

Electronic Medical Records: Possibilities and Uncertainties Abound

Electronic medical records (EMRs) are poised to take hold, grow in importance, and alter the practice of medicine. Physicians and private payers know this. President George W. Bush has announced the goal of having an electronic health record available for every U.S. citizen within the next several years. Implementing this strategy will be difficult, and will involve adoption by oncologists of an EMR that will fit into this electronic health record.



David Johnson, MD

In this article, we examine an EMR implementation strategy in use by several large institutions that have the institutional commitment and resources to develop an EMR of their own—the “homegrown” approach. We offer the perspective of former ASCO President David Johnson, MD. Johnson is director of the Division of Hematology and Medical Oncology and deputy director of the Vanderbilt-Ingram

Cancer Center (Nashville, Tennessee). This article describes Vanderbilt’s homegrown flexible EMR and Johnson’s thoughts on where EMRs may fit in for small to mid-sized oncology practices. In this context, he is among those calling for “improved systems for record keeping, communication, and for enhanced efficiency” on the part of physicians and others.

Vanderbilt’s Three-Fold EMR

Vanderbilt’s medical school includes a Department of Informatics that is largely staffed by MDs who are physicians first and “computer geeks” second. Johnson thinks that many EMRs suffer because they were created by “computer people thinking in computer terms who know little or next to nothing about medicine.” In his view, such teams often include a token doctor, but that only leads to an EMR based on “the biases of one individual,” he says.

The Vanderbilt EMR, which has been refined and updated over time since work began on it in the 1980s, has three major elements:

- *The Star Panel*—A secure, easy-to-use EMR that doctors can access online anywhere (with their user ID and password). Every medical record, every image, and every note from a patient encounter is included. Physicians and caregivers can give patients answers and make decisions much faster than if they are locating and shuffling through paper-based charts, and their responses are based on more complete information.

- *Whiz Order*—This element streamlines the process of ordering for inpatients. It serves as an internal quality control check. “Let’s say I want to order the drug adriamycin [doxorubicin] in a range outside the norm. The system makes me override its NO many times. When I do so there’s no question who made the decision,” explains Johnson, “The computer isn’t passive; it’s an active partner. If I make a mistake, it can correct me.”
- *White Board*—“Like my own little spy satellite in the sky, this lets me keep track of every patient who comes to my clinic right from my computer,” Johnson says. “I know where patients are, when labs are drawn, when results are back. . . .” If one patient is late for an appointment and another is early, he can decide to see the early arrival. It has created new avenues towards efficiency.

This EMR spares both doctors and nurses from an enormous mountain of manual busywork and greatly boosts efficiency. “We have more things to do than ever for patients, and [we] maximize every minute,” Johnson says. “Our EMR is much more than a warehouse of patient data. It’s vibrant, like an air traffic control system for medicine.”

“Never be the first doctor to try a new drug and never be the last.’ It’s the same with an EMR. You might not want to be first. . . . But you don’t want to be the last either.”

— David Johnson, MD

“All Sorts of Advantages”

The EMR simplifies the assignment of patients to clinical trials and participation in those trials. “Our EMR isn’t designed for this purpose, but its elements are critical for the good conduct of trials,” Johnson says. “It makes it so much easier for research nurses to pull up records and piece together times and dates of lab draws and X-rays.” Enhancements now underway (such as the creation of electronic flow sheets similar to those customarily used in trials) will make the Vanderbilt EMR even more useful in research.

The EMR, says Johnson, helps his practice avoid errors of both overbilling and underbilling. “The EMR makes it much easier to document the level of service that we have provided in an unambiguous way.”

Issues Holding Back EMRs in the Community

Johnson admits that his academic situation differs greatly from that of community oncologists with regard to the resources available for EMRs. He explains some of the factors that have deterred many physicians in small to mid-sized practices from using EMRs:

- The current lack of *common data elements* (CDEs):
“Despite what many people believe, medicine is still very much an art as well as a science,” Johnson states. “If I say ‘three finger breadths below the right costal margin’ what does that really mean? And does that mean the same thing to all physicians? Many doctors fear CDEs and I am one of them. For example, insurance companies want us to fit everything we do into a limited number of diagnostic categories and we all know there are more. In essence, they want us to call left ‘right’ because they don’t have a data element for left. They say, ‘Just put it in one of them.’ Doctors fear this and for good reasons.”
- Growing emphasis on *pay-for-performance* (P4P) *measures*—“The EMR can help with these initiatives in lots of ways,” says Johnson. “In theory, with an EMR there will be a complete record of all the care a patient receives, including their medications. It will be easily searchable. This should prove much more usable for quality-control efforts than the process of hand searching paper records.” But, says Johnson, “we do have to know what performance measures are being measured. That’s still being debated and developed.” He further notes that an insurance company’s definition of quality may differ a lot from a common-sense one. “I’ve been face-to-face

with providers whose measure of quality is the fact that the cheapest drug, not necessarily the best one, is being used.”

- *High implementation costs*—“Many small to mid-sized practices have small profit margins,” says Johnson. “Physicians in these practices are fearful of costs for EMRs that can run into hundreds of thousands of dollars, plus licensing fees of thousands of dollars per doctor per year.”

Other hurdles include the instability of vendors and the variety of EMR products, with a wide range of functions that make comparisons difficult. “It’s natural for community oncologists to be fearful and often paralyzed into inaction,” Johnson says. I sympathize with these practitioners. Medicare says, ‘You will use an EMR,’ but they won’t say which one because they don’t know which one.

“Some doctors buy off-the-shelf products. They sometimes jam a square peg into a round hole, using what’s there with existing products and making the best of it,” he explains, “Others try and can’t hack it. If I were in the community, I’d be paralyzed.”

Experience with this homegrown system in a resource-rich environment has made a believer of David Johnson. Living through the development and the implementation experience brought to mind advice he received as a medical student, from a mentor: “He told me ‘Never be the first doctor to try a new drug and never be the last.’ It’s the same with an EMR. You might not want to be first. You might wait until the bugs get worked out. But you don’t want to be the last either.”