

What Are Your Mindlines?

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This issue of KT Update presents another in a series of brief articles by Dr. Marcel Dijkers. This article describes the concept of “mindlines” and its relationship to Evidence-Based Medicine and Evidence-Based Practice.

Evidence-based medicine (EBM) started off with the claim that clinicians, faced with a new diagnostic, prognostic, or treatment problem, need to rush off to the library or their computer, identify some recent studies of excellent quality relevant to the problem, and, based on their findings, make a decision as to how their clinical conundrum ought to be handled. It soon became clear that clinicians lacked the time and skills for assessing the research literature required for this “bedside EBM” (Dijkers, Murphy, & Krellman, 2012). This was not any different when practitioners in nursing, allied health, and social services followed medicine and established evidence-based practice (EBP). If anything, their training in research methods was more limited, and in most instances they lacked the autonomy to develop their own practice parameters, anyway.

Instead, in EBP, Version 2.0, teams of clinicians and researchers started the development of EBM and EBP resources: systematic reviews, meta-analyses and meta-syntheses; health technology assessments and critically assessed topics; EBP/EBM journals that published one-page summaries of newly published significant research; and, above all, clinical practice guidelines (CPGs) that used a synthesis of the research evidence (supplemented, as needed, by expert consensus) to offer prescriptions for how a particular clinical problem needed to be assessed, diagnosed, treated, and further managed. In EBP 2.0, the practitioner, faced with a new clinical problem, needs to rush to the computer and find and print the EBP resource that will help select a course of action.

In 2004, when the EBM movement was about 20 years old and had been endorsed—if not embraced—by most professional organizations and other authoritative bodies, Gabbay and le May (2004) published an article in the *British Medical Journal*, “Evidence based guidelines or collectively constructed mindlines? Ethnographic study of knowledge management in primary care.” In it, they provided the findings of their study of the use of “evidence” in two large primary care practices in England. They found that the physicians, and the nurses working with them, did not practice bedside EBM, and did not consult CPGs when faced with a clinical problem. At most, the physicians would read CPGs in their leisure time to ensure themselves that their own routines were still up to date, or when they were responsible for advising their colleagues on changing the protocols that existed in the practice for the treatment of specific problems. Instead, they would poll a colleague in the practice, specifically the one with a particular interest in the

problem at hand, or sometimes one outside it. They never asked this “expert” whether her or his knowledge was based on careful and critical assessment of the literature; the trust they had developed in this person through networking was the essential criterion. The opinions of pharmaceutical representatives and of the National Health Service (NHS) were treated with “considerable scepticism.” Other sources of information were nonresearch professional journals. Expert systems available in the practice and the Internet were hardly used, and then mostly to print a handout for a patient.

Thus, the clinicians “rarely accessed, appraised and used explicit evidence directly from research or other formal sources. ... Instead, they relied on what we have called ‘mindlines,’ collectively reinforced, internalised tacit guidelines, which were informed by brief reading, but mainly by their interaction with each other and with opinion leaders, patients, and pharmaceutical representatives and by other sources of largely tacit knowledge that built on their early training and their own and their colleagues’ experience.” (p. 3). Once developed, the mindlines might be modified based on informal reading or discussion with colleagues. They also could be amended when applied to a particular patient, based on discussion and negotiation with this patient.

Thus, mindlines constitute uniquely socially constituted knowledge. Gabbay and le May coined the term “mindlines” to emphasize that this knowledge was carried in the head (and never was written down completely and systematically), and to contrast its impact on these clinicians’ practices with that of CPGs—the formally codified rules for managing medical problems that the NHS and professional organizations would encourage or expect clinicians to follow, and that EBM/EBP adherents decree as the guideposts for practice.

Gabbay and le May certainly were not the first to notice that clinicians do not practice EBM/EBP all the time or completely, that instead, they establish concepts and “hypotheses” and follow heuristics, rules of thumb, and methods of reasoning that are developed in a community of practice and applied flexibly and in a give-and-take with patients, supervisors (if allied health and nursing), and payers. Perusal of journals such as *Social Science and Medicine* or *Sociology of Health and Illness* would bring out many similar studies. However, whether because of the catchy term that Gabbay and le May coined, or the prominence of the journal in which they published, or the accessibility of their article (five pages in nonacademic language), it has become well known—at least outside of disability and rehabilitation circles.

Wieringa and Greenhalgh (2015) recently published “10 years of mindlines: a systematic review and commentary,” in which they studied how the concept of mindlines had been presented or used in the literature. By searching for the term “mindline(s)” and for references to the Gabbay and le May article, they found 340 publications. A listing of those 340 papers shows they were published mostly in journals dedicated to family medicine, public health, nursing, medical informatics, health services research, EBP/EBM, and the sociology of medicine (as well as malaria—for some reason, 10% of the articles had been published in tropical medicine journals). I saw only seven in disability and rehabilitation journals: five for occupational therapy, and one each for social work and speech and language pathology.

Wieringa and Greenhalgh used what they called a “meta-narrative review” to categorize and critique these articles, comparing and contrasting using qualitative methods the various paradigmatic perspectives they found. In 133 articles, there was only “nominal framing,” by which they mean that the authors referred to the notion of mindlines but did not explain the concept or expand it. A second group of 76 articles applied what the authors term a “practice view,” with which they mean that the term was used to explain study findings showing that clinicians use CPGs minimally, if at all, but follow mindlines instead.

A third group of 57 papers used the concept of mindlines to further develop theory, in the context of empirical research or otherwise. They linked the concept to such theories as Lave and Wenger’s community of practice (Lave & Wenger, 1991; Wenger, 2000). Greenhalgh and Wieringa quote one paper in this group as stating: “Explicit knowledge is codified information such as peer-reviewed articles, rules, and guidelines, which can be readily shared among people. However, to apply this knowledge in practice, practitioners must make sense of the concrete information in the context in which it is used. This process of establishing meaning can be facilitated by discussions with colleagues and mentors or by observing how others apply the knowledge and then try it themselves” (Li et al., 2009). Note how Li and colleagues assume or require that evidence is first produced through research, then read, discussed, and embodied. That is still a far cry from those who reject the rational linear thinking of EBP, maybe even reject the underlying positivism, and doubt the objectivity, validity and transferability of medical knowledge—yes, all knowledge.

The fourth group distinguished by Wieringa and Greenhalgh consists of 28 “solution-focused” papers, which tried to use the mindlines concept to improve the uptake of research-based evidence in health care practice. These proposed means of actively promoting and supporting the development of “valid embodied/collective knowledge or ‘evidence-based mindlines’” (p. 5). For instance, in a letter to the editor commenting on the Gabbay and le May article, Glasziou (2005), one of the leading figures in the EBM world, proposed that the term EBM be replaced with “evidence informed practice,” expressed his worry that mindlines may carry “counterfeit evidence” into practice, but welcomed approaches to bringing “valid memes into the mindlines while not driving out the wisdom of experience.” Other authors seemed driven by the idea that “if you can’t beat them, join them,” and proposed various methods to insinuate the valid memes into daily practice: opinion leaders, knowledge brokers, and so on.

In their Discussion section, Wieringa and Greenhalgh discuss the “fundamental philosophical challenge” that the concept of mindlines poses to EBM/EBP. The latter two are based on a positivist, linear, and rational view of science and practice: With carefully developed scientific methods, pearls of factual knowledge can be produced and when made available to practitioners, are gratefully accepted and appropriately incorporated into practice, which then is based on “evidence.” In their article, and more extensively in a book they published, Gabbay and le May (2011) espouse a view that knowledge is not even approximately a set of facts produced in one setting (the academic laboratory) and used in another (the rehabilitation clinic) after dissemination or knowledge translation. Instead, with many social scientists, they claim that

knowledge is “constructed” (e.g., proposed, discussed, negotiated, sanctified) in the interchange between social actors. The concept of mindlines embodies this phenomenon of a creation and re-creation of knowledge in various settings, where the actors may end up with different evidences even if they started out with the same pearls of wisdom produced by an academic researcher.

Wieringa and Greenhalgh state: “From this perspective, improving knowledge intermediation is more like maximising the opportunity to *create* knowledge. How this might be achieved differs from the EBM paradigm in a number of ways uncovered by Gabbay and le May throughout their book” (p. 6). They conclude their article with an exploration of various “philosophical” questions, the nature of which will only be indicated here by the paragraph titles: “Reality—single or multiple?”; “The nature of knowledge”; “How the ‘truth’ is arrived at”; “Economics, politics and ethics.”

Because the concept of “mindlines” and its implications for the creation and application of knowledge appears largely unknown in disability and rehabilitation circles, both the originating paper (Gabbay & le May, 2004) and the discussion of its (lack of) impact (Wieringa & Greenhalgh, 2015) were quoted here extensively. An exploration of these papers and of some of the articles discussed or listed by the latter is recommended to all rehabilitation and disability practitioners and researchers, whether or not they have drunk the EBP Kool-Aid.

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