Providing Real-Time Access to Patient Records

"The best EMR system in the country," says the Institute of Medicine

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The CPRS evolved from an order entry/results reporting application to comprehensive umbrella package that includes programs called Pharmacy, Lab, Radiology, Allergy Tracking, Consults, Dietetics, Progress Notes, Problem List, Patient Administration, Vitals, Patient Care Encounter, Text Integration Utilities, Authorization/ Subscription Utility, and Clinical Lexicon.

The CPRS organizes and presents relevant patient data that directly supports clinical treatment decisions. These data include the patient's medical history and conditions, problems and diagnoses, and past diagnostic and therapeutic procedures and interventions.

Clinicians at VA health care facilities receive training on the CPRS through national satellite broadcasts, conference calls, Intranet courses, online documentation, and Camp CPRS, weeklong annual training event that includes both presentations and handson training. Nearly 900 participants attended Camp CPRS in 2002.

The CPRS enables clinicians to enter, review, and continuously update all the health care-related information connected with a VA patient. With the CPRS, health care providers can order lab tests, medication, diets, radiology studies, and treatment procedures; record a patient's allergies or adverse reactions to medications; request and track consults; enter diagnoses and treatments for each encounter; and enter and electronically sign progress notes and discharge summaries. The CPRS has a robust computerized provider order entry (CPOE) system that is used throughout the VA. As of December 2002, an average of 91 percent of all VA pharmacy orders were entered electronically. VHA believes that the CPRS and CPOE have reduced medication errors due to poor handwriting, but at this time, there is no stable "medication error" rate to relate to the changes made in provider order entry. While the CPOE and the CPRS are not yet being used for chemotherapy, this is an area being reviewed for future development.

The incorporation of interactive clinical reminders in the CPRS allows better record keeping and improves compliance with both Clinical Practice Guidelines and medical records requirements. CPRS use is tightly controlled and access to it is assigned only to authorized staff.

The CPRS not only allows health care providers to keep comprehensive patient records, the system also enables clinicians, managers, and quality assurance staff to review and analyze patient data to support clinical decision-making.

At last count, about half of the VA sites (44 out of 85) have picture archiving communication systems (PACS), while the other half do not. Even at the PACS sites, many continue to use film, especially for distribution to clinicians. In addition, film is still used for outside record requests. If the VA facility contracts out oncology/radiation therapy services, for example, they send and receive images by film, since it is very difficult to set up a secure electronic communication.

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In the VHA system, oncology studies are usually CT and MRI, and those are usually read electronically. The great majority of VHA CT and MRI oncology studies are read from soft copy, either from PACS or from modality-specific workstations, even at sites that lack PACS archives.

Currently, film use has only decreased by approximately 20 percent VA-wide, because many referring services insist on having the printout, rather than using VistA Imaging. VHA's goal is to increase this percentage in order to avoid paying twice for radiology image distribution.

The use of VistA throughout the VHA has made it much easier for the clinical provider to obtain, review, order, and develop an action plan for the care of any patient. This fact is particularly true for patients who receive all of their care in the VHA system, since most clinical information is accessible using the CPRS. To see how the CPRS provides quick information on a patient, see the two case studies on page 28.

Bringing the Cancer Registry into the 21st Century

The cancer registry is an important source of information for health planning and resource allocation, providing information about how often and what types of cancer occur, the extent of disease at diagnosis, the type of treatments provided, and the outcomes of those treatments.

Historically, finding information on a specific cancer event was a time-consuming and labor-intensive task, starting with a request for the patient's paper medical record, approximately four to six months after the date of diagnosis. Detailed clinical information about the person, the cancer, and treatment was physically retrieved from a wide range of sources, including progress notes, consultations, radiology reports, discharge summaries, appointment logs, pathology/laboratory reports, pharmacy logs, hospital billing, and administrative records. This information was then translated into an abbreviated statement (the abstract) using standardized coding rules, and the data checked for consistency and errors.

The advent of the CPRS eliminated the need to retrieve the paper record by allowing VHA cancer registrars to access the patient's complete medical record online. All pertinent information regarding a patient's diagnosis, work-up, and treatment is available as it happens. Patients meeting the criteria for inclusion in the registry are accessed quickly, and preliminary demographic and cancer identification information are easily added to the abstract. The CPRS allows cancer registries to keep current with real-life medical events. Instead of waiting four to six months to start the abstract data capture, the process can now be initiated almost immediately, with information added to the record as it develops.

In today's VHA system, the completed abstract information contains a concise summary of demographics, cancer identification, extent of disease and staging, first course of treatment, recurrence and subsequent treatments, and follow-up.

More important, the abstract is readily available to the medical staff of the treating facility via the oncology health summary component of the CPRS. That same information is available system-wide via remote oncology view. With a highly mobile veteran population, this particular tool allows receiving clinicians to access a brief overview of their patient's previous cancer care that can be used as a springboard for additional professional management.

On the Horizon…

A number of oncology-specific enhancements are being planned, including a suite of software applications such as the cancer registry (DHCP Oncology— completed), chemotherapy order entry and treatment tracking (ChemoTrax— proposed and currently in the analysis phase), and radiation oncology treatment tracking (RadTrax—in concept development). The current CPRS provides software applications for all areas of oncology

care except for a unified chemotherapy order entry and treatment- tracking program. The tremendous variation in treatment protocols, both standard and research, has been the major obstacle in the development of this much-needed tool.

The project concept and business analysis process for ChemoTrax were completed in February 2002, with the updated software scheduled for release in spring 2005. Generic template tools are being developed that can be used locally to create chemotherapy protocol orders with the aid of drop down menus of laboratory tests and pharmacy drugs, a list of vital signs such as height and weight for calculating body surface area, and a tool that will calculate doses. These templates will include areas for descriptions of the protocol, ancillary citations, pre- and post-hydration records, anti-emetics, and specialized notations, and will be locally named and stored.

These new CPRS tools for patient-centered programs will enhance and strengthen what the Institute of Medicine has called "the best EMR system in the country" by standardizing care documentation while preserving the managing physician's autonomy and individuality at the same time.

The new HealtheVet-VistA system will be built on the VHA's "legacy" VistA information system. This tool will enhance current versions of the CPRS, Scheduling, Billing, Fee Basis, VistA Imaging, Pharmacy, and Laboratory, and add a Health Data Repository (HDR).

HDR data will supply clinicians with integrated data views and the patient-specific clinical information needed to support treatment decisions, regardless of where in the VHA system the veteran has received care. All sites of care, including community-based outpatient clinics, will have access to the patient data stored in the HDR. Veterans will know that their current provider has a complete record of all the health care they have received from the VHA. Managers will have access to data that will help them evaluate the efficacy of the care provided at their medical facility, and the HDR will serve as a data warehouse so that authorized staff members can perform analyses.

While many hospital software applications in the private sector focus on billing, applications in the VA's health care system were designed to center on clinical information. Originally, the VHA did not focus on billing and collections because it was not allowed to bill for its services. More recently, Congress passed legislation which allows the VHA to bill third-party payers. The VHA's need for additional money and lower operational costs led to the decision to use a commercial, offthe- shelf billing package. The current plan calls for the selection of a tentative product in 2004.

As part of the billing strategy, a patient account system will be developed in VistA, and all clinical packages will be made "billing aware" so that they contain all the data (date, time, place, diagnosis, provider, follow-up) needed to support the new billing application.

VistA software applications are public domain and available through the VHA Freedom of Information Act (FOIA) Officer, Hines Office of Information Field Office, Edward Hines, Jr., Hospital, Bldg. 37, Hines, Ill. 60141. For further information concerning the VA's cancer program, see www.va.gov/cancer/index.cfm.

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