Preparing for EHR Downtime and System Failures
by Kelly Bilodeau

A rapidly increasing percentage of health care providers and hospitals are now using electronic health records to manage patient information. As of 2013, more than 80 percent of hospitals were using EHRs. [1] In addition, some 70 percent of office-based physicians were using EHR or electronic medical record systems EMR as of 2012. [2]

While electronic systems can bring many advantages, such as increased efficiency, reduced costs and improvements in both accuracy and care coordination, they have a big downside — system failures. [3]

When the system goes down, it can paralyze an organization.

Consider the case of Boulder Community Hospital. In March 2012, the EHR system at this Boulder, Colo., hospital was brought down by a major malfunction that not only affected its main server, but also a backup server. The system was offline for days, which caused major upheaval for patients who faced long wait times and sluggish staff response. [4][5]

Be prepared

Planning ahead is critical to help mitigate potential electronic health record downtime problems. This means ensuring, among other things, easy access to printed documents and labels, and training staff members on manual documentation procedures. Preparing for EHR downtime, whether it is planned or unplanned, also requires the development of clear protocols.

In order to ensure an organized process, organizations should consider forming a team to take on the task. Drawing team members from a number of different departments will help to ensure that the planning process is thorough and doesn’t overlook any important elements. For example, your team should have members from not only IT, but also physicians, nurses and pharmacists, among others. This team should meet on a regular basis not only during the formation of an organization’s downtime plan, but also on an ongoing basis after that to review and update it regularly. [8]

Under federal law, specifically the HIPAA Security Rule, organizations must ensure data security in the event of a system failure. [5] In addition, organizations need to develop policies and procedures that focus on other areas, such as how the staff members should respond to EHR system failures, policies and procedures for bringing the system back online, and how to add information collected during an EHR system outage back into the system. [5]
A swift staff response to an EHR system problem can minimize disruptions in service and problems for patients.

Staff members can't respond appropriately to an EHR system failure, however, if they aren't informed about the problem. Designating a person within the organization, for example, an internal information technology professional, to notify staff members quickly of a system failure can help prepare them to act quickly. Using a communication form or template can help ensure that this process is standardized and that pertinent information is not accidentally omitted. [6]

**Train up**

Staff training in electronic health record downtime response should ideally begin during initial system training and continue on an ongoing basis. [6]

The creation of written reference materials and tools can also provide staff members with additional support. When electronic systems are down, staff members will need to rely on paper records and forms to continue providing service.

The creation of an electronic medical record downtime kit for each unit in the hospital provides staff members with the tools they need to maintain continuity of care. This kit should ideally include enough blank versions of all forms in the medical record to make it through 96 hours of system downtime. [7]

The kit should also include other information. Some items to consider are daily printouts of critical laboratory results, the patient census for each unit and medication administration records. [7] Each day a staff member should replace the previous day's printout with the current version. [7] Labels should also be included in the kit, so staff members and physicians can use them to flag important information that should not be overlooked. When building kits, take into consideration what each department would be missing if the electronic health system was down. Consider the needs of both newly admitted as well as existing patients. Include labels to highlight important information such as allergy, fall and DNR alerts, things that might be flagged automatically by an electronic system. In addition, also think about preparing preprinted backups of any labels that would normally be printed by the electronic system, such as medication added labels, specimen labels and consecutively numbered labels.

Also prepare an alternative system for printed wrist bands that are given to newly admitted patients. For example, include bands that can accept handwriting or labels printed offline.

If downtime is planned, staff members should print daily appointment schedules the day before. If not, paper sign-in forms should stand in for the electronic record. Staff members should also have blank encounter forms and charge slips on hand. [5] Other paper documents to prepare include medication forms that list allergy information and information about any recent procedures the patient may have had.
Often, younger staff members aren't experienced using paper charts, so training them in written documentation is critical. [7]

Protocols should also be put in place to handle laboratory and pharmacy communications.

One item to consider is establishing alternative practices for delivering orders to the pharmacy or for laboratory tests, whether by fax machine, phone call or hand delivery. [5] Organizations should consider making a list of services or tests that can be safely postponed and decide whether there should be limits on the number of certain tests performed during downtime. [5] [6]

When it comes to radiology and laboratory results, these can also be printed ahead of time if system downtime is planned. [6] If unplanned, forms and labels can serve as a method to manually record and communicate test results.

**Have a plan**

Organizations should also establish protocols for how to distribute these test results; for example, urgent results may warrant fax or telephone notification. Less urgent matters can be held until the system is back up and running. [6]

Organizations using e-prescribing systems should also ensure that paper prescription pads and/or security paper are available and that these items meet pharmacy guidelines. Most pharmacies specify tamper-proof pads and/or security paper based on their state regulations. [6]

In addition to ensuring operations run smoothly, another focus should be on planning for an organized response to bring the EHR system back online. Developing a protocol can help this process run smoothly, by spelling out which areas should receive attention first. For example, IT might opt to bring registration and scheduling systems back first before focusing on other areas. [6]

Designating a staff member to enter clinical information collected during the downtime can avoid missing information and gaps in the medical record. [5] Another staff member could be assigned to follow up with patients who were seen during the outage and to make sure that all documentation, such as encounter forms, billing information and clinical information, is up to date. [5] Creating a downtime recovery report can assist in recovery by listing all the information verified and gathered during the downtime.

Paper documents and labels used during system downtime should be stored in a secure location to ensure that this information is readily available to be included in the medical record once the system is back up and running. [6]

Organizations can help ensure that they are prepared and have the proper systems in place by running downtime drills. Simulating an outage can help staff members understand what resources will no longer be available and what tasks they will need
to modify. [5] Running routine drills can not only train staff members, but it may also detect potential planning gaps that require additional thought or training. [5] Testing employee knowledge through drills and practice runs is another way to ensure the organization is prepared. [6]

Sources
4. EHR Intelligence, "Boulder community back online after lengthy EHR outage," http://ehrintelligence.com/2013/03/25/boulder-community-back-online-after-lengthy-ehr-outage/

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