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The electronic medical record: Learning to swim

While Dr. J. Timothy Hanlon raises compelling issues about electronic medical records (EMRs),[1] I think that his go-slow approach can lead to lost opportunities. The push toward implementing EMR systems does not amount to a dangerous dive into a shallow pool. Rather, we should be optimistic that we are just learning to swim.

For a contrasting view, see page 408

Addressing these concerns during these early years of the EMR is constructive and necessary. But his commentary may leave physicians wondering what to do. Should the EMR be scrapped until it is fully developed outside the clinical realm? Is that goal even attainable? Are physicians who use EMR systems putting patient care and information security at risk? I believe there is a more positive way to look at each of the issues.

No new technology comes into the world 100% formed and vetted. The nature of progress is evolution based on experience, as unforeseen problems are corrected. Skepticism and vigilance are warranted, but so is optimism.

CONNECTIVITY WILL IMPROVE

Dr. Hanlon notes that many EMR systems are available and that, at this point, they do not communicate with one another. That is often true. But Google, Microsoft, and others are working on the issues of connectivity and "portability" of the EMR. It is reasonable to expect that eventually there will be winners and losers, just as when VHS won out over Beta in the early days of video recording. More efficient sharing of information will eventually be possible. It would be counterproductive to legislate a single EMR system nationwide before a number of EMRs can be fully tried and tested in the trenches of patient care.

In the meantime, it is no harder—in fact, it is easier than ever—for one physician to send information to another, either by printing it out and mailing or faxing it or by e-mailing it. Furthermore, that information is much more legible than the handwritten records we continue to receive from physicians who do not use EMRs.

Therefore, while one can criticize the current lack of complete intersystem communication, this is only a temporary limitation, and developing complete interconnectivity of EMR systems is a key goal.

Skepticism and vigilance are warranted, but so is optimism

STAYING VIGILANT ABOUT SECURITY

The security of EMRs has always been a concern. However, improvements in security have prevented a large-scale privacy breach since an incident in 2006 in which a laptop computer containing information on 26.5 million people was stolen from the home of a Veterans Administration employee.[2] For instance, Cleveland Clinic recently encrypted all of its laptop computers containing patient data, to protect patient information should a laptop be lost or stolen. This is only one of many security innovations that are being implemented. While we must remain highly vigilant and continue to improve security, we must remember that the paper chart is not immune to privacy breaches either, and when paper charts were stolen, the medical record was irretrievably lost and was not reproducible. This is not the case with the EMR.

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QUALITY OF CARE IS PARAMOUNT

As Dr. Hanlon accurately notes, evidence that the EMR improves the quality of care is mixed so far. He is concerned that most of the studies showing improved outcomes came from "benchmark" institutions, and that the results may not be broadly applicable. Such pessimism is unwarranted, given that the EMR is in its relative infancy and the motivation to improve quality of care is paramount, especially in this era of health care reform. While benchmark institutions are in an ideal position to do the studies on quality, there is no reason to assume that the results will not be applicable to other institutions as well.

EDUCATION: AN AREA FOR INNOVATION

Dr. Hanlon notes that research on EMRs for medical education is in its infancy. But infants grow rapidly. While it may be true that students might have to learn to use different EMR systems at different institutions, these students have grown up with rapidly changing computer systems and can learn and adapt at a remarkable rate. Therefore, education is a wonderful area for innovation and research on the EMR. It is not a reason to fear the EMR or the present diversity of EMR systems.

We cannot move blindly, ignoring the challenges of this technology, but slowing down will only deny us its benefits

ACCURACY CAN BE IMPROVED

Dr. Hanlon is correct that the problem of cutting and pasting of previous notes, potentially propagating an initial error (so-called high-risk copying[3]) is profound within the EMR. But I prefer to look at this as an area for innovation—such as nonerasable tags to identify copied material.

While errors in medication lists are possible, especially if practitioners use cut-and-paste methods and thus perpetuate a previous error, systems and workflows are being developed to overcome such problems. Some of these include special alerts when certain high-risk drugs are ordered, drop-down menus with drug dosing included, and links to databases that allow quick access to information on drug interactions.

And again, medication errors are not unique to the EMR. They also occur in paper charts as a result of photocopying, illegible handwriting, and transcription errors.

Compared with the paper chart, the EMR is more legible, and the ability to instantaneously transfer unchanged important and valid information potentially enhances the completeness and logic of a given note and provides the physician more time to spend evaluating (and looking at) the patient. So, rather than focusing on the negatives of the current problem of cutting and pasting, I prefer to focus on how to improve it. That is, how can we make the information in the EMR more accurate, catch errors, and then make the latest information easily accessible to users?

STAYING FOCUSED ON THE PATIENT, EVEN WITH A COMPUTER IN THE ROOM

A major complaint by patients and caregivers is that using an EMR makes the physician focus on a computer screen rather than looking at the patient. This concern is valid, but I think we can learn to stay focused on the patient, even with a computer in the examination room, and still take advantage of everything technology has to offer.

This issue will disappear in less than one generation. Young people are remarkably able to multitask while typing. They are able to talk with their patients while typing and to look them in the eyes. And typing letter by letter will become obsolete as soon as voice-recognition software and ways to edit its output accurately are perfected. Many of us at Cleveland Clinic use a combination of templates, typing, and voice-recognition dictation, and find this to be effective.

When we tell our grandchildren that we used to type each individual letter on a page, they will be as amazed as we are to hear that cars used to be started with an external crank.

DOCTOR-DOCTOR COMMUNICATION IS ENHANCED

I agree that template notes written by physicians who cannot type very well can lack the substance and color found in a well-reported medical history and examination. But voice-recognition transcription can help flesh out

key parts of the history, differential diagnosis, and management plan. Further, the note can be produced on the spot, the patient can check the note for accuracy, and the conclusions can be shared instantaneously with all involved caregivers. Doctor-doctor communication is thus enhanced.

EVERY REASON TO MOVE FORWARD

Dr. Hanlon is also concerned about EMRs and the potential for "billing creep" and outright fraud. But fraud is as old as billing. What is required is continued vigilance and system controls, which actually might be more effective in an EMR system than in a paper billing system. Integrity will be neither enhanced nor diminished by digitization, unfortunately.

In summary, while Dr. Hanlon sees reason to slow down the move to EMRs, I see every reason to move forward. The problems he describes are part of the growing pains of any new technology. He is right that we cannot move blindly, ignoring the challenges of this technology. But slowing down will only delay its benefits.

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