EHRs, Interoperability and Your Practice

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The impetus toward electronic health records (EHR) appears to be accelerating. In a recent survey of Academy members, 31 percent of respondents either had implemented EHR within their practice or were in the process of doing so. A further 19 percent plan to implement EHR in the next 24 months. What factors are driving this trend? What can EHR do for your practice? And how does the trend toward standardization reduce the risks of investing in EHR?

A Federal Push for EHRs

In April 2004, President Bush announced an executive order that called for most Americans to have an EHR by 2014. He also created a new Office of the National Health Information Technology Coordinator that was charged with developing a strategic plan to achieve that objective. This office has forged three major initiatives that 1) are promoting health information standards, 2) have launched a certification process to evaluate EHRs and 3) are developing solutions to privacy and security problems.

Meanwhile, the CMS has launched demonstration programs that provide financial incentives for EHR adoption.

EHRs and Your Practice

If you are wondering whether to invest in an EHR system, how can you best understand what is involved and what you need to know before making a strategic decision in the future? First, take a step back and look at the overall picture of what an EHR is and what it can provide. An EHR is a system that collects data from multiple sources and then makes that data available at the point of care.

What are your goals? What is your practice looking for in terms of the achievable benefits, costs and level of EHR sophistication? A broad range of EHR benefits have been touted and are starting to be documented in the literature. These include cost savings, increased productivity, improved quality of care and reduced errors. Benefits will depend on the degree of sophistication of the system. A more sophisticated system might, for example, provide point-of-care information on possible medication interactions, allergies and E&M coding. The more basic systems allow a way to retrieve and view patient data and support workflow processes in the office. Workflow refers to the steps needed to accomplish a process. For example, workflow could encompass the patient-related work and information that arise as the patient goes from the receptionist to the nurse or technician, then to the physician, and so on.

What do you need the EHR to do? The EHR can help you capture and utilize information more efficiently. For example, patient appointments and registration information made through the practice management system can be captured by the EHR. Images captured

Global Standards

Standards are key to achieving efficient interoperability, and the big three are DICOM, SNOMED CT and HL7.

DICOM provides standards for medical images. The Digital Imaging and Communications in Medicine standards are crucial for a specialty that relies on visual inspection.

SNOMED CT provides standards for the EHR's clinical content. The Systemized Nomenclature of Medicine Clinical Terms provides terminology for describing diseases, clinical findings, therapies, procedures and outcomes.

HL7 provides standards for data management. The Department of Health and Human Services asked Health Level 7—an international standards-setting organization—to define all the functions that an electronic health record might need. HL7 drew up a list of more than 100 possible EHR functions and urged each specialty to draw on this to compile a sub list of functions—known as a Minimum Function Set—which a practice in that field would need.

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The Electronic Office: Integrating the Healthcare Enterprise (IHE) Eye Care is an Academy-sponsored exhibit showcasing compatible products that automate patient flow.

Visit tomorrow's office today—*Sands, Hall A, Booth #4665.* The benefits of electronic workflow include: having patient records integrated with images, fewer errors in patient identification, not losing data because of incompatibility between proprietary devices, and fewer staff tasks. Codes for procedures performed are sent to the billing system automatically, so every procedure is accounted for.

Build your own patient record. When you visit this exhibit, you can undergo a variety of diagnostic tests and the resulting data will appear immediately in your EHR. Tests include fundus photography, slit-lamp biomicroscopy, retinal tomography and visual fields.

Participating vendors. This year's exhibit features technology from Anka Systems, Canon, Carl Zeiss Meditec, Digital Healthcare, Heidelberg Engineering, Kowa, MD Office Inc., Medflow, Nidek, Ophthalmic Imaging Systems, Ophthalmic Technologies Inc., Topcon and VersaSuite.

Visit the Technology Theater—*Sands, Hall C, Booth #668.* The program at this year's Technology Theater features three free presentations that explain the Academy's IHE initiative —The Electronic Office Is Here: Automation of Clinical Workflow From Patient Registration to Billing (Sunday, Nov. 12, from 2:30 to 3:30 p.m.), Connecting EHRs With Imaging Devices (Monday, Nov. 13, from 11 a.m. to noon) and EHR: Electronic Workflow Benefits (Tuesday, Nov. 14, from 11 a.m. to noon).

Attend an Instruction Course. The AAOE program includes several ticketed EHR Instruction Courses.

by peripheral devices can be sent and displayed digitally in the EHR. You need to decide what functions are truly important and meet your daily requirements. The Academy has been working on a functional requirements document that describes what is important for ophthalmology. This list of functional requirements can be used as a starting point in a requirements specification to vendors (see "More Online").

Is your practice ready for change? The most critical component of a new EHR system is not the hardware and software, but the people needed to make it work. And the willingness of your staff to change is a prerequisite for success. Implementation of EHR can provide an opportunity to redesign and improve the efficiency of workflow, reducing the time it takes to perform different tasks.

What net benefit can you expect? The return on investment may take years. Your practice will incur a significant initial financial investment, and there also are indirect costs associated with adapting and implementing a new system. Benefits include potential savings —such as reduced costs for patient charts, transcription and storage—plus any new revenue sources. It can be hard to quantify some benefits, such as increased patient satisfaction and access to more complete patient data.

Standardization

The Academy believes that the ability to exchange information is critical, and that this interoperability is based on a commitment to shared standards among vendors. The Academy has promoted global standards as a way for the end-user, the ophthalmologist, to benefit. This is a plug-and-play approach, like buying a standard USB device. If what you buy adheres to these standards, it should work with other devices, and you won't be stuck with data in a proprietary format that is unusable. On Aug. 22, 2006, President Bush emphasized the government's commitment to such standards with an executive order that directs federal agencies to use health IT systems that meet recognized interoperability standards.

But what about the private practice? Because the claims that EHR vendors make for their products can be confusing, it is hard for the individual physician to have confidence in judging different products. In an attempt to address this problem, several health IT industry associations launched the Certification Commission for Healthcare Information Technology (CCHIT) with funding from the Department of Health and Human Services. CCHIT's certification process tests EHRs against criteria in three areas: functionality (ability to carry out specific tasks), interoperability (compatibility with other products) and security (ability to keep patient data safe).

CCHIT focused its initial efforts on ambulatory EHR products, with 22 such products gaining certification last summer. These are general medical ambulatory products, but it is anticipated that specialized ophthalmology EHR products would also undergo the certification process in the future.

In summary, there are a lot of factors to consider before you take the plunge and purchase an EHR system. Many of your decisions will be based on your particular circumstances and setting. EHR could transform your practice and bring it into the digital information age, but you need to understand current regulatory and economic forces; you should be clear on your objectives and expectations; you ought to research the different vendors and their capabilities; and everybody at your practice must be ready to make changes.

More Online

The **Academy's Medical Information Technology library** includes news of the member survey on EHRs, a list of functional requirements (the Minimum Function Set), summaries of DICOM and SNOMED, and more (visit www.aao.org/education/library/ and select "Medical Information Technology").

The **AAOE's Web site** also includes tips on selecting and implementing an EHR system (visit www.aao.org/aaoe).

CCHIT's Web site explains the certification process (visit www.cchit.org).