

Out of Room? Seven Tips for Solving Data Storage Challenges

By John McCormack

For years, the promise of a paperless office loomed as a nirvana of sorts. Now, as more medical groups are actually moving toward paperless realities, they're discovering that there is, indeed, some trouble - or at least unexpected hassles - in paradise.

Sure, doctors and administrators are glad to be rid of the paper mess, the rows of file cabinets, and the storage room expense. But there is also a growing need to manage electronic systems, specifically to utilize reliable electronic data storage solutions. And this catches some practices unprepared.

"A lot of physician practices begin to computerize and they see all of the advantages," says Deborah Kohn, principal of Dak Systems Consulting, based in San Mateo, Calif. "Unfortunately, I don't think they understand the full equation. They don't understand that with computerization you inherit the responsibility to manage your computer system - and that means you have to become responsible for functions such as data storage, back-up, and recovery."

As more groups adopt practice management, electronic medical records, and imaging systems, addressing electronic data storage issues is becoming increasingly important. Don't know how to get started? Here are seven tips from those

who've already wrestled with electronic data storage issues.

Tip 1: Put someone in charge

Doctors and administrators are learning that computer systems need some tender loving

care. And that means finding the right caregiver. Fortunately, it's not necessary to have a computer whiz with advanced knowledge. With the date for compliance with the federal security rule already passed, you likely have identified someone in your practice who has an affinity for computers and has responsibility for the maintenance of

your computer systems, including the protection of the data stored in those systems.

The administrator should ensure that there is enough data storage capability on the practice's computer hardware to handle the requirements of software programs, and analyze products for data storage capabilities. He or she would also take the lead in assuring that data is backed up and that proper safeguards exist to prevent the data from falling into the wrong hands. By designating a systems administrator (or security official), your practice will ensure that computer maintenance and data

The regulations specify that access to data must be granted to only those who need it. **Cabinet NG** only allows authorized users to access certain documents.

storage issues will not fall through the cracks.

Tip 2: Storage space is finite

Because storage space is limited in every computer system, the administrator needs to constantly keep tabs on what's needed. Different programs will have different data storage requirements. For instance, e-prescribing software will have little or no impact on storage needs, while picture archiving communications systems will eat up space, Kohn says. "You should be monitoring your systems on a daily or weekly basis as to interfaces and disk space and running utility programs that would prompt action," says Rosemarie Nelson, a consultant with the Medical Group Management Association of America. Your own computer can tell you this, through a utility program that performs specific tasks related to the management of computer systems - such as the monitoring of storage space.

Similarly, when purchasing new computer programs, the administrator should always ask the software vendor about storage requirements.

When your system has reached about 85 percent of capacity, it's time to do something about it, Nelson says. To rectify the situation, you can begin to archive more documents or simply add more storage space. The good news is that data storage is relatively inexpensive. Typically, data storage costs amount to less than 10 percent of complete network configuration.

If you don't monitor the available space regularly, and suddenly find your practice using 95 percent of its available space, you could be asking for trouble. Your system, for example, could freeze up or you might need to upgrade your computer system in a hurry, which could result in dishing out a premium payment.

Tip 3: Understand data types

Understanding when and how to archive certain types of data can help practices more effectively utilize their available storage space, Kohn says.

According to Kohn, the administrator should understand the differences among the three most common types of data and how long they must be stored. Historical data - information that needs to be readily available to clinicians and administrators - should be stored on magnetic media, media that holds content on an electromagnetically charged surface or set of surfaces. Such media enables users to quickly access and change information. Archival data is any information about a patient who has not come into the practice for a couple of years. This type of data can be stored on "read-only" non-rewritable storage discs. The fact that the data cannot be altered provides additional protection for the practice in case any of the information is ever contested.

When a patient has not come into the practice for a certain number of years - the number varies by state - then the data can be classified as destroyable data. For this type, automated data storage features could come in handy. Some systems can automatically flag files that need to be deleted because they have exceeded the time period for storage. Without this feature, you run the risk of keeping too much data on your system, which will slow it down.

Tip 4: Plan for growth

Raymond DeCrescente, chief technology officer with the Capital Regional Orthopaedic Group, a 21-physician practice based in Albany, N.Y., is constantly mindful of data storage issues as his group keeps adding more computer programs to the mix.

When the practice began to shop for new practice management and picture archiving communications systems and as practitioners began to increase their utilization of the electronic medical records system, DeCrescente knew that he needed to assess overall data storage requirements.

"We always have to have a good handle on our current and future data storage needs," DeCrescente says. "With so much automation, though, I have to make sure that I am always looking at my storage needs as a whole, instead of taking a system by system approach."

The picture archiving communications system, for instance, requires a big chunk of electronic data storage space. "We probably require more than a gigabyte of storage a day just for X-ray images," DeCrescente points out.

To handle current and future storage needs, DeCrescente chose HP StorageWorks Enterprise Virtual Array 5000, a RAID (redundant array of independent disks) electronic data storage system from Hewlett Packard. The system provides the practice with 12 terabytes of storage on multiple hard disks. One terabyte of storage is equal to 1,024 gigabytes. By placing the storage on a RAID, which uses multiple disks, operations can overlap and performance, thereby, improves.

"The system provides us with a lot of storage. So, we have room to grow. I don't have to worry about other storage options for quite some time," he says. By using just one data storage vendor for all of its computer software systems, the practice is streamlining both costs and processes, DeCrescente adds.

"To have a centralized storage device from one company seemed to be the best solution," DeCrescente says. "This data storage solution will grow with us rather than having separate storage devices for each application that would have storage limits."

Tip 5: Remember the human factor

It's essential to put the right electronic data storage systems in place. But as Melissa Davis, practice manager at Coastal Cardiology Associates, a six-physician practice in Wilmington, N.C., knows, it is equally vital to make measured steps when implementing electronic storage.

Coastal is using an automated filing system from **Cabinet NG**, a document management software provider. With this system, the practice continually converts paper documents such as EOBs, patient information, memos, insurance cards, and doctors' notes into electronic formats - one step at a time.

"We do a little more each year, as we grow more comfortable," Davis says. "In the past 18 months, we started to take bigger steps and are scanning more documents including inactive charts into the online storage system."

The security of electronic data storage is especially important as Davis' practice, like yours, must comply with privacy and security regulations. The regulations specify that access to data must be granted to only those who need it. Cabinet NG only allows authorized users to access certain documents. For example, physicians might have access to complete clinic notes, while office clerks would be restricted to more basic patient information.

Tip 6: Prepare for the worst

Perhaps the greatest fear of physicians and staff members is the possibility of losing data somewhere in the electronic sphere. The fear certainly has crossed the minds of the 12 physicians at Family Practice of Central Jersey, Freehold, N.J., who rely on an electronic medical records system from NextGen Healthcare Information Systems, and a number of other administrative systems.

As director of network development, Ed Ciafardini knew that it was up to him to calm the physicians' nerves. "Everything that we do is dependent on the data in the computer systems," he says. "So, I know that it is really important to make sure that our electronic data storage is safe and secure."

To meet that goal, Ciafardini developed a data back-up and recovery plan, which is required by the security regulation. "We look at everything every day and do [a back-up] at night that just runs automatically," he says. "After the back-up runs, we then capture all of the data on tape."

A recovery server is housed in another location. So, if need be, Ciafardini can take the back-up tapes to the server and have the practice up and running in a matter of minutes.

Ciafardini, however, takes the data back-up even further. He has the system set up to

run transaction log files every hour. As a result, if the system crashed during the day, he could provide up-to-the-second back-up with the transaction log files - and all of the previous data would be accessed through the back-up tapes running on the data recovery server.

Tip 7: Know your limitations

While some larger practices such as Family Physicians can rely on a systems administrator's information technology knowledge to manage the electronic data storage process, some practices simply don't have the human resources to manage complicated data management and storage operations.

For example, Sonja Mason, a self-described computer neophyte, knew that she needed to do something to address electronic data storage, but she had no idea where to start.

"We just started to automate but I knew we needed to have some sort of electronic back-up. Because we don't really have the computer expertise in-house, however, it needed to be easy," says Mason, who works as the practice manager at Eastside Gynecology, a solo practice in New York.

To address the issue, the practice is using an online data storage system from Amerivault. The system makes it easy for Mason to safely and securely take care of electronic storage issues - without having to know the ins and outs of the technology per se.

Aaron Sako, an optometrist who practices in a five-doctor practice in Laguna Hills, Calif., also didn't want to have to rely on staff to manage the data storage process. So the practice has adopted an easy-to-use online data storage solution from DataHEALTH.

"We used to download everything onto a disk every night," Sako says. "But we just did not want to have to rely on staff to perform the download each night. This automated solution is simply more reliable."

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