Evidence-Based Medicine

Do We Use Guidelines or Mindlines?

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Commentary on: Evidence-based guidelines or collectively constructed “mindlines?” ethnographic study of knowledge management in primary care.

Gabbay J, le May G

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Question: To what extent do primary care medical practitioners (physicians, nurses, support staff, trainees) actually use explicit research evidence in day-to-day practice; how are decisions regarding practice guidelines made at the collective and individual practice levels; and what sources of knowledge do practitioners most commonly use?

Methods: An ethnographic study of 2 general medical practices in England, one in a rural area and the other in an urban one. Methods of nonparticipant observation, interviews, and review of guidelines and practice guidelines were used. The subjects included 9 physicians, 3 nurses, 1 phlebotomist, and associated medical staff.

Results: 1. There was no evidence that practitioners went through the steps of rational evidence-based medicine (EBM) practice. Subjects were not observed reading available clinical guidelines unless it was in preparation for a practice guideline meeting. Incorporation of explicit external sources was rarely observed and only for particularly challenging cases.

2. Practitioners would discuss issues with colleagues only if discrepancies were present, after seeing if the source seemed credible. Nurses would refer to guidelines only if unfamiliar situations arose.

3. No evidence of common use of computer-based resources was noted. Sources that were frequently used were popular magazines mailed free of charge. Primary sources were consultants (external and internal) or members of the practice with a specific interest in the particular disease or practice issue. Once entrusted, these individuals were considered to be valid sources without extensive questioning regarding the validity or nature of their own sources of knowledge.

4. “Mindlines” are described by the authors as collectively reinforced, internalized, tacit guidelines, informed minimally by reading, but mainly by practitioner-practitioner interactions, opinion leaders, pharmaceutical representatives, and patients. Mindlines are iteratively negotiated and changed through further interactions and by experience in practice. They are therefore also some-what more complex than classically defined notions of heuristics or cognitive shortcuts.

Authors’ Conclusions: With the caveat that these observations may not accurately reflect the incorporation and transfer of information in all practices, the authors concluded that practitioners almost never used what is commonly thought of as linear, rational EBM in day-to-day practice. External, explicit research-based information was rarely incorporated, and internal practice guidelines were likewise rarely used. Sources of information were essentially limited to free publications sent to practitioners’ offices and entrusted sources.

The presence of a community of practice functions as a surrogate for checking explicit research results that would otherwise guide practice in accordance with principles of EBM. Mindlines incorporate elements of tacit and explicit knowledge, and so they guard against cookbook-style practice. They may be more complex than heuristics and, furthermore, they are iteratively updated, largely on the basis of professional interactions. They also may be more flexible, though they may seem like dangerous shortcuts when compared with the usual model of EBM.

The real issue may be that practitioners do not have the time or the skills to evaluate evidence. According to the authors, the answer may lie in better education. Perhaps it is most beneficial to target opinion leaders to receive training in critical appraisal of research. It may also be beneficial to leverage existing networks to better incorporate explicit research knowledge into existing mindlines.

Comment

The promotion of EBM has led to several dilemmas, including differing valuations of explicit research knowledge vs tacit knowledge based on experience as well as practitioner concerns over cookbook-style practice. In addition, the major influence of local context in modifying the ability to change practice and the role of cognitive shortcuts such as heuristics have been regarded as potential barriers to the widespread adoption of EBM in practice. Furthermore, the interrelationships between the 4 different levels at which EBM operates, the intellectual underpinnings, local policy, individual practice, and actual EBM-based patient care, have not been extensively explored.
This article gives extremely interesting and useful insight into some of the least well-described aspects of medical care: the intermediate steps between published explicit clinical research evidence and actual practice. While the results would seem to be quite disappointing, it does highlight some of the ways in which practice may be more effectively linked to external sources of clinical research evidence.

The term mindline is a compact description of the cognitive constructs used by practitioners in day-to-day practice. As convincingly demonstrated in the article, these seem to be most effectively informed and influenced by local professional networks.

Unfortunately, no explicit examples of treatment or practice that deviated significantly from established EBM were given. Such data might be useful in delineating the reasons EBM is not reliably practiced and perhaps the degree to which failure to practice EBM actually affects outcomes.

The authors cite educational issues as potentially central in the difficulty of directly linking available clinical evidence to clinical practice. It seems quite plausible that many practitioners have neither the time nor the skills to update their mindlines through continuous evaluation of new evidence. There are, of course, many other potential weak links that are educational in nature and that occur at other levels. Nationwide efforts such as the NICE (National Institute for Health and Clinical Excellence, available at www.nice.org.uk) initiative in England would be one such example of an attempt to address this at a high level. An impressive array of carefully compiled practice guidelines that include summaries of published evidence is available through its Web site, free of charge.

However, simply enabling or enforcing local access to research may not be sufficient or adequate to effectively change practice. One example of this would be the problem of applicability of evidence, namely, deciding how and when to extend the findings of studies outside the confines of the patient population originally studied. Also, the centrality of local networks manifests itself in other ways as well. For example, local practices occasionally become “standard of care” with little or no research evidence to support their use.

One interesting issue is the potential applicability of these findings to specialty practices. It is conceivable that specialists, for example dermatologists, who may have much smaller local networks or more dispersed networks, use different sources. While actual treatments were not assessed in this article, 2 studies1,2 detailing the dermatologic management of small numbers of patients showed that the majority of rendered treatments had published evidence to support their use.

Though small in scale, one study3 of a tertiary hospital setting showed that 51% of patients received treatment that had supporting randomized controlled trial evidence. An additional 10% received treatment that had supporting evidence derived from studies lacking randomization or double-blinding.4 An earlier study of patients seen in a similar setting and using similar methods showed that 38% of all treatments had supporting randomized controlled trial evidence.5 An additional 33% had supporting so-called secondary evidence, which included transference of evidence from trials for related conditions.6 About 60% to 70% of rendered treatments in these studies had some published evidence to support their use.

These studies did not assess why certain treatments were used (for example, whether treatment options were limited by the presence of contraindications or prior therapeutic failures). It would be interesting to know the maximal extent to which EBM can be theoretically practiced in dermatology. Such an estimate would require knowledge of the proportion of dermatologic entities for which evidence exists, the quality of that evidence, and the reasons that physicians use non-EBM–based therapies (eg, unaware, contraindications, prior therapeutic failure). It would also be an indication of how close we are to ideal practice.

Bottom Line: This article serves as a useful starting point for focusing efforts on influencing practice at the local network level. By identifying sources of information most commonly used by practitioners, there may be ways to better disseminate research evidence and incorporate it into everyday practice. Though studies have shown that therapy based on EBM is used in the majority of studied cases in dermatology, this article addresses one specific set of barriers to potentially even more widespread use of EBM, and further studies will be required to identify others.

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