg, dapsone monitoring panel), which improves adherence to monitoring guidelines for high-alert medications.[2]

After the patient encounter, our EMR has the advantage of streamlining prescription refill requests and immediately alerting physicians when laboratory and pathology results are available using an in-box–like format. This system eliminates the inherent delay of the paper-based system that requires pulling medical records for every after-visit communication and should speed up the turnaround time for reporting results. An EMR also offers the ability to access the patient's medical record from home, which is an important tool when answering telephone calls after hours. Ultimately and perhaps most importantly for residents, the skills learned in using an EMR should serve us well beyond training, as we will certainly continue to encounter EMRs in the future.

EMR Challenges and Resistance to Change

Unfortunately, the switch to an EMR comes with a steep learning curve, which has been found by some researchers to result in a 10% to 20% reduction in productivity during the first months of use.[3] Even when a physician is familiar with the system, one study has shown that more time is needed when seeing a new dermatology patient when using EMR (19.15 minutes) compared to paper-based medical records (15.70 minutes).[4] In the same study, the time required for follow-up visits using an EMR was found to be slightly less compared to paper medical records (9.7 vs 10.3 minutes); however, this finding was not statistically significant.[4]

Another potential con of an EMR is the natural tendency to explore the patient's computerized chart and begin entering data while interacting with the patient, which may make patients feel less engaged. Although surveys taken before and after EMR implementation have shown no perceived change in the interaction with patients, it is important for residents to be cognizant of this possibility, especially when typing with your back to the patient.[5-7]

Dermatology naturally is a visual field and much of our documentation relies on accurate descriptions of the morphology and exact location of rashes or abnormal lesions. In paper-based medical records, this documentation can be easily completed with annotation over anatomic templates that allow for ease in locating the areas of interest at future appointments. Depending on the functionality of the EMR, drawing features often are insufficient or challenging to use and require more time being spent using wordy anatomic descriptions that make localizing areas of interest more cumbersome. Currently, medical photography plays an important role in our documentation of skin lesions. Unfortunately, the EMR utilized by our academic medical center does not have the capacity for image incorporation into the patient's record, presenting a hardship for dermatology and a number of other specialties that use this modality as a key component of their documentation process. Our contingency plan will involve the use of a "shadow" chart, comprised of a paper chart in which images, consents, and hard copies of correspondence from referring physicians will be aggregated and used with our EMR.

Another challenge of switching to an EMR is the anxiety it provokes and resistance it conjures. There is a comfort associated with a paper-based medical record and a natural reluctance to switch to a new system due to the need for considerable training, the temporary loss of efficiency, and perhaps most importantly the loss of the physician's time during the transition. This feeling certainly has affected all members of the department at some point but has been particularly apparent in our more senior-level faculty members who have been practicing within the current paper-based model for many years (more than 50 years in one case). This reluctance is understandable and likely stems from less familiarity with computers compared to younger staff members, uncertainty of whether a new system can be learned, and questions of whether the same level of productivity can be maintained. One way that our EMR staff is helping to ease such concerns is by adding temporary

support staff around clinic during the initial introduction of the system, limiting our schedules early on, and customizing the system as much as possible according to our needs. Even still, anxiety around our clinic remains palpable, and I expect these concerns will remain until familiarity with the system is gained. The consensus of our department is that resident physicians will lead the way in the successful implementation of the EMR, which will be especially important when working with senior and volunteer faculty, some who may be challenged by this transition.

Conclusion

Because this switch to an EMR is occurring nationwide, residents should become accustomed to the constant presence of a computer during the patient evaluation and discover new clinical habits to provide the best patient care in this setting. Regardless of the challenges, I am hopeful that the inadequacies of the EMR and growing pains associated with the switch will ultimately improve the quality and efficiency of patient care and will make it easier for us to adapt to other computerized systems when our training is complete.

Have any other residents been involved in the switch to an EMR? Do you have tips to share for a successful transition? Send your comments to the editorial office (msteiger@frontlinemedcom.com).

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