January/February 2001 Vol. 18, No. 1
MDComputing
The Leading Edge in Medical and Healthcare Informatics

Ambulatory Care
Implementing an Integrated Clinical and Practice Management System

Bruce Trickel

This new family practice had the opportunity to welcome its first patient with an integrated clinical and practice management system already in place.

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A year before he opened his family practice in 1998 in O'Fallon, Illinois, a growing community of over 20,000 located 30 minutes east of St. Louis, David McCarthy, M.D., began planning its integrated clinical and practice management system. He hired James Campbell and me to help with the administrative planning, and we began looking at all available commercial EMR and practice management systems. The three of us had served in the U.S. Air Force together, and our experience with the Air Force's EMR system, designed specifically for the Department of Defense, taught us a great deal about the benefits, as well as the possible limitations, of such systems. Generally, our ambulatory care experiences both in the military and in the private sector, had convinced us of the importance of implementing an automated system from the start, to take full advantage of the cost reductions and improvements in patient care these systems can provide.

We wanted our system to integrate all aspects of financial, scheduling, and medical records management. We wanted it to be intuitive in nature and easy for providers and staff with varied computer experience to learn. Our initial list was narrowed to 16, and then refined to four. With our plans for future growth, we needed something scalable from two to an undetermined number of providers. We finally selected Practice Partner® by Seattle-based Physician Micro Systems, Inc. (PMSI) as our EMR and practice management system. The tight integration of the scheduling, billing, and EMR modules, along with its robust functionality and intuitive user interface provided the ideal combination in a scalable platform. (See Figure 1.)

Setting the Stage

In January 1998 we finalized plans for the practice, to be called Family Physicians of O'Fallon. An existing building would be remodeled to accommodate both local and wide area networks. Each 100 square foot (10'x10') exam room would be equipped with an exam table, provider stool, two patient chairs, and a cabinet system with a sink. Each exam room would also have a computer workstation that was easily accessible to the provider, as well as viewable by the patient when providers wanted to graphically illustrate something or offer patient education materials. (See Figure 2.)

Implementing an EMR and practice management system requires acute attention to the underlying hardware and network supporting the application. We knew we would be growing for the first three to five years, so we built our hardware system to accommodate the end size. We selected Compaq ProLiant servers with RAID 5 disk arrays running Windows NT, since these servers would give us the power and storage needed for growth. We chose CITRIX for remote access (dial-up access for providers while on the road or from home) and access to our primary server from our secondary clinic location. CITRIX allows us to run our EMR and practice management system over a standard phone line, sending only the keyboard commands and mouse clicks across the network, significantly increasing the perceived operational speed of the medical information system. We also installed a point-to-point T-1 data line between our two clinics for performance and financial reasons. We needed to send data and have voice capabilities between the sites, and the cost of the T-1 was cheaper than purchasing ten standard phone lines. We are also connected via a T-1 line to Belleville Memorial Hospital, 11 miles away. This interface allows us to access information directly from Belleville Memorial's MEDITECH legacy system, which stores information for labs, radiology, mammography, pathology, imaging, cardio-pulmonary, and discharge orders (see Figure 3).

The importance of properly setting up and configuring the network before deploying any medical information system cannot be stressed enough. Although we specified our own system, we left its implementation to professionals who stay abreast of the daily changes that can affect the efficiency of the hardware and operating system. Finding a good hardware reseller who can also service your site is difficult, but they are out there. As for our data backup and recovery plan, we decided to perform daily back-ups to tape, and store these tapes in a heat/fire resistant box placed in a fireproof safe. (A fireproof safe alone is not enough since high temperatures can destroy tapes even when they are protected from flames.)

We also backup to a CD-ROM weekly and lock a duplicate in our bank's safety deposit box, both to capture pictures of our system on specific dates and times (to prepare for potential litigation), and to create an off-site backup that can be used to restore our system in the event of a catastrophic failure.

Preparing to "Go Live"
Configuration of the software depends heavily on the features intend to be used, as well as the setup of the clinic. Prior to loading Practice Partner, we collectively discussed a number of issues that would affect the overall configuration of the software, including:

- Individual provider demographic information, health plan numbers, business related numbers, practice locations, etc.
- Staff access needs and/or restrictions
- Clinic locations and individual room usage
- Reception and billing function locations and needs, nurse alcove locations and needs
- Printing needs for prescriptions, super bills, lab/x-ray requests, manual HCFAs, patient education handouts, medical records/charts, etc.
- Methodology for naming clinics, providers, and users in the system to ensure efficient data collection/analysis
- Insurance carriers naming convention
- Access levels by group or individual
- Accounting methodology, individual patient vs. family accounting
- Reporting needs for practice analysis and management.

Prior to our on-site training, primary configuration was accomplished through printed materials as well as telephone conference calls with a PMSI implementation specialist, which enabled us to avoid the costs of on-site vendor visits, such as travel, lodging, and meals. When the trainer finally came on-site, final system tweaking was accomplished in one day.

We were fortunate to complete all primary training prior to seeing patients for the first time .our "go live" date was on the last two days of training. Our initial training lasted four days, during which we organized personnel into four groups: providers, nursing/medical assistant staff, reception/billing staff, and practice/system administration. We recognized it was not feasible to introduce our personnel to all features of the system at once. Instead, we started with the primary software features that directly affect patient care and/or financial management. Every few months we introduced additional features so staff members could gain competency over time. We see this as an ever-evolving process since we

continue to fine-tune our methods of using the system, which is often updated with new features. We initially scheduled follow-up training for three months after our "go live" date to verify our staff was properly using new skills, and to introduce additional features. All additional follow-up training is being accomplished by our in-house personnel.

A Positive Impact

Our EMR and practice management systems have had a positive impact on both the clinical and administrative areas of our practice. Thanks to the EMR, our providers use a combination of templates and Quick-Text macros (predefined phrases you can automatically incorporate into a note) to quickly complete patient visit progress notes in SOAP format. Patient visits are coded during the visit, and at checkout, charges are entered via our billing system for electronic billing through a claims clearinghouse .with no lag time between the visit and the time the charge is ready to bill. This ensures prompt submission of claims to the health plans. Even Medicare and Medicaid claims are typically paid in less than 15 days, compared with the 30 to 60 days for paper claims.

Completing progress notes at the time of the visit also improves the efficiency of the referral process. All the necessary documentation for patients requiring referrals to specialists can be transmitted or printed during the patient visit, and referral appointments can be scheduled before patients leave the office. We save a significant amount of time by doing referrals this way, since we don't have to make follow-up calls and play phone tag with patients after they leave the office.

Supporting the viewpoint that a decent EMR system decreases the need for support staff, Practice Partner has allowed us to realize an FTE (full time equivalency) rate of 3.2 per provider compared to a national MGMA average of approximately 5.4. Because we are completely "paperless," we were able to eliminate administrative positions involving finding, pulling, and filing paper charts. Our FTE rate could even perhaps be lower, but we shifted some of the savings from administration to hire additional registered nurses, since R.N.s are force multipliers for the providers and have a direct effect on increased workflow, patient care, and quality of care.

Our paperless system gives us easy access to printable or exportable data on almost anything we want to analyze about our practice or providers .we need not make assumptions based on a small sampling of records, hoping they accurately reflect the overall care provided, or decisions made, by our providers. We routinely use results to educate providers and

effect change within the practice. When medications are recalled, for example, we can quickly generate a report of patients either currently on the drug or with a history of taking it. Our providers and nursing staff use this report to make clinical decisions and contact patients.

Implementing an integrated EMR and practice management system was one of the smartest medical and business decisions this practice made. Besides helping to improve overall patient care, the system has helped us manage the business side of the practice. This is becoming increasingly important as competition and decreased compensation force medical practices to become as efficient as possible, without sacrificing patient care.

Bruce Trickel is the Practice Manager at Family Physicians of O'Fallon, PC, O'Fallon, Illinois, and President of Campbell Healthcare Consultants, LLC.

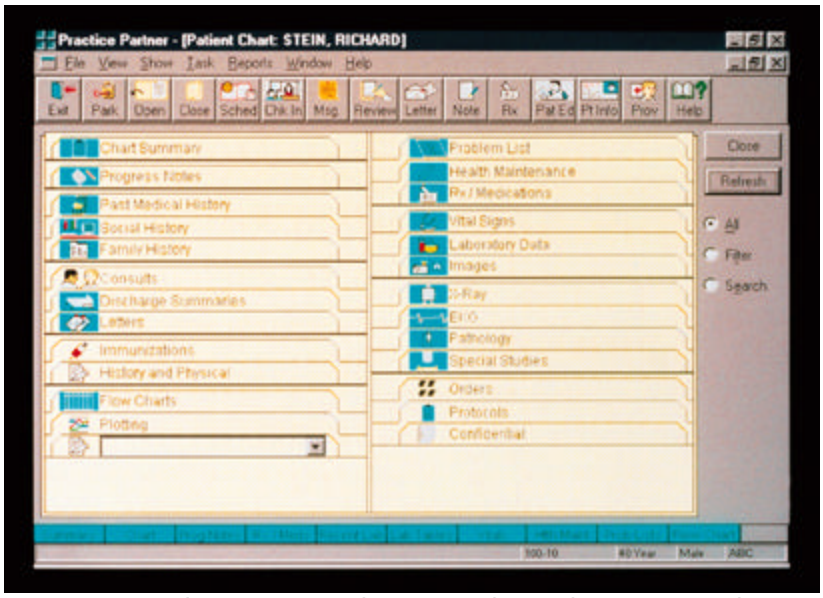


Figure 1. Practice Partner Patient Records emulates an actual paper chart. The main window gives the user access to e-mail, scheduling, progress notes, online prescription writing, and all relevant clinical documentation.

Figure 2. Wilma Fischer, R.N., checks vital signs of a patient. The data is then input into the patient's chart for the physician to access upon arrival.

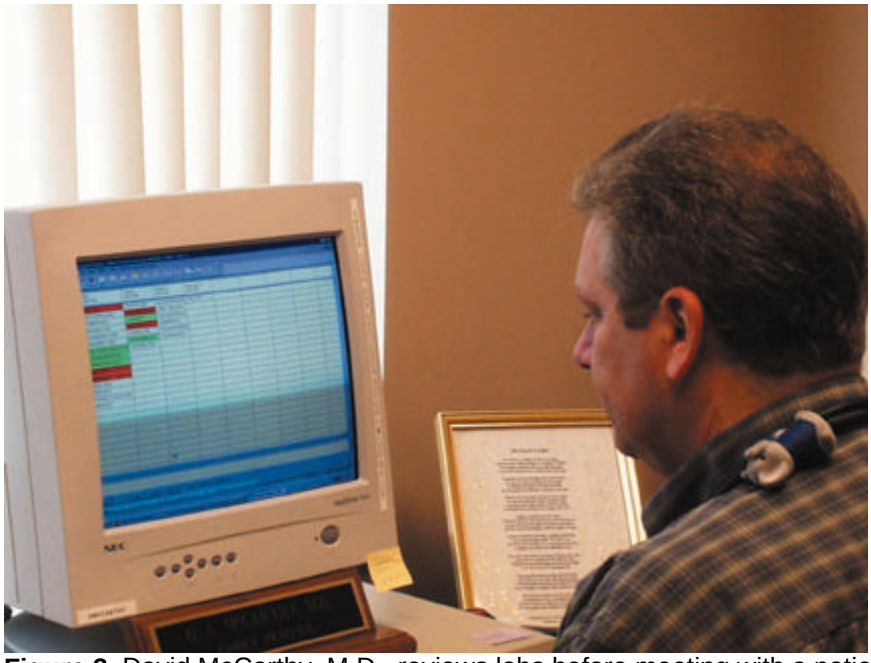
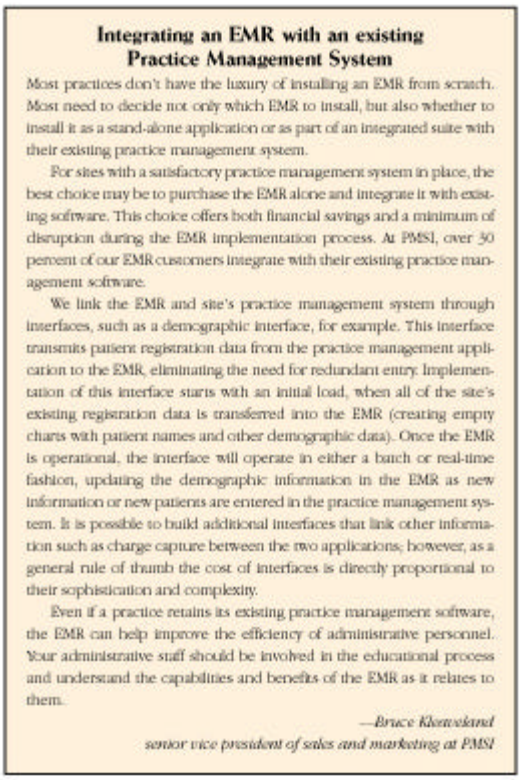


Figure 3. David McCarthy, M.D., reviews labs before meeting with a patient.



Integrating an EMR with an existing Practice Management System

Most practices don't have the luxury of installing an EMR from scratch. Most need to decide not only which EMR to install, but also whether to install it as a stand-alone application or as part of an integrated suite with their existing practice management system.

For sites with a satisfactory practice management system in place, the best choice may be to purchase the EMR alone and integrate it with existing software. This choice offers both financial savings and a minimum of disruption during the EMR implementation process. At PMSI, over 30 percent of our EMR customers integrate with their existing practice management software.

We link the EMR and site's practice management system through interfaces, such as a demographic interface, for example. This interface transmits patient registration data from the practice management application to the EMR, eliminating the need for redundant entry. Implementation of this interface starts with an initial load, when all of the site's existing registration data is transferred into the EMR (creating empty charts with patient names and other demographic data). Once the EMR is operational, the interface will operate in either a batch or real-time fashion, updating the demographic information in the EMR as new information or new patients are entered in the practice management system. It is possible to build additional interfaces that link other information such as charge capture between the two applications; however, as a general rule of thumb the cost of interfaces is directly proportional to their sophistication and complexity.

Even if a practice retains its existing practice management software, the EMR can help improve the efficiency of administrative personnel. Your administrative staff should be involved in the educational process and understand the capabilities and benefits of the EMR as it relates to them.

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