Making the Transition: Rethinking Work Flows

There is a common misconception in healthcare that the many efficiency and operational gains that result from electronic health records (EHRs) and other information technology will allow organizations to eliminate staff and slash payrolls.

The corollary to this idea is that existing employees may resist a switch to EHRs for fear of losing their jobs. This, too, is largely a myth, experts say.

There is a common misconception that the efficiency and operational gains that result from electronic health records and other information technology will allow practices to eliminate staff and slash payrolls. If anything, payroll may go up simply because low-level file clerks become skilled computer operators who command higher salaries. But the extra cost might be worth it.

"I think the real gain that you get going forward is that as your practice continues to grow, you don't have to add as much staff," says Susan R. Miller, administrator of Family Practice Associates of Lexington (Ky.). That practice started computerizing its records with document scanning in 1999, a year after it began an expansion by opening a second office.

If anything, payroll might go up simply because low-level file clerks become skilled computer operators who command higher salaries. But the extra cost might be worth it.

"You get this return on investment that comes to you even later on because you basically can be more efficient," Ms. Miller says.

"We made it clear from the beginning that we did not intend to eliminate staff," Ms. Miller says. Instead, Family Practice Associates (FPA) shifted its personnel around as work requirements evolved. "All of their job descriptions have changed quite drastically, not just once or twice, but three or four or five times,"

Ms. Miller reports.

With information technology, no longer do people have to pull charts, call insurance companies to verify patient eligibility or waste countless hours on the phone processing prescription refill requests. But someone has to be responsible for making sure paper forms and records from hospitals, laboratories, specialty practices, nursing facilities, rehabilitation centers and other third parties are scanned into each patient's electronic chart.

Above all, however, there is more job satisfaction, which translates into greater staff retention and reduced turnover. "You get this extra, added benefit that you didn't anticipate because your staff becomes long-term," Ms. Miller says.

Dr. Jason Butler, a medical officer with Allscripts, the practice's primary technology vendor, was pleasantly surprised by the unexpected boost in job satisfaction.

"Unlike the majority of offices, where personnel are kind of interchangeable because everyone's involved in the same chaos of medical records in the outpatient setting, here was something very unique," Dr. Butler says. "It was efficient and organized, and they didn't want to leave. In fact, the idea of going somewhere without a similar setup was frightening to them."

One-Week Transformation

As a solo practitioner who already had a high level of comfort with computers, Dr. Greg Hinson, a family practitioner and obstetrician from Nantucket, Mass., was able to move quickly, transforming his office from paper to electronic in one week.

After the office closed one Friday, the vendor, eClinicalWorks, went to work, installing the EHR and practice-management software remotely, since Dr. Hinson had opted for an application service provider (ASP) product. The vendor maintains the server off-site, providing access to the customer over a high-speed, secure Internet connection.

Over the weekend, technicians transferred existing patient demographic data from an old system Dr. Hinson had. The practice was closed for most of the following week while staff trained all day on Monday and Tuesday with an eClinicalWorks trainer present. While setting up each computer, the trainer walked Dr.

Hinson and his staff through the process of establishing best practices for privacy and security.

On Wednesday, the practice refined the system in-house, customizing forms, templates and order sets to their particular requirements. The next two days, Dr. Hinson was able to see a handful of patients on a limited schedule, and he and his small staff applied their training to real patient encounters.

The practice fully re-opened the following Monday with its new-and-improved clinical and administrative work processes.

Dr. Hinson's experience may not be typical, but it illustrates that radical transformation does not have to be drawn-out and painful. Of course, planning is essential.

When Family Practice Associates of Lexington began computerizing its records, personnel were shifted to new duties as work requirements evolved. "All of their job descriptions have changed quite drastically, not just once or twice, but three or four or five times," says Susan R. Miller, practice administrator.

Rosemarie Nelson, a consultant on IT issues for the Medical Group Management Association in Englewood, Colo., says that employees of physician organizations have to be prepared for "a shift in thinking" when moving from paper to electronic records. "Do employees understand that workflow from paper can be quite different in electronic format?" she asks.

Someone has to make sure that patient history and demographic information gets into the EMR. Traditionally, a receptionist or front-office clerk would simply file the paper history form in a folder. But in an electronic environment, it may be a doctor or nurse who keys in this data while interviewing the patient, or patients can enter their own histories from a computer.

In the likely event that there is no direct interface from an outside lab's system to a practice's EMR, someone needs to be responsible for entering test results into the appropriate patient's record. If lab reports, history forms and other paper documents are instead scanned, do you keep and file the originals or do you shred them, saving only the electronic copy?

Practices also have to decide what information should be transferred from paper records. "Do you want to record historical vitals into the chart, and if so, when will this be done, ahead

of training or after?" Ms. Nelson asks.

The switch from pen and paper to hard drives and monitors is usually a gradual one, so there probably will be a transitional period in which the practice either runs parallel paper and electronic systems or is a hybrid of the two.

Virginia Adult & Pediatric Allergy & Asthma is at this stage right now. Despite the presence of an EMR, the practice still keeps racks of paper charts, printing out notes and inserting them into the files, mostly because everyone is used to carrying charts and reading paper records. "It's kind of like a crutch," explains Laurence A. Kinzler, the practice's administrator.

Still, the practice has eliminated at least 50 percent of chart pulls because records are available electronically whenever and wherever practitioners and staff need them, Mr. Kinzler says.

"Have you identified for your staff how to know if a chart has been changed to EMR so that next time the patient comes in, your staff knows to look for it on the shelf or in the EMR?" asks Ms. Nelson. She suggests marking charts that have been converted with a stamp or a large letter "E" to indicate that they are now electronic.

It might be expensive to maintain dual files during the transition, but sometimes it is necessary. At the annual American Health Information Management Association (AHIMA) convention last October, medical records specialist Mary Beth McCoy Haugen of Denver Health said that her department had "strongly discouraged" printing from EMRs until clinicians pointed out that the policy did not take their workflows into account.

Physicians simply wanted to be able to review previous notes on their patients before entering exam rooms. Without printing history reports, they would have to wait until they got to the computers in the rooms. "We have had to back off," Ms. McCoy Haugen explains. "If you've got the space to store your paper records, I suggest that you continue to do that."

Evanston-Northwestern Healthcare (ENH), an integrated delivery system with an affiliated group of 460 physicians in Chicago's northern suburbs, spent $30 million to automate nearly every aspect of its three hospitals and more than five dozen ambulatory facilities. Although the project has been successful, there were plenty of bumps along the way.

Getting a workforce of more than 7,000 people ready for the technology at ENH required more than 100,000 man-hours of training, and the organization had to develop 51 different in-person and on-line classes for various users to take. At the peak of the implementation, the health system had the equivalent of 20 full-time trainers on the payroll—twice the initial estimate.

Among their discoveries was that older clinicians who may never have learned to type or work a mouse needed training in basic computer skills. Other users needed constant reminders to plug in portable computers when they are finished using the devices to allow the batteries to recharge.

During training, staff will be taken away from their regular jobs, so practices should be prepared to pay overtime or to bring in temporary clerical help. Supervisors should not be expected to care for patients during the initial "go-live" phase while they

Gearing Up for EMR Implementation

Rosemarie Nelson, a consultant on IT issues for the Medical Group Management Association in Englewood, Colo., offers the following advice to help practices move into the training phase of their EMR implementation:

- "Is your staff familiar enough with Windows and your current systems that these issues will not slow down the EMR training?" Otherwise, send individual employees to additional computer classes.
- "Have all log-ins, user names and passwords been pre-established, written down and practiced prior to the training?" Users—especially physicians—will not want to sit around and wait for network administrators to program in this information. Make sure this information is in the system beforehand.
- "Do users know how to properly exit Windows? Do they know how to properly exit the EMR?" Compliance with the privacy and security rules of the Health Insurance Portability and Accountability Act (HIPAA) depends on user vigilance.
- "Do they know whom to call for internal technical support issues?" If your organization is too small to have a help desk, the vendor can supply one.
- "Has the staff been notified that during the training, there will be a lot of topics to cover, but they will be learned over time?" Reassure them so they do not feel overwhelmed.

are lending their expertise to others.

Remember, any extra people will need work areas, telephones, computers and, if you are asking them to work odd hours, food.

Also be sure to budget for training space and even some remodeling expenses. Will computers fit at existing nursing stations or do the areas have to be reconfigured? Are servers adequately protected and out of the way of prying eyes?

Large organizations may find it helpful to have round-the-clock support for clinicians during the initial rollout, something that could entail dozens of technical people working extended hours for a few weeks.

Effective Training

No matter what the size of your practice, it could take a bit of trial and error to figure out effective training regimens.

Jeffery Daigrepont, a health IT implementation expert for the Coker Group, a consulting firm based in Alpharetta, Ga., has one piece of advice on planning training. "You get out of it what you put into it."

Practices that make the investment in technology must not forget to invest sufficient time in educating clinical and administrative staff on how to use the new system, says national health IT coordinator Dr. David Brailer. "If they are not willing to take time to let people free up to do that, they'll never be able to put the time into making it succeed," Dr. Brailer says.

Even if some physicians have limited experience with technology, Mr. Daigrepont says there is no reason why they cannot learn quickly. "I don't buy the line, 'I don't use computers,'" he says. "These are smart people."

A great way to ease the pain is to take things slowly, implementing an EHR one component at a time.

"The idea of change has always been difficult for the [medical] fraternity," Dr. Butler says. "Having that incremental approach allows you to bring the benefit to the whole office with minimal impact to the physicians as they're still treading water trying to figure out what's going to be the best solution for them," he says.

That was the logic behind FPA's decision to start with scanning, also known as document imaging management (DIM) or

electronic document management systems (EDMS). "You do get a lot of bang for your buck," Ms. Miller says. "You save a lot of money. You can take that revenue and apply it toward ramping up to a higher level."

FPA has done just that, gradually adding functionality until it converted to a full EMR last year.

For the initial transition from paper to document imaging, FPA scheduled evening and weekend shifts for four weeks, offering overtime to regular staffers and hiring contract labor to pull charts and prepare the documents for scanning. The actual scanning was done by regular staff because they had experience handling medical information.

"We had anyone who dealt with the chart at all sign a confidentiality statement," Ms. Miller says. Such a step is even more crucial today in the era of HIPAA privacy regulations, which took effect in 2003.

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The physicians themselves were kept away from some of these more mundane and technical tasks, even though they already had some experience working with an electronic laboratory reporting system. Their interaction with computers was kept as simple as possible until they developed a level of comfort with viewing charts on video displays.

"They were at the lowest level of computing, basically using a mouse to click on an icon and open documents that they viewed," Ms. Miller explains. "They really were not doing much beyond that at that point. So it was almost insidious how computers became part of our everyday existence."

Dr. W. Jeffrey Foxx, the founding physician of FPA Lexington, reports that the learning curve for the nine doctors and two physician assistants was about four to six weeks. It may take less time for specialists because, for the most part, they deal with smaller sets of data than primary-care physicians.

Eventually the practice put PCs in every examination room so physicians could view charts while seeing patients. "They were

able to integrate that into their exam-room protocol at a very basic level of computing," says Ms. Miller.

Significantly, she says, the doctors didn't feel as if anything were forced on them. They made the computer a small part of their routine long before the practice started live entry of clinical data at the point of care with a more sophisticated EHR.

Efficiencies in Prescribing

Another possible starting point is electronic prescribing, as illustrated by the health information technology industry's response to Hurricane Katrina, described in Chapter 1.

Since the technology is relatively easy to implement and use, e-prescribing helps win the hearts and minds of physicians reluctant to embrace computers, according to Dr. Peter Kaufman, chief medical officer of DrFirst, a vendor headquartered in Rockville, Md., that makes an e-prescribing software package called Rcopia.

"We know that e-prescribing is not the last stop on the train," Dr. Kaufman says. It gets physicians and staff to buy into e-health for later. "They won't adapt if it's too much of a change in the workflow," he adds.

A common complaint from the anti-automation crowd is that nothing is faster than writing a prescription by hand. That may be true for new prescriptions, but Dr. Kaufman says that physicians can order refills with a single mouse click or tap on the screen of a handheld personal digital assistant (PDA).

He says that practices gain an hour's worth of staff time per doctor per day from efficiencies created by an electronic prescribing system. "The staff saves way more time than the docs do," Dr. Kaufman says.

They no longer have to check for drug-drug or drug-allergy interactions or, for the refill process, pull charts, track down physicians and play telephone tag with pharmacies. Pharmacies also gain tremendous efficiencies from not having to call to verify illegible prescriptions or scripts for medications not on a patient's formulary.

The numbing monotony of responding to medication refill requests without electronic reference tools and connectivity has been mentioned as a key source of discontent for nurses. But

eliminate that part of the job, let nurses concentrate on caring for patients, and watch their job satisfaction skyrocket.

Keeping nurses happy may be a success factor in IT implementation, since they are at the center of so many clinical processes in a medical office. "A nurse is the most likely person to sabotage an IT project," Mr. Daigrepont says.

Doctors generally will be receptive to new ideas if they have ownership in the process and if the change is not unreasonably disruptive. Florida-based IBM consultant Dr. Samuel Bierstock says that either the doctors or the people working directly with them need to be a part of systems assessment and planning from the start, looking at the technology to see how it will apply to the practice to make sure the needs of both the management and clinical sides are met.

Dr. W. Jeffrey Foxx, the founding physician of FPA Lexington, reports that the learning curve for the nine doctors and two physician assistants was about four to six weeks. It may take less time for specialists because, for the most part, they deal with smaller sets of data than primary-care physicians.

The MGMA's Ms. Nelson recommends that "non-techie" physicians serve as champions of the IT project and develop mentoring relationships with those who are new to technology to ease the holdouts along in small steps. "In order to get there, you have to do it in little pieces," she says.

The go-slow approach has worked so far for the seven-physician Virginia Adult & Pediatric Allergy & Asthma group. Mr. Kinzler says that elimination of waste may not have led to any staff cuts, though it has increased productivity and quality of care.

"The office is running much more efficiently," says Mr. Kinzler, "but pushing them to the next step is going to be difficult."

Mr. Kinzler complains that the practice has had problems formatting and editing templates in its EMR, especially when adding new patients to the database. "That is always a work in progress," he says. Also, he says that the text editor is rather inflexible and that automatic coding essentially is "unusable."

In larger organizations that can afford to have trainers around throughout the workday, Dr. Bierstock has an idea for introducing new features or helping users who may be struggling. "One

of the most effective things that I have seen work is something called just-in-time training," he says. Whenever a physician happens to have 15 minutes or so of free time between cases, the doctor can call for an instructor to demonstrate one or two things on the computer system.

Margaret Stewart, a coding consultant from Norcross, Ga., suggests that health information management professionals at physician-owned medical groups get the doctors on board by framing the records issue in financial terms. "Tell them, 'We are losing money because you are not providing enough documentation,'" Ms. Stewart advises.

And for the stubborn ones who don't want to take the time to learn any part of an electronic medical record or other IT system? Margaret Stewart, a coding consultant from Norcross, Ga., suggests that health information management professionals at physician-owned medical groups get the doctors on board by framing the records issue in financial terms. "Tell them, 'We are losing money because you are not providing enough documentation,'" Ms. Stewart advises.

Outsourcing Claims Processing

Jonathan Bush, chief executive officer of athenahealth, a billing software and services firm in Waltham, Mass., says that there is no reason for small practices to bring electronic claims processing in-house rather than work through a billing service or clearinghouse—such as his company—because every health plan has its own rules, procedures and code sets.

(The HIPAA transaction regulations were supposed to standardize electronic data interchange, but the rules still allow payers to add unique addenda to the specified code sets.)

"The only thing that might change that is if the industry reaches such an intense level of standardization and integration that it really is just a computer thing, but there is no evidence right now that we are anywhere near that stage," Mr. Bush says.

Looking at the scale of medical billing most practices have, Mr. Bush says that it does not make financial sense for anyone but the nation's largest medical groups to process their own claims.

In the case of athenahealth, the company charges its clients a percentage of collections, so there is an incentive for the billing

service to process its claims as quickly and accurately as possible. Even if the payer sends back remittance advice on paper, an outside service can key in the data, then review and evaluate the transactions to make sure doctors have been appropriately compensated for their services.

Mr. Bush says that outsourcing some practice-management functions can take away many of the headaches associated with technology installations. "The whole thing with software is that you have to get it all really right upfront because once you say goodbye [to the vendor's implementation team], it's over," he says. "With a service like ours, we are watching these people's work all day long, every day."

If athenahealth sees that a customer is not operating to its full potential or is repeatedly making the same mistake, Mr. Bush says that the company can call the medical practice to offer additional training or even make changes to the software to correct the problem.

Like so many others in the software business, athenahealth outsources some of its programming and support services to India, an arrangement that Mr. Bush says has allowed the company to lower its prices by 30 percent. But sending clinical documentation overseas, where HIPAA privacy rules do not apply, has been controversial.

In 2003, a medical transcriptionist in Pakistan, in a dispute over wages, threatened to post confidential patient information from the University of California San Francisco (UCSF) on the Internet. The institution and its U.S.-based transcription service are subject to HIPAA requirements, but the disgruntled employee was a subcontractor to a subcontractor, unknown to UCSF.

The parties involved settled the dispute without any data getting out, but there is a lesson to be learned from this episode: Make sure you know at all times who is handling your practice's patient-specific information and that any outside vendor is clear about its own subcontracting operations.

Small, independent medical practices have to be especially vigilant because they seldom have in-house IT staff to support their networks. "You need a critical mass of 60 to 100 workstations to justify hiring an IT person on a full-time basis," Mr. Daigrepont advises.

The threshold could be lower for high-income specialty practices, particularly those that already have pricey imaging, diagnostic and other high-tech medical devices, but practices with fewer than 20 physicians generally would not have their own full-time network administrators or help desks as a hospital or large, multi-specialty group might.

Girish Kumar, founder and vice president of sales and marketing for eClinicalWorks, the Westborough, Mass., vendor that counts Dr. Hinson among its customers, says that physician offices with as few as 15 people might need part-time IT help.

Jonathan Bush, CEO of athenahealth, a billing software and services firm, says that it does not make financial sense for anyone but the nation's very largest medical groups to process their own claims. He says that outsourcing some practice-management functions, like billing, can take away many of the headaches associated with technology installations.

Virginia Adult & Pediatric Allergy & Asthma has chosen to enlist an IT professional on a retainer basis rather than hiring someone full-time, according to Mr. Kinzler. In Massachusetts, Dr. Hinson, who calls himself "a do-it-yourself kind of guy," has never hired anyone for IT support, though he has brought the occasional difficult question to a friend in the IT department at a nearby hospital.

For most primary-care practices, though, Dr. David C. Kibbe of the American Academy of Family Physicians (AAFP) says that the first line of defense against IT hiccups might have to be a current employee who happens to have good computer skills. "Someone in the office needs to get at least minimally capable on new systems to troubleshoot minor problems," he says.

Even a small office can protect itself against computer viruses, worms, spyware, spam e-mail and other nasty threats to a network with reasonably priced software. Mr. Daigrepont recommends buying a subscription to an antivirus program that automatically updates itself via the Internet.

"It's not easy for small businesses," says Dr. Kibbe. He notes that when hardware manufacturer Gateway had its own chain of computer stores a few years back, individual outlets kept lists of area consultants. But that idea died when Gateway closed its

retail locations. Best Buy stores now provide consumer and small-business access to a network of on-call technicians collectively known as Geek Squad.

For those organizations with the resources to employ an IT professional, Mr. Daigrepont advises that hiring managers look to see if each candidate has specific experience with medical practices or at least knows how to take precautions with sensitive data such as personal health information.

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"Be careful if you are running an ad for an IT person," Mr. Daigrepont cautions. He warns physicians not to describe exactly what kind of network you have, specific software versions or the number of workstations. "That's good information for a hacker."

Remember, though, Federal officials are enforcing HIPAA privacy rules based only on complaints they receive, so there is no need to fear random audits by government heavies. "I've yet to see the HIPAA police," Mr. Daigrepont says.

Of course, the fact that there is no such thing as the HIPAA police does not excuse a medical practice from being vigilant about its own security practices.

Secure Passwords

Mr. Daigrepont is adamant about giving each system user a unique user name and password. "You don't want to have one password for everybody," he says.

For one thing, HIPAA requires healthcare organizations to keep audit trails of access to any confidential personal health data stored electronically. You should be able to pinpoint exactly which person viewed a patient's record at any time.

Secondly, if an employee leaves the practice, it is much easier to lock out that person's computer access than to force everybody else to learn a new sign-in routine.

Dr. Bierstock says that physicians may be tempted to share their passwords with nurses or administrative staff as a means of

saving time, for example, by asking someone without order-entry authority to go into the system and change a patient's order for them. "That's an exquisitely serious infraction," he says.

A loss of staff privileges should not be considered unreasonable in such circumstances, according to Dr. Bierstock. "That's just not an acceptable thing."

Even in a physician-owned medical group, there need to be consequences for physicians who give passwords to nurses or administrators, as a matter of credibility and strong governance, Dr. Bierstock says. "You have to begin to make it clear to the medical staff that there is a body of people making decisions, and that they have authority."

For information as sensitive as health records, Mr. Daigrepont recommends that passwords contain a minimum of six characters and two "complexities," such as a mixture of letters, numbers and other keyboard characters and a combination of lowercase and capital letters. Change passwords on a regular basis.

Since HIPAA came along, some vendors have been offering automatic logout after a period of inactivity—sometimes as little as 30 seconds—to clear computer screens of protected health information should the user walk away. Unless there is some compelling reason to have the system sign users out after a short period of inactivity, Mr. Daigrepont strongly advises against setting it up that way. "Docs aren't interested in re-entering passwords," he says.

All users should, however, be able to sign out quickly, says Ms. Nelson.

One option to reduce the number of times users have to enter passwords is to purchase a feature known as single sign-on. Each user has just one log-in name and one password, no matter how many components an IT system has. Sign on to a lab-reporting module and get access to the basic EHR, imaging database, scheduling software and patient insurance information.

Single sign-on does have its drawbacks, especially if it is a separate security module bolted on top of an existing hodgepodge of interfaced IT systems from multiple vendors. "Everybody's ideal scenario is a single log-on," Mr. Daigrepont says, "but that is expensive and complex to maintain."

But if you decide to purchase this option, read contracts carefully, as vendors may require a distinct license for each individ-

ual sign-on added to the system.

Two other key pieces to the security puzzle are usage policies and backups.

Productivity slowdowns notwithstanding, personal usage of business computers actually can compromise network security. While it may seem benign for employees to check personal e-mail accounts through Web portals such as Yahoo! or Microsoft's Hotmail, they run the risk of introducing viruses to the whole office because messages do not get filtered through the practice's regular—and presumably protected—e-mail server.

"We do educate practices about being vigilant with e-mail," Mr. Kumar, the eClinicalWorks founder, says. While banning personal use of the Internet from the office might be a little extreme, Mr. Kumar says that it is a good idea to caution employees about opening e-mail attachments because worms and viruses tend to be embedded in attached files.

'The Computer Is Down'

And just in case something does infect the network, eClinicalWorks, like other ASPs, can pinpoint the source of the problem because they track all attempts to access the network from inside and outside the practice. "We log everything," Mr. Kumar says. (The same technology generally satisfies HIPAA auditing requirements, he notes.)

No matter how much security you have, though, the occasional network outage is inevitable. "There's always going to be planned and unplanned downtime," Mr. Daigrepont says.

A practice might schedule downtime to upgrade software, replace hardware or perform nightly backups of critical data, though the wide availability of high-speed Internet and improved on-line security have sparked the growth of remote backup services. "Something like Katrina just accelerated that," Mr. Kumar says.

Unplanned events include power outages or lost connectivity, perhaps due to problems with a telecommunications provider. Mitigate effects of the latter type by having contingency plans.

"Always leave yourself a cushion," Mr. Daigrepont advises. If the connection between two locations is down, at least make sure the network is running internally. You can always pick up the telephone if you need information from another office right away.

Hospitals and urgent care centers may need electrical generators for emergencies, but the average office-based practice probably does not. An uninterruptible power supply (UPS) that provides enough backup power to save current files and safely shut down computers should suffice.

Dr. Bierstock reminds physicians that regular data backups are essential. "It has to be offsite, it has to be daily, it has to be rotated," he says.

Hurricane Katrina showed the importance of keeping backups offsite, either physically taking the backup medium out of the office or backing up data to a remote site via the Internet. "You can't believe how often people, if they are backing up to tape or CD, will back up and leave it beside the computer overnight," Dr. Bierstock says. "It's actually a little bit mind-boggling, but it happens a lot."

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Practices should get in the habit of choosing a different, color-coded backup each day. If the person takes the latest backup home, it is acceptable to leave backups from two or three days earlier in the office, but the most recent backup has to be taken offsite to guard against an emergency.

In case of an extended power outage or computer failure, have paper forms available, and not the old-fashioned paper encounter note or superbill. Design the forms to look like the corresponding computer screen so they are easy to fill out and easy to transfer to the EMR or practice-management system when the network comes back on-line.

If and when the EMR is not available at Family Practice Associates of Lexington, the doctors go back to what Dr. Foxx calls a "mini-chart," a standardized paper form to record basic encounter information. "It's a paper representation of the EMR," he says.

Even with the computer system down, we can score one for process improvement.