

Evidence-based medicine

Pressured by payers and regulators, hospitals and physicians must transform yesterday's abstract concept into a nuts-and-bolts blueprint for how they deliver care

By Dagmara Scalise

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Evidence-based medicine is a new imperative for hospitals, as payers step up demands that they collect and report on quality measures. Despite this accumulating pressure, uncertainty prevails about exactly what evidence-based medicine is and how best to practice it.

Although it has been around for three decades, hospital leaders by and large have paid serious attention to evidence-based medicine only within the last three years, prompted by double-digit increases in health costs, rising consumerism and the Institute of Medicine's 2001 report, "Crossing the Quality Chasm." Now, the urgency to understand what was an abstract concept is intensifying as quality reporting gains more steam and payers and stakeholders such as the Joint Commission on Accreditation of Healthcare Organizations demand that hospitals report on evidence-based measures.

SO, WHAT IS IT?

Even though most hospitals--from big academic medical centers to small community hospitals--practice some degree of evidence-based medicine, misunderstandings and misconceptions are rife. "The irony is that while it comes up all the time among providers, no one talks specifically about what evidence-based medicine is," says Paul Keckley, executive director of the Vanderbilt Center for Evidence-Based Medicine, Nashville, Tenn. "Many people believe that somehow it is a new idea or that it's a tradition-based practice."

Another common misconception is that evidence-based medicine is solely a matter of science. However, most definitions used by experts include three components: scientific evidence, physician judgment and patient values. The Vanderbilt Center defines it as the "judicious application of scientific knowledge by clinicians in tandem with patient preferences and values." Similarly, a 1996 article in the British Medical Journal, defined evidence-based medicine as an approach that "integrates the best external evidence with individual clinical expertise and patient-choice."

The fact that there are multiple components to the concept means there is a lot of nuance--and confusion--about just what it is and how effectively it is used in hospitals. We've chosen to believe that evidence-based medicine is a consensus developed by medical experts. But there are still conflicts among experts in determining just what evidence-based medicine is," says Steve Miller, M.D., vice president and chief medical officer at Barnes Jewish Hospital, St. Louis. Those conflicts have as much to do with the type of evidence available as they do with which experts are interpreting it.

WHO DEFINES IT?

In its 30-year history, evidence-based medicine has not developed uniformly across all specialties, medical conditions or diagnoses; consequently, it has not been adopted uniformly. Hospitals tend to provide evidence-based treatment for acute myocardial infarction and congestive heart failure, for example, but do not use it for pediatrics or cancer care.

In addition to AMI and CHF, Barnes-Jewish uses evidence-based measures to treat community-acquired pneumonia, diabetes and stroke, all of which have an already large body of evidence or are rapidly accumulating evidence for treatment. But for many conditions, "there's a lack of long-term, systematic, high quality research," Miller says. "Just look at the controversy surrounding screening women for breast cancer or how best to treat prostate cancer. It's much more all over the map."

This patchwork development and adoption of evidence-based protocols is attributable to several key factors: research funding, demographics, disease complexity, and even the rate at which information technology evolves and is adopted by providers.

Funding for research studies comes from a few key players, including pharmaceutical companies, government and philanthropists. Their interests govern what conditions are researched and what ultimately becomes medical evidence. Thus, the most common and most expensive conditions have the greatest body of evidence, experts say, because there is a vested interest among insurers, the Centers for Medicare & Medicaid Services and other payers to reduce costs and affect the greatest number of people. "Any of the 30 major diagnoses have fairly good evidence, but there's less evidence around less prevalent and less costly conditions," Keckley says.

Moreover, not all evidence is alike, and applying it in the provider setting can take considerable time. A hierarchy of evidence has emerged based on how it is collected, from randomized, controlled, double-blind studies using large patient populations (considered the gold standard), to observational studies, to expert opinion about treatments for a given medical condition. Studies generally take two to three years to gain maximum acceptance within the medical community, and the sheer number of studies and the frequency with which they are conducted means that the best medical evidence must be evaluated and integrated into practice every two years, if not annually. Not surprisingly, this can lead to information overload for providers and delays in incorporating the best evidence into medical practice.

Hospitals generally turn to experts to navigate through the huge volume of ever-emerging evidence and for guidance about which evidence to incorporate, relying especially on medical specialty societies, medical schools and health care quality organizations, such as the National Quality Forum and the Agency for Healthcare Research and Quality. They also use internal panels of clinical experts to sift through current research and may use proprietary services, such as UpToDate and Zynx, to keep abreast of the latest evidence. The multitude of approaches means there is considerable variation in which guidelines are adopted by particular hospitals. Crozer-Chester Medical Center, part of the Crozer-Keystone Health System in Springfield, Pa., uses a formal evidence-based medicine evaluation process that includes the input of an expert panel comprising physicians, support staff and informatics experts, says Marc Edelman, vice president at Crozer-Keystone, head of the system's evidence-based medicine initiative.

But the pace of research, the varying agendas of health care stakeholders and the timetables of providers do not necessarily line up neatly. Often, research outpaces treatment recommendations by groups like JCAHO

and CMS, putting pressure on hospitals to collect data on measures that are not as current as the research supports while still providing the best evidence-based care. "In some cases, we do some evidence-based measures because stakeholders require it, but in truth the evidence has already moved beyond their recommendations," Edelman says. "But we're also realistic; we'll collect the data in both ways."

WHY USE IT?

A number of factors underlie hospitals' decisions on why and how to incorporate evidence-based medicine. Some hospitals point to their use of EBM to prove to the public and payers their commitment to improving quality.

Others cite reducing costs as a motivating factor. "There's a direct correlation between evidence-based medicine and the need to take out unnecessary costs," Keckley says. "There's now considerable avoidable cost in the health care system, such as the inappropriate use or overuse of antibiotics, lab tests and imaging, which are done more often out of [physician] preference than based on the evidence."

To a large extent, however, providers take their cues from JCAHO, CMS and other influential forces, which provide incentives for implementing evidence-based measures through strategies like pay-for-performance or by tying accreditation to the implementation of specific evidence-based measures. "If JCAHO decided that it's interested in antibiotic treatment, you can bet hospitals would focus on it," Miller says.

For small and rural hospitals and others whose patient demographics or volumes prevent them from participating in pay-for-performance programs, evidence-based medicine is generally more patient-driven, says Don Nielsen, M.D., senior vice president, quality leadership at the American Hospital Association. "They look at the needs of the patients they're serving and look at the gaps in their care. Many hospitals are addressing pediatric asthma or diabetes with evidence-based care," he says.

Already required to collect reams of quality data, it's no wonder that hospitals are taking a selective approach to adopting evidence-based medicine. Miller describes implementing EBM as "trying to turn the ship" for large hospitals, such as Barnes-Jewish, with its sheer size, number of employees and variety of practices, and a "tremendous resource issue" for small hospitals, which can have problems collecting the necessary data and allocating appropriate resources. "You have to be cognizant of each hospital's differences. Each has unique challenges," he says.

GETTING DOCTORS ON BOARD

Clinicians can make or break a hospital's effort to implement evidence-based medicine, depending on whether they see it as a benefit to patients or a check on their medical judgment.

"In the past, evidence was used less as a method for better care and more about cheaper medical costs. Its history, especially in the late 1990s with managed care and HMOs, hasn't been clean," says Manuel Lowenhaupt, M.D., vice president at consulting group Capgemini Health.

Some physicians charge that evidence-based measures are "cookbook medicine," interfering with their medical judgment. "Most physicians get their introduction to evidence during their training and practical experience. They are most comfortable treating patients as they did yesterday, based on habits," Keckley says. However, this attitude appears to be on the wane, especially among young doctors who understand that

their clinical judgment is a key component of evidence-based medicine.

Of the three main components of EBM--evidence, clinical judgment and patient preference--the last may be the most problematic for providers. "Most of the time, we don't include patients in the decision-making process," Nielsen says. "We're not intensively focused on providing patient-centered care." Because patients traditionally rely on physicians to make their treatment decisions, without full physician understanding and support of EBM, patients may believe they are receiving evidenced-based care when, in fact, they aren't, Keckley says. "When presented with treatment options and risks, patient assessment of their care is very different," he says. "Patients end up being more aggressive in their treatment."

Physician resistance to evidence-based medicine is exacerbated by conflicting direction from payers about the appropriateness of particular measures. For example, one insurance formulary will recommend a certain ACE inhibitor for heart failure, while another formulary recommends a different drug. "How can two groups of experts come up with two different products?" Miller asks. "Confusion creeps in and it sends a mixed message to providers."

Another complication arises when several treatment options for a disease or condition are evidence-based, as in the treatment of breast cancer or cardiac surgery. "That's where the physician's judgment and patient preference comes into play," Nielsen says.

To gain physician buy-in, hospitals must involve them in the decision-making process, appointing them to steering committees and disseminating information about the latest evidence. In a paper-based environment, this can mean providing binders of information on evidence-based measures; in a technology-driven environment, the information comes via clinical decision support tools and other software. Financial support may also be integral. "You have to provide resources to evidence-based measures and for strong data collection," Edelman says.

BREAKTHROUGH TOOLS

The traditional method of tracking measures via manual data collection is often prohibitively expensive and cumbersome. But information technology--from comprehensive electronic health records systems to nursing documentation systems--can significantly ease those burdens.

"Electronic tools provide efficiency and sustainability, much more so than paper versions," Lowenhaupt says. "For hospitals using paper protocols for evidence-based medicine, we often see a deterioration in compliance because they become harder and harder for doctors to use. But that's not the case for those who have electronic tools."

While many hospitals have IT systems that support evidence-based medicine protocols, many more do not. Crozer-Keystone manages to collect data on evidence-based measures even though it does not have electronic order entry. However, the hospital does not collect outcomes measures because it lacks tools that are sophisticated enough to do so, Edelman says. Yet despite the lack of tracking tools, the health system believes that it is doing the right thing in implementing evidence-based measures. "An electronic health record can make it easier, but our philosophy is, where do you put your energies?" Edelman says. "In tracking or in doing the right thing by using evidence-based measures?"

Miller agrees: "We're all struggling with IT, to keep up with the requirements for measuring. Electronic records will solve many of our problems, but we're trying to use what we have to our best advantage. Every

organization is trying to figure out what's best for them."

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