Evidence-Based Medicine & Workers' Compensation: Beware of White Noise

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The United States spends more on healthcare than any other country with annual costs amounting to $3.6 trillion or 18% of our gross domestic product (GDP).[1] In October 2019, the *Journal of the American Medical Association* estimated that 25% of these costs were spent on wasteful or unnecessary care that did not improve one's condition. That's right, one-quarter of all healthcare spending is wasteful.[2]

One strategy to reduce waste without losing quality is to apply scientific evidence when making clinical decisions. Patients expect healthcare providers to be well-versed in recommended care, but we know in practice that this may not always be true as treatments and procedures are updated, modified, or no longer appropriate based on evolving clinical research.[3] Evidence-based medicine (EBM) is the practice of healthcare providers incorporating research studies into the care of individual patients to continually update their knowledge about the benefits and risks of various care options. This helps promote treatments that improve outcomes,

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establish national standards of patient care, and set criteria to evaluate performance-based medicine.[4] EBM also assists case managers and utilization reviewers assess treatment efficacy and supports insurance companies' efforts to streamline approval processes for scientifically proven treatments and procedures.

Despite the alarming amount of medical waste and the development of technology solutions the healthcare community continues to seek strategies to increase the uptake of EBM. For example, Malik et al. (2015) found that 96% of the nurses in a study on EBM agreed that it was fundamental to their profession, but 41% ranked themselves as beginners. And a chiropractor study by Bussières et al. (2015) found that most of the study clinicians practiced EBM less than five times a month.

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Treatments that have historically been prescribed with great frequency are not always based on sound, current evidence and may not result in quality outcomes.

Developing EBM Guidelines

Using EBM in a medical practice requires that clinicians stay on top of the more than 2.5 million scientific research papers published every year.[5] This helps explain why it takes an average of 17 years for clinical research trial results to become common medical practice.[6] Keeping up with current research is a Herculean task, and has led to an industry that analyzes vast quantities of research and turns it into easily accessible clinical practice guidelines.

There are a variety of guideline types available for virtually every field of medicine. While guidelines will never replace the "art" of medicine, they can help a physician and clinical staff practice that art more effectively. However, not all guidelines are created equal. The development of clinical guidelines may occur at local, national, or international levels and are subject, in some cases, to opinion bias. When the care of patients is driven by EBM guidelines, the developer has a big responsibility to create trustworthy guideline content.

In 2008, in response to a request from Congress and a growing demand for accurate, relevant clinical practice guidelines, the Institute of Medicine (IOM) — now known as the National Academy of Medicine — brought stakeholders together to define standards for trustworthy guidelines (Figure 1).[7]

Figure 1. The National Academy of Medicine (formerly IOM) recommends eight standards for developing trustworthy clinical practice guidelines.

Standard 1	Transparent and reproducible processes
Standard 2	Management of conflict of interest
Standard 3	Guideline development group composition
Standard 4	Guideline systematic reviews
Standard 5	Establishing evidence foundations and rating strength of recommendations
Standard 6	Articulation of recommendations
Standard 7	External reviews
Standard 8	Updating content process

Not all evidence is high caliber, so understanding how each research study is designed and how each article is evaluated is critically important to the quality of an EBM guideline. Because those who use guidelines need to be able to understand the strengths and weaknesses of the evidence behind the recommendations, key factors to look for in quality guidelines include:

- Transparent and reproducible methodology that utilizes evidence from credible sources;
- Input from multidisciplinary panels and external subject matter experts with clear labeling of contribution, credentials, and conflict of interest disclosures; and
- Plain language explaining the clinical question, the keywords used to search for that answer, a list of the databases queried, and summaries of the evidence found.

The entire development process should be clear and publicly accessible, otherwise the guideline's strength and validity are unknown and cannot be trusted. Guideline recommendations developed clandestinely or based on limited evidence supplemented by billing or frequency data provide a potentially dangerous, inadequate guide for consumers. EBM guidelines must be developed using both statistical data and medical experience to guard against bias. It is only then that a well-reasoned, high quality clinical guideline can become a trusted tool that physicians can consistently rely on, secure in the knowledge that the guideline has been comprehensively researched, rigorously analyzed, and developed to stand up to scrutiny.

Today, those who use clinical guidelines are faced with a "buyer beware" marketplace that requires the consumer to take a deep dive into guideline methodology to ensure that the guidelines are created with scientifically established processes.

EBM at the Point-of-Care: A Case Study

In 2012, Kaiser Permanente (KP), an integrated managed care health system with 39 hospitals and 701 medical offices across nine states, embarked on identifying an enterprise-wide solution to improve disability care and management. KP conducted numerous meetings with stakeholders and discovered that clinicians wanted a real-time support tool to help recommend time off from work, school, and other activities for their patients at the point-of-care.

MDGuidelines, an occupational EBM guideline, provided KP's physicians with access to evidence-based guidelines from the American College of Occupational and Environmental Medicine (ACOEM). These guidelines include online, keyword searchable clinical content for prevention, diagnosis, treatment, follow-up, and prognosis as well as physician-supported patient education. KP also embedded disability duration data that provide estimated healing times into the electronic medical health records. Access to these estimates helped providers quickly and easily review with the patient how quickly they might expect to return to their regular activities.

Within the first three years of implementing MDGuidelines, KP's patient disability durations outperformed national population benchmarks estimates by over 807,000 days per year. This translated to an average annual savings of $65 million in wages, benefits, and costs associated with lost productivity.[8]

Top-Down Support

While some healthcare and disability systems have integrated EBM guidelines into their workflow systems, there are many hurdles to systematic change. For example, there are significant barriers to apply EBM in the clinic or during the review process. These include time, workload limitations, and lack of

training. There are also organizational barriers such as payment plans, integrated technology efforts, and physician culture. Overcoming these barriers often requires top-down support to streamline the use of EBM guidelines.

One example of applying EBM guidelines in the workers' compensation world is the California Department of Industrial Relations' commitment to provide free access to guidelines for all workers' compensation system providers. These guidelines are used to support initial medical decisions based on standardized reference materials aimed to improve quality of patient care while reducing over-care and litigation challenges.

Early results in the California workers' compensation program indicate that EBM guideline access is helping drive down the use and cost of pharmaceuticals, such as opioids, by modifying the proportion of drug prescriptions not subject to prospective utilization review (UR) and independent medical review. In the year following the application of an EBM drug formulary, drugs not subject to prospective UR increased by 41%, while drugs subject to prospective UR decreased by 18%. Additionally, pharmaceutical costs per claim plummeted 7% in a single year, and the cost share of prescribed opioids went down 6%.[9]

What's Next?

There is growing interest by employers to explore evidence-based health plan design. With all the data available, it makes sense to tailor health and disability plans to accommodate EBM best practices. The National Business Group on Health is leading this charge and has recently launched the National Committee on Evidence-Based Benefit Design, which seeks to improve quality of care and promote value by using benefit design to encourage and reward effective care.

In the modern world where "Dr. Google" is commonly used as a benchmark by consumers, mainstream acceptance of EBM will occur when trustworthy clinical practice guidelines are integrated into systems where providers, payers, and patients can access them directly.

The term "evidence-based medicine" has become a bit of white noise in both the workers' compensation and healthcare industries and is in danger of becoming an obfuscating fog rather than a well-defined, focused spotlight on the facts. The use of EBM improves outcomes and decreases cost. As such, the future of care, as the National Academy of Medicine recommends, is evidence-based.[10]

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