Perspectives on Electronic Medical Record Systems

BY JIM DENNING; MIKE WYRICK; TYRIE JENKINS, MD; KEITH KELLUM, MD; WILLIAM G. MYERS, MD; STEPHEN E. PASCUCCI, MD; AND J. TREVOR WOODHAMS, MD

What has been your experience with integrating and using an electronic medical record (EMR) system in your practice?

JIM DENNING AND MIKE WYRICK

Discover Vision Centers is a large, integrated practice located in Kansas City, Missouri, that includes 17 MDs, 18 ODs, nine clinics, three ambulatory surgical centers, eight optical shops, and three refractive suites. Choosing an EMR system takes an enormous amount of due diligence, time, and money. In general, high-end systems that are 100% SQL server- (Microsoft Corporation, Redmond, WA), Citrix- (Citrix Systems, Inc., Fort Lauderdale, FL), and VMware-virtual–capable (VMware, Inc., Palo Alto, CA) retail for $10,000 per provider. Annual maintenance is approximately 16% of the total cost, and enterprise licenses retail for $30,000. We chose NextGen EMR software (Horsham, PA), because it met our system requirements, it had an optical shop inventory as well as point-of-service and work-flow task modules. NextGen has one of the largest ophthalmic installation bases. Also, this particular vendor is engaged in an ongoing effort to maintain its certification commission for health information technology. Finally, several third-party enhanced support companies provide high-level support and add-on programs for the NextGen platform.

NextGen allows you to maximize the billing process through coding/auditing edits. Charges from EMR and optical point of service automatically post to the practice management software. The system creates documents for referrals, informed consent, prescriptions, and education. Almost the entire revenue cycle, from claims submission to posted payments, is automated with this system.

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> –Jim Denning and Mike Wyrick

It is important to realize that an EMR system is not free of limitations. Templates and functionality continue to improve. Implementing an EMR system will require some compromise, changes in process, and customization on your part. The key question is how to make it function most efficiently in your practice. It is also important to choose a software platform that supports quality reporting and e-prescribing protocols. These are complicated processes and require significant amounts of time and education to use successfully.

TYRIE JENKINS, MD

I have a private, full-service refractive practice that provides laser services and premium lenses in Honolulu. I have had two EMR systems. The first was ChartLogic (ChartLogic Inc., Salt Lake City, UT), which incorporates a speech recognition engine. Because I practice in Hawaii, local support is important. Initially, ChartLogic, one of the original EMR companies, had a local representative. Soon after the system was integrated into my practice, however, the local support began to falter. We went through several local representatives, with little follow-through from any of them. Eventually, we could only receive online support, and there was a consistent delay in problem solving. The only time I heard from ChartLogic was a few weeks before my annual fee was due. In addition to poor customer service and technical support, it was

difficult to mine data from the system. As a result, I switched to MediNotes (Atlanta, GA). From the beginning, service and technical support have been excellent. I am very happy with the program; it is adaptable to ophthalmology, and it is easy to mine clinical and practice management data.

KEITH KELLUM, MD

I have a two-person practice in Houma, a small town in Louisiana. We integrated MediNotes into our practice in 2005. The total software cost was about $8,500. Maintenance and renewal cost $800 to $900 per year, which includes all major and minor upgrades and all technical support. These fees do not include training or setup.

The integration process has not been too difficult. The EMR system allows us to print results from our diagnostic equipment and put the information in the patient's chart, just as we did with the paper charts. The only difference is that the process is virtual. For example, I "print" each test as an Adobe file, which is then saved on the server and "linked" inside the patient's chart in the appropriate folder. I have multiple folders such as optic nerve head analysis, visual fields, macular imaging, labs, and radiology. If I have a report from radiology, for example, it is scanned and saved on the server as an Adobe file and linked in the patient's chart just like my other "printouts." The EMR system also integrates well with my Medisoft billing software, (McKesson Corporation, Alpharetta, GA).

Overall, I have been pleased with MediNotes. Once in a while, the wait time for technical support can be long (30 to 45 minutes). The upgrades have been helpful, although they have come with the occasional "bug" that is usually easy to fix. I like that it is easy to customize my personal settings. From my perspective, the only negative aspect of the system is that the ophthalmology note templates are not very good. Luckily, the system easily allows me to make my own templates. I wish there were a better optical shop solution, as the EMR system really does not have a way to keep track of inventory. My staff and I have found ways to work around this problem, but it would be nice if an optical shop solution were integrated into the system.

WILLIAM G. MYERS, MD

I practice general ophthalmology in suburban Chicago. My partners specialize in glaucoma, oculoplastic surgery, facial surgery, and neuro-ophthalmology. We adopted the Sage Intergy EMR system (Sage PLC, North Park, Newcastle Upon Tyne, United Kingdom) 2 years ago. As we were the first to create templates for this system, having someone in our office who understood the technician's and scribe's functions inside out was invaluable to the process of creating the templates we now use. We were able to integrate our 1-page intraoffice routing form and quick entry sheet, which includes a few demographics as well as drawings to fill in findings; we also scan these sheets with the EMR-integrated scanner in the event that the computer system crashes.

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> –Stephen E. Pascucci, MD

Processing information for patients during their examination is fast and easy. The system is integrated with Intergy, Sage's enterprise practice management software, so the demographics flow easily into the EMR program. As I dictate to my scribe, she enters brief notations, and I draw in findings on the touchscreen monitor or on the paper routing form as needed. While I am explaining the findings to the patient, the scribe fills in the examination, impression, and plan from previously created text via check boxes. Before I leave the examination room, I confirm that the correct impression and plan items were chosen and add notes as needed. I then sign and post the charges that have been entered for me by the scribe in the order module. All of this takes less than 1 minute to complete. Meanwhile, the scribe finishes the instructions, supplies the appropriate handouts to the patient, and runs video education modules (Eyemaginations, Inc., Towson, MD). The impression and plan text is then automatically imported into a letter template that is faxed in real time to the primary care provider and other coordinating providers as needed.

STEPHEN E. PASCUCCI, MD

My practice is a solo-practitioner model in a single location that focuses on laser and lens-based vision correction. Based on my experience, once an EMR system has been selected, total commitment to the process from all staff members is crucial. This must be a top-down process. When I began our integration about 9 months ago, one staff member struggled with the new system; she wanted to return to paper charts. I made it clear that we were not going back to paper and that I was committed to making the transition work. Luckily, she adapted to the new system.

I would suggest that physicians appoint a tech-savvy employee as the "go to" person for other staff members who are having difficulty. This person will also work with the EMR company when problems arise. Everyone needs to understand that the process is a bit painful but possible. Last, I would suggest that office schedules be cut back during the initial integration to allow ample training time and ensure a successful transition.

J. TREVOR WOODHAMS, MD

I have found that EMR systems tailored to ophthalmology practices have inherent problems. At my practice, we use the NextGen EMR system. Because most of the data fields are preformatted for text rather than for numbers, there is a discrepancy in what I record and what the EMR system tracks. For example, the tradition of displaying a spherocylindrical prescription as a three-part number with the right eye's information displayed in a columnar format over the left eye's information is problematic. When I attempt data retrieval and analysis of this numeric prescription, there are errors because the fields I am given to enter this information are preformatted for text, not numbers. Also, visual acuity is recorded as a text field in order to accommodate the "/" symbol. I am unable to search for visual acuity in an outcomes analysis, because the variable is in a text format. A better way to record visual acuity would be to put the "20/" part on the template with a number drop-down menu for the denominator. Then, at least distance acuity could be searched, tabulated, and exported for analysis. For the denominator to be numerical and reliable mathematically, it should incorporate an equivalent logMar line notation. Traditional Snellen notation is not truly progressive in equal increments. Using logMar notation would solve this problem. However, there is still the issue of how to notate an incompletely read line. Although there are ways to deal with the conventions for notating visual acuity, the basic mathematical unreliability of the Snellen system deters EMR providers from investing in appropriate technology.

Another issue is old records, which can be scanned and attached to most EMR systems. The problem is that NextGen's IS system does not designate different types of records in a list of old records. Nor is there a way to assign the date of a patient's visit rather than the date of the scan. To find out how long ago a patient had his last visual field test requires the opening and closing of the scanned pages until the right one is found. Finally, an EMR system should be able to compare changing data over a period of time. In the case of LASIK, it is highly useful to know what the patient's original spectacle prescription was in evaluating whether the outcome is appropriate and acceptable. My paper exam visit forms have these data at the top for ready review. The data, however, need to carry forward electronically to populate the appropriate fields on the "today's visit" page. The present NextGen templates are highly unreliable and often fail to map these data properly. ■

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