Point-of-care tool helps clinicians answer questions, make decisions

by Cynthia Johnson

There may be no better way for a clinician to problem-solve than by analyzing all of the information at hand and making an informed decision when it’s most needed—at the point of care.

Fortunately, clinicians have more recent and relevant medical data at the ready with the availability of a clinical reference tool called DynaMed by Ipswich, MA–based EBSCO Publishing.

DynaMed is an evidence-based tool that can help healthcare professionals answer the clinical questions they encounter in hospitals, medical schools, residency programs, and in their own practices. It contains timely, clinically organized summaries for more than 3,000 topics. The tool, which is updated daily, monitors hundreds of journals and evidence-review databases.

“It really ought to be wherever the clinical question comes to mind,” says Brian Yeaman, MD, chief medical information officer at Norman (OK) Regional Health System (NRHS). “Because if you wait even 30 seconds, the probability that you’re going to look up a question goes down significantly as a provider. And if you wait until the end of the day, that probability is likely in the single digits at that point in time.”

Physicians research familiar and not so familiar topics

Physicians at NRHS have embraced the tool, which was implemented approximately two years ago, says Yeaman. Emergency and family medicine physicians in particular have benefited from it, since they see patients with a broad variety of symptoms.

When a patient arrives at the emergency room (ER), physicians can now look up particular diseases that they may not have thought of in a while. With DynaMed, Yeaman says doctors in the ER can search for a term, such as “hemochromatosis,” and learn more about the complications of the disease process at the point of care.

Physicians also find the tool’s medication information helpful. They can right-click on a particular medication to read an overview and learn more about its interactions and adverse

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effects. Often, a patient may be seeing a specialist who has started the patient on a medication or chemotherapy regimen that may be unfamiliar to nonspecialists, Yeaman says. A nonspecialist can research the medication or regimen on DynaMed before embarking on costly workups to determine the source of the patient’s current symptoms.

But what Yeaman likes most about the tool is the timeliness of its information. At the bottom of every page, DynaMed posts the date the content was last updated by the author, which reassures physicians that they are working with the most relevant data available.

When Yeaman wants to quickly search a topic, such as complex pneumonia, to check for any recent changes, he says the application’s structure makes it easy for him to get to results quickly.

“That’s a huge benefit,” he says. “They continually update topics based on evidence and literature review or maybe an FDA announcement that something has changed in a medication or treatment plan.”

Yeaman admits that not all physicians have readily accepted the tool, since the way physicians approach problems may vary. Some physicians need to be reminded that DynaMed is available, because it doesn’t “jump out” at them to use it, he says.

Overall, both new and experienced physicians at NRHS are pleased with the tool and use it regularly, Yeaman says. Younger users ask for tools such as DynaMed, whereas more experienced physicians are excited by the previously unmet needs that it fills.

As the hospital transitions to electronic medical records (EMR), Yeaman expects that DynaMed will play a big role in getting buy-in from physicians for advanced utilization of their EMR. He envisions being able to receive a progress note from a specialist through the EMR on a topic such as metabolic acidosis and being able to access reference content in DynaMed directly instead of through a separate lookup.

“As an end user, I think we’re always going to ask for deeper integration into our native systems,” he says.

Because you can’t memorize medicine

Brian S. Alper, MD, MSPH, is the founder of DynaMed and is currently its editor-in-chief. He created it while he was a medical student at Hahnemann University School of Medicine in Philadelphia.

“At that time, I realized that I couldn’t memorize medicine,” Alper says. “As a physician, I needed to be able to find the information when I needed it. So in medical school, instead of jamming everything into my head, regurgitating it for a test, and forgetting it, I decided to organize information so I could find it when I was seeing patients.”

Alper put this early version of DynaMed to the test in 1995 while he was on rotation in Tennessee learning what practicing rural family medicine would be like. He says that the information he had gathered made a difference in patient care every day during this experience, especially when it came to changing diagnoses and treatment plans.

As a result, Alper turned the information into a database and named it DynaMed—short for dynamic medical information system. The mission he created for the grassroots product—“to provide the most useful information to healthcare professionals at the point of care”—is still used today by EBSCO Publishing, which now owns the product.

Alper says all physicians can benefit from DynaMed regardless of their specialty. “If you were a very specialized clinician, you still have patients who have other conditions that are not within your specialty,” he says. “You may want to see what you need to know about these conditions in case they have any relation to what you’re doing.”

For instance, Alper says DynaMed receives requests from dentists who want to learn more about medical conditions because there is an overlap with the care that they provide. For some medical conditions, dentists may need to change medications due to bleeding or infection risks, for example.

Similarly, DynaMed is also receiving requests from clinicians who would like to access more dental information on topics such as dental abscess. “That’s not often talked about in medical school, but if a patient comes to the physician and they have it, you need to know what to do,” Alper explains.

As one might imagine, DynaMed also receives many requests for new topics, especially in the infectious diseases category. This trend started when the product began to have global usage.

“There are parts of the world where there are certain
infectious diseases that have become common, but it’s very focused to that part of the world,” says Alper, who cites examples such as Ross River virus and chikungunya fever.

In addition to continuously adding content to DynaMed, EBSCO plans to make improvements that will make it more user friendly, individualized, and accessible.

Each week, DynaMed sends out a weekly update that describes some of the most important articles that are most likely to change clinical practice. In the future, it plans to offer continuing medical education (CME) credit for reading weekly updates. It also plans to individualize the content the updates contain. For example, an asthma specialist would receive content that is relevant to his or her practice.

This would allow DynaMed to inform users when the articles that matter most to them are available, instead of providing a broad variety of articles which may or may not be pertinent to them.

**Popping the question**

The traditional approach to evidence-based medicine is to start with a question that needs answering, Alper says. From there, researchers conduct a search for all possible answers, choose the best information, analyze and summarize it, and publish it as a systematic review.

Alper says a gap exists in healthcare between a systematic review that answers a question ad nauseam and nothing. “You can’t do a systematic review for every possible question,” he says.

To fill this gap, DynaMed has developed a process by which it monitors the literature, evaluates each article as it’s published, and selects the best information available. The result is a tool that takes an evidence-based approach to answering questions.

“That answers more questions with the best evidence than putting the same effort into just doing systematic reviews,” Alper says. “It’s a different basic strategy, but it’s the one that makes the evidence-based medicine practical on the scale of medicine.”

The tool provides clinicians with three evidence levels to help them judge the validity of the content that’s selected. Level 1 evidence (likely reliable evidence) represents the most valid reports addressing patient-oriented outcomes. Level 2 represents mid-level evidence, and level 3 represents reports that lack direct evidence.

“In DynaMed, not only do they provide the top level of evidence, but they provide links to all the primary resources within the text as you’re going through it,” says Yeaman. “It gives me further confidence that they’ve truly met that level of evidence, and I can click and read the synopsis of what that primary source was.”

According to Alper, DynaMed presents clinicians with facts, not opinion, which is a novel approach in clinical referencing. He adds that clinicians need to ask themselves whether they’re only looking at somebody’s opinion and trust it because it’s their opinion or because it’s based on evidence.

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“The traditional approach to evidence-based medicine doesn’t cover enough information, and the traditional approach to medical publishing doesn’t really pay attention to the evidence,” Alper explains. “It’s weighed too much by opinion. We’re the only ones that have put it both together.”

However, if a clinician notices something amiss in the information presented within DynaMed, he or she can simply click on a link at the bottom of the page to send a comment to the editor and provide feedback.

“We make it easy for people to give us feedback,” says Alper. “That’s something that might be unique to us, although I think it should be basic customer service.”

**Giving credit where credit is due**

It stands to reason that if clinicians are going to problem-solve and conduct research at the point of care, they should
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receive CME credits for their efforts. DynaMed provides them with CME credit when they complete a form based on the information they’ve accessed.

“If you look in DynaMed to answer your own question, that can count for CME, which is better for adult learning than if you sit in class,” says Alper. “If you solve your own problem, you learn better.”

If an institution, such as NRHS, has its own CME coordinator, he or she can use the tool to keep track of the credits clinicians receive through DynaMed. EBSCO also provides this service to institutions that may not have their own designated coordinator.

Unique subscription policies

DynaMed currently offers subscriptions for individuals, institutions and groups, and contributing authors and reviewers.

Institution subscriptions provide users with unlimited access via the Web, PDA, or wherever the point of care may be for the clinician—at work, at home, or while traveling. By comparison, other tools typically only offer access at the facility.

Alper says “point of care” is wherever the clinician may need the information—even if that means he or she is not physically at a facility.

“If you get a phone call from a nurse and something has happened to your patient, then you’re making the decision and verbally deciding what to do,” he says. “That is the point of care. How many people rush at three in the morning to go to the library? It’s not the way we practice medicine.”

The savings NRHS achieved when it stopped purchasing Physician’s Desk References and manuals for its nursing stations nearly paid for its institutional subscription, says Yeaman.

In addition to institution and individual subscriptions, EBSCO offers subscriptions to clinicians who participate in its peer review process—a “pay or play” model. It provides them with access to the database and acknowledges their contribution.

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