Choosing a Clinical Intervention Documentation System

Clinical intervention documentation systems provide alerts when certain clinical criteria are met, eliminating the need for pharmacy to sort through stacks of paper reports or continually scroll through onscreen reports looking for sensitive parameters that may require attention. By setting pre-established parameters in the system, the filtering process happens instantaneously. Depending on the system in use, these alerts can be communicated as a pop-up on a desktop display, a page, a cell phone call, or an email.

In a paper-based environment, when looking for a combination of a certain drug and diminished renal function, the first step is to go through the list of patients currently on that drug, and then go into every one of their labs to review renal function. With a clinical intervention documentation system, that data is automatically filtered and instantly available. This allows pharmacy more time to focus on clinical issues, patient education, and staff in-services.

Documenting Clinical Activities
Some of these systems allow pharmacists to document and assign a dollar value to their clinical activities. In some cases, the documentation component is included with the software, for others it requires an additional purchase. If you are interested in this documentation capability, review the products for ease of use. For example, is it simple to link back and forth between the intervention module and the documentation module? Decide which financial model you want to use: Many of these systems have pre-established values for pharmacy’s clinical activities, others allow the user to establish their own values. Some in your finance department may balk at applying a standard value to every institution. On the other hand, in an environment where salaries are rising while reimbursements are diminishing, it is important to justify the resources that are providing these services to your administration. The documentation software can be used to establish the dollar amount that your pharmacists have saved in avoided adverse events.

What Problem Are You Trying to Solve?
In evaluating any technology system, cost is always an issue, but even more important is deciding what problem you are trying to solve with the technology. If you work in a 900-bed teaching hospital and are looking for a system that offers significant user options, you will be considering a different investment than, say, a pharmacist in a 70-bed hospital, who may desire a simpler solution. For instance, systems that provide a sophisticated infection control component – such as the ability to match lab culture and sensitivity results with the current antibiotic regimen or alert pharmacy of inadequate antimicrobial coverage – will require a higher investment than systems without this capability. If your hospital does not plan to utilize these options, a product with less complexity may be a better fit. Ultimately, you want to be sure that you choose the product whose features can solve the problems you are currently facing but will also address anticipated future needs.

Criteria for Evaluating Systems
Of course each organization will have a different list of objectives. For example, if a system provides notification only by cell phone, yet none of the staff carry a cell phone, this is not the option for you. Nonetheless, there are certain criteria that are helpful for all facilities to evaluate before making a purchase.

Ease of Use
Ease of use is a key feature. If the program requires you to bounce between multiple screens and really dig for information — all while you are on a desktop in a busy clinical area — its value will be pretty limited. You also want to avoid programs that require you to go through a list of patients in order to see what is going on. Rather, look for a program that highlights any issues that require attention. Dashboards or control panels with all active issues and alerts will make it easy to do the right thing.

Rule Creation
The ability to create custom alerts is important as patient care becomes ever more complex. The easier the rules are to write, the easier it is to create custom alerts. The better systems use Boolean query language. With this language you can stack criteria together in a sorting pattern to create very complex questions. For example, you can search for every patient that has compromised renal function, is on Vancomycin, and has a penicillin allergy. In some systems, creating complex rules is as easy as selecting criteria from drop-down menus.

You also want to be sure you can create rules match the specific needs of your organization. Sophisticated filtering rules will allow for creation of rules that are service-specific. For example, we have created some rules that for our transplant service, and completely different rules for our pediatric services. Because rules are dynamic
and need to change as guidelines change, you want a system that allows you to change rules simply, without requiring a programmer.

**Rule Triage**

Alert fatigue is a challenge with many technology solutions. The better systems allow you to put additional parameters on alerts to identify the clinical relevance of an out of norm event, so it can be triaged. If an alert identifies an out of norm scenario that does not require immediate attention, a follow-up alert can be established that will trigger if the situation is not addressed within eight hours, for example, or if the indicator goes up by a pre-set percentage, signifying a worsening condition. Removing the background noise of less urgent alerts not only helps pharmacy be more efficient, but it provides a measure of confidence to the physicians that the issues we bring to them require attention.

**IT Perspective**

From an IT perspective, the number one question is: What platform is it on? Will it run on our server or does the vendor need to install their server in our data center? Can it run on a virtual server, or is it an ISP model with an offsite server? Keep in mind, with an offsite server, there are HIPAA security issues to consider. Do we need to install and maintain an application on every desktop running the program or is it browser-based and hence, less resource-intensive? How is downtime going to be managed if internet connectivity is lost?

Consider what it will take to build an interface to other systems (i.e., laboratory and PIS). Is it HL7 RIM compatible? Keep in mind that the interface will need to be maintained and updated whenever a connecting system has a parameter change.

**Reporting Capabilities**

Just as a good alerting system is key to a successful intervention, good data mining methods are key to process improvement. Beyond the ability to alert pharmacy to out of norm conditions, the ability to filter, report, and query the interventions that were taken is equally important because it allows for process improvement.

The best way to determine which practices in your hospital can be improved by staff education is to look at objective data and historical trends. Typically you cannot identify these issues from a snapshot in time. Therefore, a very robust data mining report writer within these systems is critical.

Keep in mind that requests for custom reports can be costly. The better the data mining tool, the less need there is for custom reports. Given the extensive amount of data in these systems, look for a user-friendly tool that will allow you to analyze and report your data in multiple formats.

**Conclusion**

In addition to providing good fundamental clinical alerts, you can use these systems for even more sophisticated tasks, such as identifying patients upon admission who have a history of MRSA or other multi-drug resistant organisms. Furthermore, you have the ability to look at quality measures outside of your day-to-day clinical interventions. For CMS core measures, you can determine if all patients who came in with acute myocardial infarction received a beta-blocker and an aspirin tablet. The more sophisticated the system, the more value it can provide to your organization.

Some EMR systems are starting to build these capabilities into their programs. While that will be coming in the future, we need to deal with the present, and there are many products that deliver what pharmacy needs now to ensure safety and improve processes.

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