ClinicalOncology news

Handheld Medical Software: Is It Changing Practice?
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Physicians and pharmacists have taken to handheld computers and personal digital assistants (PDAs) like scribes took to Guttenberg's printing press.

Electronic devices that store, process, transport and communicate data can be found in nearly every hospital, pharmacy and medical practice. With a hungry and lucrative market, software and hardware suppliers have been writing programs that improve oncology care. One of the most successful and influential of these is a company called Epocrates (San Mateo, Calif). Many medical professionals have embraced these new technologies and the numbers are growing with each graduating class. More than 500,000 health care professionals use Epocrates, according to the company's Web site.

Becoming a Necessity for Some

"It would be very painful to practice oncology without Epocrates," said John Thomson, MD, associate clinical professor of radiology, radiation oncology at the Huntsman Cancer Clinic, University of Utah Medical School, Salt Lake City. "Having the information constantly with me and always available saves a great deal of time and effort."

Using a variety of software, Epocrates users can access information on more than 3,300 drugs including adult and pediatric dosing, drug interactions, adverse reactions, contraindications, safety, monitoring information and pricing, according to Michelle Snyder, vice president of marketing for Epocrates Inc. Users can also load insurance formularies from their state/area to determine if a drug is covered by the patient's health plan.

When asked how he thought Epocrates' products were perceived by the oncology community, Dr. Thomson said, "I think they are less well known than they should be because doctors have a hard time changing work habits and consistently carrying a PDA."

Epocrates' drug information is designed to help clinicians make crucial decisions during a patient encounter or while on call. "Epocrates' drug database currently includes information for the majority of oncology medications, and we are continually adding new monographs and updating existing monographs of interest to oncologists," said Ms. Snyder.

Not Just Drug Information

"Epocrates fills an essential need for prescribing information, dosages, new drug names, indication pill sizes and doses," said Charles Rosenbaum, MD, assistant professor of medicine at the University of Massachusetts Medical School in Worcester, and the University of Massachusetts Memorial-Marlborough Hospital in Marlborough. "It is also helpful in terms of insurance coverage, particularly for tiered managed care plans."

One Epocrates program provides useful information on potential adverse drug reactions. In a recent article, technology observer John Fried pointed out that if a man with Kaposi's sarcoma tells his oncologist that he is taking St. John's Wort for depression, and the practitioner has Epocrates RX Pro in his or her pocket, the oncologist could find out immediately that the drug can interfere with one or more of the protease inhibitors that the man is taking (Commun Oncol 2006;3:206,230).

"Besides drug-related information," said Ms. Snyder. "Epocrates offers data on more than 1,200 diseases including differential diagnosis and treatment recommendations. We also offer applications for oncologists such as a free NCI [National Cancer Institute] tumor-staging tool and opioid analgesic converter."

In addition, oncologists can earn CME credit using Epocrates on a PDA by completing specialty-specific courses on subjects such as stem-cell transplant in multiple myeloma, virtual colon-oscopy, and Hodgkin's disease. "Epocrates also provides opportunities for oncologists to earn money by sharing their opinions on treatment protocols and new therapies," Ms. Snyder said.

Dr. Thompson is a true fan. "Whenever I have introduced anyone to the software, they have been impressed and become converts," he said. "I gave my partner a year's subscription and now he can't get along without it."

One of Epocrates' other services is DocAlert messaging, which provides clinical news updates from sources such as the British Medical Journal, Journal Watch and the FDA MedWatch. These are communicated wirelessly to the user's mobile handheld device. "We also have a specific oncology news channel which supplies oncologists with the latest developments in their field," said Ms. Snyder. A recent DocAlert addressed capecitabine in previously untreated patients with advanced and/or metastatic gastric cancer.

In a newsletter posted on Epocrates' company Web site, Rita Hays, an advanced oncology certified nurse practitioner at the Heartland Hematology & Oncology, in Kearney, Neb., summarized what she found useful about the software. "Cancer patients frequently have coexisting conditions," she said, "Epocrates Dx disease reference allows me to access information on a variety of diseases and medical conditions that may impact

treatment decision while the MultiCheck function has helped me identify and avoid drug interactions."

Additionally, she said, she can use Epocrates to teach patients about chemotherapy regimens and potential drug side effects, quickly calculate body surface area to determine chemotherapy doses using MedMath and use the Epocrates ID treatment guide to choose appropriate antibiotics.

Epocrates Is One of Many

Epocrates, which launched its first mobile product in 1999, is only one of several companies to offer similar software.

In a recent article, Kevin Clauson, PharmD, associate professor of pharmacy practice at Nova Southeastern University College of Pharmacy in Palm Beach Gardens, Fla., noted that because the body of medical knowledge doubles every two years, "it is no surprise that health information technology and computer-based decision support resources have been targeted for their potential value in enhancing safety and improving patient outcomes" (BMC Med Inform Decis Mak 2007; 7:7, PMID: 17346336).

Dr. Clauson and colleagues concluded that "online drug information databases, which belong to clinical decision support, vary in their ability to answer questions across a range of categories." Furthermore, "databases that require a subscription outperformed the free online databases."

In an evaluation of clinical decision support tools, Dr. Clauson concluded that the best performing PDA software platforms (according to 158 questions across 15 weighted categories) were Lexi-Drugs, Clinical Pharmacology OnHand, Epocrates Rx Pro, mobileMICROMEDEX and Epocrates Rx Free.

As the field of mobile medicine provides new and upgraded wares to the market almost daily, competition for PDA software supremacy is likely to continue.