

EHRs—Finding the Balance Between Functionality and Mobility

By Asif Ahmad

Enticed by Medicare's Electronic Health Record (EHR) Incentive Program many oncology practices have adopted or are in the process of adopting EHR systems. EHR systems harness the power of technology to improve patient care quality and practice efficiency by reducing duplication of work, providing immediate access to patient information, improving accuracy of charge capture, and improving safety by eliminating handwritten notes and drug orders. As physicians become accustomed to using these systems, they are realizing how the systems give them more flexibility in not only how they work, but where they work. In today's increasingly mobile world, many physicians are looking for ways to extend the flexibility of their EHR systems.

Mobility Within the Office

Like any IT installation, there are numerous options for in-office set-up of an EHR system. Some physicians prefer wall-mounted PCs in exam rooms where they log into and access the patient information when they enter the exam room. Others prefer a wireless set-up in which physicians use laptops or tablet devices that can easily be carried from room to room or wheeled into each room on a mobile cart. This type of wireless environ-

ment allows physicians to remain logged-in throughout the day, as well as easily pull up and review a patient's information prior to entering the exam room. The laptop or tablet can also be carried into the hospital or physician's home, if needed. Regardless of which type of set-up is preferred, flexibility is paramount when designing the mobile environment.

Remote EHR Access and Security Risk

The benefits of a streamlined workflow within the physician's office are significantly extended when the physician is able to access the EHR from home, the hospital or other practice locations. Web-based EHR applications using virtualization, networking and cloud solutions, allow physicians to access EHRs remotely while maintaining a high degree of security. With 24/7 immediate access to comprehensive patient charts and information, physicians can make treatment decisions, address patient concerns, handle emergency situations or consult with other physicians from anywhere at any time, without the need of a patient's paper record.

Practices with multiple locations using networked EHR systems give greater flexibility to both physicians and patients. Patients can conveniently schedule appoint-

ments with their physician at any practice location without requiring the transportation of paper files between offices, which poses a significant HIPAA-compliance risk. Practices with centralized billing offices can easily and accurately capture charges and submit to payers through the electronic systems.

EHR system security, especially in a networked environment, is a top priority. To maintain the security of the data entered into the EHR application, SSL-encryption should be applied to all data that passes over non-private network connections. Additionally, all users should be granted unique user ID based on their specific role, and all user activities should be tracked and captured within an audit trail. EHR Internet circuits should be protected by sufficient firewalls, and there should be no direct network path from the Internet to the databases, only to an SSL offload.

How Mobile is Too Mobile?

A recent International Data Corporation (IDC) study forecasts annual mobile application downloads to increase from 38.2 billion in 2011 to nearly 182.7 billion in 2015 as developers create apps for virtually every aspect of mobile users' personal and professional lives. Physicians, like other mobile device users, also want to be able

to access their patients' charts anytime, anywhere on an iPhone® or other type of smart device. As a next logical step in the evolution of EHR development, most vendors of standard EHRs and even many vendors of more specialized systems have already introduced some form of mobile application. These applications enable users to perform basic functions, such as electronic prescribing, reviewing patient information, and viewing daily schedules.

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A word of caution: while these types of basic functions are suitable for smart phone devices, oncology is complex. Diagnosis and treatment of various types of cancer requires accessing powerful databases of evidence-based Level I Pathways and chemotherapy protocols and viewing high-resolution images such as PET, CT and SPECT scans. Today's technology for smart phones and other such devices is simply not robust enough to handle this type of functionality. There is a great variance in smart phone devices, and even those with the greatest bandwidth cannot handle the heavy, industry-grade services required to view multiple complex applications at one time.

Smart phones are simply too small to look at images accurately. After all, we are still human. Our eyes aren't better, and our fingers aren't smaller. Attempting to make com-

Streamlined Workflow: An EHR Overview

By design, EHR systems streamline workflow in a practice. Standard EHRs allow practice personnel and physicians to quickly and accurately capture patient information such as demographics, medical history, test results and drug information, and become a valuable repository for patient information that is easily accessed at future visits. In addition to clinical benefits, because physicians indicate services and procedures provided to each patient during the patient's visit, practices often see revenues improve when using EHR systems due to more accurate charge capture and fewer coding errors.

Standard EHR functionality can greatly improve patient care and practice efficiency in primary care physician offices; however, specialists, such as oncologists, require systems with significantly extended functionality. Oncologists will benefit most from EHRs that take into account oncology-specific terminology, workflow and therapy administration, including:

Tumor Staging and Regimen Selection

Based on the information the oncologist enters relevant to a patient's particular cancer, the EHR's decision-support engine automatically recommends the stage of the patient's cancer according to AJCC staging criteria, then uses this information to identify appropriate regimen treatment options driven by the specified guidelines. Systems may also automatically generate safety alerts when possible medication conflicts or the potential for high toxicity levels are detected.

Oncology-Specific Regimen Library

The most advanced oncology-specific EHRs provide immediate access to an up-to-date library of hundreds of referenced chemotherapy protocols that are based on peer-reviewed literature and FDA-approved indications.

continued>>

Streamlined Workflow: An EHR Overview *(continued)*

Chemotherapy Ordering

Oncology-specific EHRs can automate chemotherapy dosing, ordering and scheduling in the patient chart so that orders are easier to read, manage and administer by the infusion staff. These EHRs may also incorporate all of the documentation for admixture and administration of chemotherapy, including accounting for the supplies and drugs dispensed and any billable waste.

Nursing Documentation

Nurses can document infusion visits electronically, view lab results in the flowsheet, document start and stop times for each medication, and easily enter patient assessment details. When changes are made to the regimen schedule due to out-of-range lab values or a scheduling conflict, some EHRs guide the clinician through the update process, creating a complete and concise audit trail.

Charting

Some EHRs present patient information in a single-screen view, allowing for quick referencing of the patient's diagnosis, last visits, lab results trending, and prior and future treatment information all on the same screen.

e-Prescribing

Some EHRs enable clinicians to send new prescriptions electronically to participating pharmacies and receive renewal requests directly in the EHR. Prescribers can review the requests and respond with a few simple keystrokes. In addition to electronic prescribing, they can provide real time access to a patient's insurance eligibility, plan formulary and medication history information at the point of care. Using this

functionality, physicians can help patients manage their medication costs by ensuring the most cost effective treatment.

Clinical Trials

Some systems are set up to automatically identify patients for appropriate clinical trials. By comparing trial criteria to patient information, the system will notify the oncologist of potential trials.

Reporting Center

A significant benefit of EHRs is the ability to harness clinical data captured at the point of care to generate a variety of reports designed to reveal valuable information about the practice. With this data, practice management and staff can identify trends that can be leveraged to enhance the practice's clinical and financial performance.

With this robust functionality, it's no surprise that oncologists are demanding greater flexibility in their ability to access patient information both within the office and outside the office.

Do you know the difference between EMR & EHR?

EMR

An electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization.

EHR

An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization.

Source: From The National Alliance for Health Information Technology, Report to the Office of the National Coordinator for Health Information Technology on Defining Key Health Information Technology Terms (April 28, 2008).

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plex diagnosis or treatment decisions using information viewed on the two-inch by four-inch screen of a smart phone increases the margin for human error. In other words, there are limitations to what can and should be done with mobile applications, part it comes to complicated disease management like oncology.

Never Say Never

That being said, when it comes to the evolution of technology, we should never say never. As the cost of technology continues to go down, more sophisticated and more robust devices will be introduced. The future will undoubtedly bring more devices that are a cross between a smart phone and a tablet that are designed to be more industry-grade and less as consumer toys. Expect these devices to have a greater bandwidth and larger screen, yet still be more easily carried around than a laptop.

Likewise, physicians will continue to see greater flexibility in the systems and applications they are using to manage their practices and care for their patients. With each new release of software versions, we can expect more as vendors match the appropriateness of various functionality components with the latest technology. Even oncologists, who require more sophisticated EHR systems, may find that limitations today may not be limitations tomorrow. We'll have to wait and see. **AA**

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About the Contributor

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The screenshot displays the OBRintel website interface for May 31, 2011. It features a navigation bar with the OBRintel logo and user options. The main content area is divided into several sections:

- NOTE FROM THE EDITOR...**: A section with a blue header containing a note about the upcoming ASCO annual meeting.
- FEATURED ONCOLOGY NEWS HEADLINES**: A list of news items with blue headers, including "Thyroid Drug Shortage Presents Tough Choices for Cancer Patients" and "New Breast Cancer Guidelines 'Unsafe': Women".
- YOUR CUSTOMIZED NEWS**: A section with a blue header listing interest areas like "Breast, CMS, Policy, Cost, Quality and Reimbursement" and "NIH Human Clinical Trials Look for Causes and Cures for Disease".
- YOUR CUSTOMIZED PUBLICATION REPORT**: A section with a blue header listing monitored journals like "JAMA, NEJM, JNCI, JCO, The Lancet, The Lancet Oncology, & Blood".
- OBR FINANCE TOP 3 WINNERS/LOSERS (AS OF 11:44PM EST)**: A table showing stock performance for symbols like NWBO, CRIS, and PSNX.
- OBR RADAR**: A section with a blue header listing upcoming events like "Date: Saturday, June 4, 2011" and "Company: Amgen".
- OBR EVENTS CALENDAR**: A section with a blue header listing events like "2011 ASCO Annual Meeting" and "SNM 2011 Annual Meeting".

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