Editorials

Mindlines:

making sense of evidence in practice

Coffee-room chat may impact on evidence-based practice at least as much as all those guidelines that deluge GPs. If so, we need to understand better how and why that is, so that our informal conversations help rather than impede the spread of best practice.

EVIDENCE IN PRACTICE?

The pressure to comply with guidelines and evidence-based patient pathways has been rising inexorably, but so too has the feeling that the evidence-based medicine movement often misses the point.[1] Its champions, who include many policymakers and managers as well as researchers, lament clinicians' apparent slowness in implementing research evidence, while clinicians grumble that their hard-learned clinical judgement is undervalued by an overemphasis on conforming to guidelines. The struggle is not just about practice, but also professional autonomy and identity. Yet both sides of the argument recognise that best practice must be grounded in best evidence and that guidelines have their place. So what exactly is that place and how do we get from the linear rationalism of guidelines to the complex wisdom of good practice?

Fifteen years ago we decided to examine such questions afresh by observing what actually happens when practitioners develop and use their clinical knowledge. We used the ethnographic methods of anthropologists, who while retaining some analytical distance immerse themselves among their chosen subjects to try to get an inside understanding of their beliefs and actions. Our subjects were deliberately selected as highly respected primary care teams, and our aim was to comprehend the complexities of their everyday practice, observing and analysing exactly how they put their knowledge into practice. We published our preliminary findings in 2004,[2] but continued to gather data from our principal study site over the next 5 years[3] while supplementing and exploring our emerging findings by further ethnographic studies of how medical students and hospital doctors cultivate their professional skills. As clinical academics whose long careers had revolved around research implementation, we were also able to reflect on our own experience as well as bring to bear a wide range of relevant literatures from social psychology, clinical decision studies, education, organisational theory, knowledge management, anthropology, sociology of knowledge, philosophy, and social theory. The picture that emerged from that study is gaining increasing traction among implementation scientists[4,5] but may also help clinicians understand and defend their clinical wisdom in the face of the pressures to comply with externally imposed norms.

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TOO COMPLEX FOR GUIDELINES

A crucial aspect of the picture — no surprise to readers of this journal — was the remarkable complexity of the context in which our research participants, especially the GPs, had to make clinical decisions. We counted dozens of, often simultaneous, sometimes contradictory, roles and functions across four main domains; not just the clinical domain (for example, diagnosing, prescribing, investigating, explaining, referring) but also the domains of management (for example, handling resources, personnel and the NHS hierarchy, quality assurance, training staff, running the IT system), public-health (for example, disease prevention, health promotion, understanding local needs and concerns) and professional self-management (for example, keeping up to date, reviewing practice, nurturing networks of trusted colleagues, sustaining personal and disciplinary credibility). No theoretical, research-based knowledge or clinical guideline could ever be expected to cover the sheer breadth and variability of the multifarious considerations that played a part in clinical decisions. The evidence-based medicine movement accepts, of course, that clinicians need to harness evidence judiciously according to individual circumstances; clinical guidelines are not directives. But the expected norm of sticking to them with the odd contingent tweak here and there gets nowhere near the challenge of dealing with all the factors that a practitioner needs to weigh up, not as mere occasional add-ons, but as an inherent part of dealing with individual clinical problems.

WHY 'MINDLINES'?

So how did our practitioners routinely, often instantaneously, respond to that challenge? The answer seemed to lie in what we eventually called their 'mindlines'. These are guidelines-in-the-head, in which evidence from a wide range of sources has been melded with tacit knowledge through experience and continual learning to become internalised as a clinician's personal guide to practising in varied contexts. Clinicians acquire their mindlines over a lifetime, informed by their training, their own and each other's experience, their interactions with colleagues and patients, by their reading, their understanding of local circumstances and systems, their experiences of handling the many conflicting demands, and a host of other influences. Mindlines are much more flexible, malleable, and complex than guidelines could ever be, and therefore much better adapted to coping with the clinicians' many roles and functions. They are a form of 'knowledge-in-practice-in-context'[2] that accommodates the necessarily fuzzy logic that is part of everyday professional life.[6] They also take us from the simple pattern recognition of early clinical training[7] to a rapidly unconscious complex decision making,[8] a 'contextual adroitness'[2] that, going beyond mere technical expertise,[9] can straightaway integrate the full range of demands and constraints that affect professional decisions. If there is such a thing as immediately applicable clinical wisdom, it is embodied in mindlines.

SHARING AND SHAPING MINDLINES

Being long-accumulated personal amalgams of different kinds of knowledge, experience, values, and behaviours, mindlines inevitably vary. But when practitioners find themselves out of line with respected colleagues, their mindlines morph. That's where the coffee-room chat comes in. We watched our participants implicitly sharing, checking, and adjusting their mindlines

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as they continually interacted with trusted colleagues, informally swapping stories, sharing experiences, helping each other solve tricky problems, collectively making sense of new ideas they had come across, and changing how they behaved. Similar phenomena have been widely described in the burgeoning literature on 'communities of practice', the term now widely used for groups who share professional interests, passions, and problem-solving through mutually supportive informal discussion and learning.[10,11] Through such social interactions our practitioners were, in effect, developing unspoken 'collective mindlines', setting standards and boundaries for acceptable ways of dealing with the variable factors that sway so many decisions. They were surfacing and sharing their tacit knowledge. This too is consistent with findings in other sectors, where resources are now ploughed into trying to elicit the invaluable, often deeply embedded knowledge that staff carry in their heads and to promulgate it among other staff as appropriate.[12,13] Sometimes, though, it is not appropriate. There is always the risk of ill-founded mindlines being shared uncritically, undermining good practice.

On the other hand, unthinkingly following guidelines can also be inappropriate. Part of the chatting inevitably revolved around the usefulness or otherwise of new guidelines, testing out any new information they contained, melding it with the practical, contextual knowledge the clinicians already used and trusted. As a result, information in guidelines was often transformed while being absorbed (or not, often for well-argued reasons) into mindlines. Among our participants, deliberately selected as exemplary clinicians, that transformation process worked well; however, it is not difficult to see that poor processes for acquiring, sharing, assessing, challenging, and modifying mindlines could consolidate and perpetuate poor practice. One analogy is the creation of compost, which is magical when it works but becomes fetid with the wrong mix or conditions; another is the way skilled chefs can blend ingredients into a fine sauce that others would ruin.

WAYS FORWARD?

A great deal, therefore, rests on fostering the processes conducive to the successful transformation of clinical knowledge. When developing their mindlines, our participants displayed traits and skills that worked well, but without which mindlines could mislead. Examples of those skills, which need to be further explored, tested, and developed, include knowing whom best to trust for useful and reliable advice about specific topics; being able to question that advice (that is, critical appraisal skills not just for research articles, but also for information from, for example, colleagues, online guidelines, the media, patients, commissioners); being comfortable about being challenged; sharing and questioning each other's shortcuts for finding up-to-date information; avoiding groupthink; and agreeing collective norms and targets for improving care, and hence accepting mutual responsibility for achieving and reviewing them. Above all, the common thread appeared to be creating the space and the comfortable climate for respectful critical dialogue[14] even during the everyday chatting and story-swapping we all enjoy. Mindlines, knowledge-in-practice-in-context, collective sensemaking, communities of practice, contextual adroitness, and knowledge transformation may all play an inescapable role in developing good clinical care. If so, then rather than wishing them away as barriers to evidence-based practice, the trick might be to understand better how they help, and — working with the grain rather than against it — use education, training and facilitation to ensure that they flourish. And not just in the coffee room.

John Gabbay,
Emeritus Professor, Wessex Institute for Health Research and Development, University of Southampton.

Andrée le May,
Emeritus Professor, Faculty of Health Sciences, University of Southampton.

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ADDRESS FOR CORRESPONDENCE

John Gabbay
35 Kimberley Road, Cambridge CB4 1HG, UK.
E-mail: j.gabbay@soton.ac.uk
@GPWellbeing

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