

Towards a geology of evidence-based practice—A discussion paper

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Abstract

We begin this paper with a consideration of the significance of a historical perspective in presentations of evidence-based practice in the nursing and medical literature. We suggest that whereas writers often produce coherent historical narratives as justification for particular views of the nature of EBP, an examination of its origins reveals no such signs of historical development or progress in our conception or understanding of it. We then explore alternative modes of thought for attempting to understand and critique the variety of definitions and descriptions of EBP to be found in the literature. We eventually reject the linear mode of historical thinking in favour of Deleuze's notion of rhizomatic thought and the metaphor of geology. Finally, we employ the rhizomatic mode of thinking and writing to construct a geology of evidence-based practice which attempts to expose and embrace contradictions in definitions and uses of the term rather than discount them in an authorised historical narrative written from the perspective of the dominant discourse.

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The past is another country...
L.P. Hartley—The Go-Between

What is already known about the topic?

- Despite a number of attempts to present evidence-based practice as a coherent discourse, the literature is fraught with contradiction and dissent
- There is a lack of agreement on what constitutes good and relevant evidence
- There has been very little consideration of how evidence should be applied to practice

What this paper adds

- A rhizomatic approach to analysis is presented, based on the work of Deleuze

- The rhizomatic approach is applied to EBP as a way of accommodating and accepting contradiction and dissent in the literature
- The findings call into question the promise of progress in health care and the development of a 'modern and reliable' health service

1. Introduction

In the course of conducting a literature review of evidence-based practice (EBP),¹ we were surprised and intrigued by how many writers made reference to its historical development. Le May (2000), for example, begins her monograph on evidence-based nursing with a historical overview that presents a straightforward narrative account from the 1970s through to the 1990s

¹In view of the continuing confusion over terminology (see Banning 2005), we intend to use the generic term evidence-based practice except where the specific context calls for an alternative.

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and beyond. The prominence accorded to a historical account has been evident from the very first published paper on evidence-based medicine, which contrasted ‘the way of the past’ with ‘the way of the future’ (Evidence-Based Medicine Working Group, 1992, p. 2420). Similarly, Rangachari (1997) and Sackett et al. (1996, p. 71) both trace the origins of evidence-based *medicine* back to ‘mid-19th Century Paris and earlier’, Bristow and Dean (2003) discuss its origins in the work of Archie Cochrane during the Second World War, DiCenso et al. (1998, p. 38) trace evidence-based *nursing* to the late 1970s, whilst Davidoff et al. (1995, p. 727) refer back to the ‘bad old days’, observing that ‘time was, not so long ago...’ when we relied on case reports for our evidence, ‘and time was when expert opinion—authority—carried as much weight as the clinical scientific record, and often more’. Clearly, the promise of these historical accounts is that evidence-based practice represents a *progression* from an earlier, inferior age of non-evidence-based practice.

Not all advocates of EBP regard the ‘bad old days’ in purely negative terms; indeed, some writers suggest that we can learn about the present state of EBP by examining the past (White, 1997; French, 1999), although French is of the opinion that little progress has yet been made in our understanding of it. However, most writers accept the watchword of history, that to know the past is to understand the present (and even influence the future). This watchword is sometimes stated explicitly:

In order to gain a greater understanding about the nature of evidence in the context of health care, consideration needs to be given to the history of the evidence-based health care movement. (Rycroft-Malone et al., 2004, p. 82)

This notion of learning from the past casts evidence-based practice as a continually evolving and developing discourse. Thus:

As evidence-based medicine *continues to evolve and adapt*, now is a useful time to refine the discussion of what it is and what it is not. (Sackett et al., 1996, p. 71, our emphasis)

We can see from this statement that the notion of the historical evolution of evidence-based practice is seen by some writers not only as a method for *understanding* the present by reference to the past, but also as a means of *controlling* it, of asserting ‘what it is and what it is not’. Similarly, a historical perspective allows DiCenso et al. (1998) to correct some ‘misconceptions’ about EBP, for example by stating at one point that ‘we strongly disagree with White’s assertion [that randomised controlled trials should not be the gold standard]. *History*

has shown numerous examples...’ (DiCenso et al., 1998, p. 39). The way of past is, on the one hand, inferior to the present, and on the other hand, it is a justification for the way things are today.

A historical perspective has also been used to offer reassurance about an uncertain future. The Evidence-Based Medicine Working Group (EBMWG) opened their seminal paper with the statement: ‘A new paradigm for medical practice is emerging’ (EBMWG, 1992, p. 2420). Unfortunately, this new paradigm was perceived by some practitioners as potentially threatening, since it implied a shift in power/knowledge from practitioners to researchers by ‘de-emphasising’ intuition and clinical experience in favour of ‘evidence from clinical research’ (EBMWG, 1992, p. 2420). An appeal to the past was therefore required, and in subsequent papers Davidoff et al. (1995, p. 727) admonish dissenters with the question ‘why all the fuss?’, arguing that ‘the use of evidence in medicine is certainly not new’ (Davidoff et al., 1995, p. 727). Similarly, Ingersoll (2000, p. 151) claimed that ‘evidence-based practice is just another term for research usage’, and echoed the above sentiments by ‘question[ing] the need for all the fuss and fury’. In contrast, DiCenso et al. (1998, p. 38) *supported* the EBMWG’s ‘new paradigm’ by attempting to *dispel the myth* that ‘evidence-based practice isn’t new; it’s what we’ve been doing for years’.

Interestingly, these two conflicting views of evidence-based practice, that it is both a forward-looking new paradigm and a backward-looking traditional way of practising, appear to sit quite happily side-by-side in the literature, leading Rolfe (2002) to suspect that a strategy of ‘double coding’ is being deployed. This double coding entails packaging evidence-based practice in two different ways for two different audiences; as an exciting new paradigm for academics and researchers, and as a safe, familiar and non-threatening way of working for practitioners.

A similar exercise ensued when evidence-based practice initially made the transition from medicine to nursing. In this case, it involved promoting a double-coded message that evidence-based nursing (EBN) was, at the same time, based on the solid historical foundations of evidence-based medicine (DiCenso et al., 1998), whilst at the same time:

Tiptoeing in the wake of the movement for evidence-based medicine, however, we must ensure that evidence-based nursing attends to what is important for nursing. (Mulhall, 1998, p. 4)

Once again, two distinct and, to some extent, contradictory messages are being promoted: firstly that EBN has a sound heritage in medicine, and secondly that it is something new, exciting and different for nursing. We

can see, then, that an appeal to history offers a number of benefits to advocates of EBN.

2. History as a mode of thinking

Drawing on the work of Foucault and Deleuze, we suggest that the attraction of history to writers on EBP is not simply that it allows them to connect with the past, but more importantly, that it presents them with a mode of thinking in tune with the ethos of EBP itself. History, like EBP, is essentially a modernist discourse, and goes hand-in-hand with the Enlightenment endeavour of progress towards a better world through science. History and modernism are thus part of the same project: without a concept of history, there can be no concept of the modern and no concept of progress. Furthermore, it is important to note that EBP has indisputably established itself as the UK government-sponsored dominant discourse of healthcare (Department of Health, 1998, 2000), and is inextricably tied to the concept of a progressive ‘modern and reliable’ health service (Rolfe, 2004). From a Foucauldian perspective, the discourse of history serves the knowledge/power axis (Foucault, 1980) by rewriting the (hi)story of EBP from the point of view of the victors, of the dominant discourse. This ‘official history’ offers a partial, subjective explanation, a coherent story to account for and justify the status quo.

After several early ‘historical’ works, Foucault rejected this power-saturated perspective in favour of ‘archaeology’ (Foucault, 1977) and ‘genealogy’ (Foucault, 1979). As Sheridan suggests:

For Foucault, history—and the ‘history of ideas’ in particular—is too deeply imbued with notions of continuity, causality and teleology, which stem from modern rationalism and ultimately from the Cartesian notion of the constitutive subject. (Sheridan, 1980, p. 14)

In a similar vein, Deleuze observed that:

History is always written from the sedentary point of view [that is, from a single unchanging perspective] and in the name of a unitary State apparatus ... What is lacking is a Nomadology, the opposite of history. (Deleuze and Guattari, 1987, p. 23)

Deleuze associated this dominant historical account of the world with a tree-like, hierarchical, arborescent mode of thinking.

And trees are not a metaphor at all, but an image of thought, a function, a whole apparatus that is planted in thought in order to make it go in a straight line and produce the famous correct ideas. (Deleuze and Parnet, 1987, p. 25)

The ‘official history’ of EBP, as presented earlier, projects a rational, linear story of the growth and development of ‘famous correct ideas’ in which dissent and contradiction are explained away as historical aberrations and evolutionary dead-ends. To present a history of EBP is to present it as a unified discourse in which objections are refuted by reference to a sedentary, stable, unchanging, already-written past. To present a historical account of the growth and development of EBP as progressing rationally and scientifically towards an ideal, authorised definition, leads us to question our ‘misconceptions’, to accept ‘what is and what isn’t’, and ultimately, to stop making a fuss. As Deleuze points out: ‘power is always arborescent’ (Deleuze and Parnet, 1987, p. 25).

3. Geographical thought and nomadology

However, even a cursory glance at the writing on the subject made us aware that there *is* no simple, linear, developmental history of EBP. It has not, as we might have expected, developed in a coherent, logical, let alone planned way from a simple to a more complex formulation, from diversity to unity, or even from one definition to another. In our estimation, it began life as a complicated, complex, messy, largely un(der)theorised coagulation of ideas and concepts, and it has largely continued in that state, despite a number of attempts to present it as a coherent discourse. In our opinion, EBP shows little sign of historical *development* in the usually understood Enlightenment meaning of the term as a progression towards some better state.

We would suggest, then, that such a historical account presents a false picture of what is actually a ruptured and disputed discourse, in which dissenting and contradictory voices are not artefacts from the past, but exist *alongside* the authorised version of EBP. In our view, the discourse of EBP is better understood from Deleuze’s alternative ‘nomadic’ perspective: ‘Nomads have no history; they only have a geography’ (Deleuze and Guattari, 1987, p. 393). For Deleuze, geography is concerned not with a single, tidily reconstructed past, nor with a meticulously planned future, but with a messy and often contradictory present:

Future and past don’t have much meaning, what counts is the present-becoming: geography and not history, the middle and not the beginning or the end, grass which is in the middle and which grows from the middle, and not trees which have a top and roots. (Deleuze and Parnet, 1987, p. 23)

This emphasis on the messy here-and-now, on middles and ‘present-becomings’ rather than beginnings or endings, suggests the rhizome as an alternative image of thought to the tree. Rhizomatic structures are

decentred multiplicities or networks which take their image from the tuber or underground root-system. Unlike arborescent thinking, rhizomes of thought make non-hierarchical, non-linear, open-ended, underground connections with other rhizomes:

A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb 'to be', but the fabric of the rhizome is the conjunction, 'and ... and ... and ...'. (Deleuze and Guattari, 1987, p. 25)

We can see, then, that a geographical analysis of EBP will offer a very different perspective from a historical analysis. History offers us a straightforward two dimensional linear perspective; it traces a flow from left to right, from A to Z, from past to present and, by extension, to a predictable future: *A then B then C then D*. Geography offers a less sedentary, more nomadic perspective which is concerned with three dimensional space, with plateaus and strata, with multiplicity: *Z and J and X and B and ...*. And whereas history imposes the verb 'to be' in order to tell us what EBP *is*, geography has an open-ended concern with its *becoming*.

4. Towards a geology of EBP

Whilst the metaphor of geography is useful if we are concerned only with the present, our problem is that we wish to explore the *origins* of EBP, but without recourse to the linear mode of arborescent thought usually associated with history. To extend the geographical metaphor, our aim is not simply to map the surface terrain of EBP, but to dig down, to excavate, to expose the foundations of EBP in order to account for its present form. We are concerned neither with the *history* of EBP, which we consider to be over-simplified, authoritarian and largely fabricated, nor merely with its *geography*, its surface features.

Once again, Deleuze is helpful in framing our problem with his concept of a *geology* of thought. From this perspective, what is apparent on the surface of EBP is the latest (but by no means the final) outcrop of a long period of sedimentation, stratification and folding (Deleuze and Guattari, 1987); the most recent *becoming* of EBP. A geology of EBP delves down into the buried past of the discourse and lays bare the contradictions, showing them in a different light, not as historical *periods* in the development of the discourse, but as geological *strata* resting one on top of the other in an uneasy and often unacknowledged cohabitation. The past does not stretch out behind us, but is to be found below our feet: we must dig. And what we uncover is not a longitudinal history but a cross-section, a slice, a

narrow trench through the field of EBP. Such cross-sections are, of course, partial and selective. What we uncover depends to a large extent on where and how deep we dig. There is no single, definitive history of EBP, but rather numerous geologies.

This shift in perspective from the linear to the three-dimensional and from the sedentary to the nomadic has implications for the way in which we write. Deleuze tells us to 'make a map, not a tracing' (Deleuze and Guattari, 1987, p. 12). Tracings are arborescent and merely reproduce the outline of what already exists; they relate to an already existing past; we *trace a history*. Maps, however, are rhizomatic and represent rather than reproduce; they are 'experimentation in contact with the real' (Deleuze and Guattari, 1987, p. 12); they are concerned with becoming; we *map out a future*. Whereas arborescent writing is linear, hierarchical and authoritative, rhizomatic writing takes the shape of a decentred subterranean network in which all points are connected to all others. Rhizomatic writing 'has nothing to do with signifying. It has to do with surveying, mapping, even realms that are yet to come' (Deleuze and Guattari, 1987, pp. 4–5).

For this reason, Deleuze wrote not in chapters but 'plateaus' (Deleuze and Guattari, 1987, p. 22). Similarly, our excavation of EBP will be presented as a series of previously submerged *strata*, self-contained layers which can be read in any order. Not *A then B then C then D* (history), each stage superseding the previous one, ultimately guiding the reader to what EBP *is* and what it *is not*, but rather *Z and J and X and B and ...* (geology).

5. Stratum Z: Hierarchies of evidence

The implicit notion that evidence should be arranged in a tree-like hierarchy has been apparent from the very first published paper on evidence-based medicine (EBMWG, 1992), where 'clinical research' was emphasised at the expense of 'intuition, unsystematic clinical experience, and pathophysiologic rationale' (EBMWG, 1992, p. 2420). Furthermore, the randomised controlled trial (RCT) was regarded as the ultimate form of research evidence, and 'only when definitive evidence is not available, one must fall back on weaker evidence and on biologic rationale' (EBMWG, 1992, p. 2424). This pattern of the RCT at the top of the tree, as the pinnacle of a hierarchy of evidence, followed by other types of quantitative and qualitative research findings and finally by experience and intuition, immediately became the template for evidence-based medicine and evidence-based nursing. Some writers produced overt and explicit hierarchies (Long, 1996; DoH, 1999; Aslam, 2000; Ellis, 2000; Evans, 2003; Norman and Ryrie, 2004; Joanna Briggs Institute, 2004), whilst others referred

simply to RCTs and systematic reviews as a ‘gold standard’ (Davidoff et al., 1995; Sackett et al., 1996; Greenhalgh, 1997; French, 1998; DiCenso et al., 1998; Muir Gray, 2001).

Despite this widespread acceptance of a hierarchy of different types of evidence, a number of writers have recently revised their position. For example, the Department of Health (DoH) in the UK has for many years promoted a hierarchy of evidence with systematic reviews of RCTs as the gold standard (DoH, 1999). However, David Thompson, who was for a number of years Professor of Nursing Research at the DoH, and who presumably supported (and probably contributed to) the hierarchy, recently wrote that ‘I do not subscribe to the *rather pejorative view* that the RCT is the gold standard’ (Thompson, 2002, p. 272, our emphasis). Similarly, David Sackett was a member of the original EBMWG which advocated research evidence as de-emphasising the role of professional judgement and which claimed that evidence-based medicine ‘puts a much lower value on authority [of the practitioner]’ (EBMWG, 1992, p. 2421). However, he later argued that ‘individual clinical expertise’ can override evidence from research:

External clinical evidence [from research] can inform, but can never replace individual clinical expertise, and *it is this expertise that decides whether the external evidence applies to the individual patient at all* and, if so, how it should be integrated into a clinical decision. (Sackett et al., 1996, p.72, our emphasis)

Other writers have softened their views by advocating different gold standards (DiCenso et al., 1998) and different hierarchies (Evans, 2003) for different types of questions. In contrast to this proliferation of hierarchies, Mulhall (1998) rejected their use completely, arguing that no single research design has precedence over any other, and that each issue must be judged on its own merits. Furthermore, she suggested that:

Knowledge, or evidence, for practice thus comes to us from a wide variety of disciplines, from particular paradigms or ways of ‘looking at’ the world, and from our own professional and *non-professional life experiences*. (Mulhall, 1998, p. 5 our emphasis)

This admission of evidence from non-professional life experiences stands in opposition to most other definitions of evidence, which argue strongly against such ‘common sense’ sources, and which prefer to see evidence-based practice as coming to *replace* intuition, unsystematic clinical experience (EBMWG, 1992), expert opinion (Davidoff et al., 1995), ‘personal opinion-based judgements’ (Blomfield and Hardy, 2001), ‘rituals’ (Parker, 1999) and ‘folklores’ (Phillips, 1994).

Yet other writers appear confused or vague about the hierarchy of evidence. Ellis (2000) expresses a number of contradictory views in describing her benchmarking project, stating variously that:

- (i) ‘the evidence base for benchmarks of best practice is considered continuously using a hierarchy of evidence’ (Ellis, 2000, p. 215)
- (ii) ‘the benchmarking group have not used a hierarchy to categorise evidence but have approached the classification of evidence without overt value judgements’ (Ellis, 2000, p. 219)
- (iii) ‘using lower level evidence is only accepted in the absence of more empirical, higher level evidence’ (ibid: 218)
- (iv) ‘evidence is therefore considered from any level of the hierarchy of evidence’ (Ellis, 2000, p. 218)

Similarly, the Joanna Briggs Institute (JBI), whilst maintaining systematic reviews at the top of its hierarchy, has twice modified its ‘Level IV’ evidence at the bottom. Prior to 1999, Level IV evidence included ‘opinion of respected authorities, based on clinical experience, descriptive studies or reports of expert committees’ (JBI, 1998, p. 1). From 1999 to 2004, Level IV evidence consisted of ‘evidence obtained from case series’ (JBI, 2002, p. 1), which was formerly Level III evidence, and with descriptive studies and expert opinion not included anywhere in the hierarchy and presumably no longer considered as evidence. However, in 2004 ‘observational studies without control groups’ were reinstated as Level III evidence and ‘expert opinion without explicit critical appraisal’ was considered as Level IV evidence (JBI, 2004, p. 2). A historical reading of these changes might regard them as part of an ongoing progression towards an ever more accurate view of evidence. However, it is very difficult to see any ideal of progress in this oscillation between accepting and denying experience and expertise as forms of evidence. Furthermore, the JBI points out that:

Due to the nature of systematic review, the rating of the evidence is defined at the point of review and is unable to be adjusted ... without compromising accuracy and rigour of the research. (JBI, 2004, p. 2)

In other words, systematic reviews are conducted according to the prevailing hierarchy at the time they were carried out, so that any changes in definitions of evidence cast doubt on the accuracy and rigour of those reviews carried out prior to the changes. If we assume a historical reading in which the changes to the hierarchy represent a progression towards an ideal, then the clear implication is that none of the JBI reviews published prior to 2004 can be assumed to be accurate. It also implies that systematic reviews carried out by different

organizations using different hierarchies are not necessarily compatible. This clearly has significant implications for the gold standard status of the systematic review, and yet this is an issue which is rarely discussed by advocates of EBP.

6. Stratum J: Quantitative and qualitative research evidence

We have shown elsewhere that there is a stratum of opinion running through EBP which has always regarded evidence from quantitative research as superior to that from qualitative designs. This view is apparent from the earliest writing on evidence-based medicine (EBMWG, 1992), and is most commonly associated with the work of Sackett:

Because the randomised trial, and especially the systematic review of several randomised trials, is so much more likely to inform us and so much less likely to mislead us, it has become the ‘gold standard’ for judging whether a treatment does more good than harm. (Sackett et al., 1996, p. 72)

This view that the RCT and quantitative research in general is superior to qualitative research as a source of evidence is endorsed by many nurses (e.g. French, 1998; Evans, 2003; Norman and Rylie, 2004) and, as we have demonstrated elsewhere, is supported by influential groups such as the NHS Centre for Research and Dissemination in the UK, and the Joanna Briggs Institute in Australia. This denigration of the role of qualitative research might almost be said to be the official position on evidence, certainly in the UK. As Roger Watson asks of evidence-based nursing:

What precisely has qualitative research contributed to patient care? I am not saying that it has contributed nothing but the list will not be very long. (Watson, 2002, p. 274)

From this position, qualitative research clearly has little or no role to play in EBP.

Other writers attribute a slightly more important role for qualitative research, but only in conjunction with quantitative studies. For example, Muir Gray argues that qualitative studies are of value in the preliminary stages of a project either in helping to design a quantitative research protocol or to generate hypotheses which can then be tested by quantitative methods. They might also be used ‘to complement quantitative research ... which can increase the validity of the information obtained using quantitative methods’ (Muir Gray, 2001, p. 160, our emphasis). Van Meijel et al. (2004, p. 85) have also argued that ‘qualitative research used in the development of clinical interventions plays a vital role in

complementing RCTs’ (our emphasis). Kevin Gournay, an influential figure with the Department of Health, has added:

There is of course a place for qualitative research methods, but such research needs to use a rigorous approach and *should be linked to quantitative methodologies* ... for it to have any meaning. (Gournay and Ritter, 1997, p. 442, our emphasis)

For all of these writers, qualitative methodologies can function as a useful *supplement* to quantitative studies, but have little or no intrinsic value in themselves.

A third position on the relationship between evidence from quantitative and qualitative research is that the gold standard varies depending on the type of question to be answered. Thus:

Just as randomised trials and systematic reviews are the best designs for evaluating nursing interventions, qualitative studies are the best designs to better understand patients’ experiences, attitudes, and beliefs. (DiCenso et al., 1998, p. 39)

This position might be seen as a nursing response to the medical view that quantitative research is *always* superior, and offers an acceptable compromise to some qualitative researchers. However, others such as White (1997, p. 177), have argued that findings from quantitative studies such as RCTs *never* offer the best evidence for making decisions about nursing interventions, claiming it to be a ‘flawed assumption’. Rolfe (1999) and Feinstein and Horwitz (1997) have also argued against evidence from quantitative research, pointing out that generalisable statistical data can tell us little or nothing about individual patients.

A final position is that there are no gold standards at all, not even different ones for different types of question. Rather, each issue, each clinical encounter, must be judged on its own merits. Thus:

No single [research] design has precedence over another, rather the design chosen must fit the particular research question. (Mulhall, 1998, p. 5)

Similarly, Hewitt-Taylor (2003) suggests that ‘both positivist and naturalistic research’ should be considered, and that:

The types of evidence that are used should be based upon how appropriate each form of evidence is *for the issue in question*, the availability of evidence, and the purpose of the review. (Hewitt-Taylor, 2003, p. 44, our emphasis)

Peter French (1999) makes a similar point, arguing that what counts as evidence:

is determined by the practitioner’s *personal judgement* regarding the aims, relevance, feasibility, constraints

and significant variables associated with *the particular research issue*. (Peter French, 1999, p. 73, our emphasis)

We can see, then, that a number of disparate and incommensurable views exist about the relative merits of the different research traditions, and on what, if anything, is considered to be ‘best evidence’.

7. Stratum X: The role of clinical experience and expertise

There are a number of conflicting and contradictory lines of thought in the literature regarding the role and status of experience and expertise. Firstly, there is a great deal of confusion over the terms themselves, which often appear to be employed interchangeably, with neither usually being defined. Clearly, however, they are not identical, and many writers would wish to argue that it is possible to be experienced without being an expert (although perhaps not vice versa). As Rolfe (1999, p. 437) points out:

An experienced practitioner is someone who has accumulated a body of experiential knowledge from many years of practice. But like any knowledge, experiential knowledge can be used poorly or wisely, and there are many practitioners with twenty years or more experience who fail to make good use of it. What separates the experienced nurse from the expert is the *wise application* of experiential knowledge.

Such a distinction suggests that whilst experience is a *source* of knowledge or evidence, expertise is the *application* of evidence to practice. Nevertheless, we are left with a strong impression that some writers employ the term ‘expertise’ when they actually mean ‘experience’ (Davidoff et al., 1995; DiCenso et al., 1998). Since this so-called ‘expertise’ is usually subservient to evidence from research, the result is an apparent devaluation of expertise in professional practice generally and clinical decision-making in particular.

Indeed, some writers apparently see no role whatsoever for experience and/or expertise, and ‘consider “evidence-based practice” just another term for research usage’ (Ingersoll, 2000, p. 151), or else define it as ‘the science of finding, evaluating, and implementing the results of medical research’ (Greenhalgh, 1997, p. xv). Other writers include experience and/or expertise in their hierarchies, but regard them as poor quality evidence. We have seen elsewhere how ‘clinical experience’ dropped off the bottom of the Joanna Briggs Institute hierarchy in 1999, later to be reinstated as ‘expert opinion without critical appraisal’ (JBI, 2004, p. 2). Similarly, Evans (2003) ranked evidence from ‘expert opinion’ alongside ‘poor quality studies’ at the bottom

of the hierarchy, arguing that ‘this is at the greatest risk of error and as a result is ranked as the lowest level of evidence’ (Evans, 2003, p. 81). Yet others prefer to see it as something *other* than evidence. Thus, whilst Sackett et al. (1996) regard the RCT as the gold standard of evidence, they nevertheless acknowledge that:

Good doctors use both individual clinical *expertise* and the best available external *evidence*, and neither alone is enough. (Sackett et al., 1996, p. 72, our emphasis)

Others, such as the JBI (2004), appear to apply double standards in their treatment of expertise. Thus, whilst regarding ‘reports of expert committees’ as the lowest form of evidence for practice, the JBI appears oblivious to the irony implicit in their own systematic review process, in which:

Each JBI review is undertaken by a consultant who reports to a review panel ... which includes nursing clinicians with expertise in the area and, where appropriate, other health professionals with appropriate expertise. (JBI, 2004, p. 1)

It would appear that whilst clinical expertise is not to be trusted as a source of evidence for practice, it is nevertheless the highest form of evidence when it comes to making judgements about systematic reviews.

8. Stratum B: Using a hierarchy of evidence

Despite a plethora of views concerning the relative merits and difficulties surrounding different types of evidence, the official line in the UK advocated by the Department of Health would appear to be that evidence should be ordered into a hierarchy (DoH, 1999) with systematic reviews and RCTs at the top. Thus, regardless of rhetoric about the *development* and *evolution* of EBP, it would appear that little has changed since the seminal paper by the EBMWG in 1992. The advice given in that paper suggested that the practitioner begins by looking for ‘best’ evidence, only looking lower down the hierarchy if no systematic reviews or RCTs have been conducted on the relevant issue. As Sackett et al. (1996) point out:

And if no randomised trial has been carried out for our patient’s predicament, we must follow the trail to the next best external evidence and work from there. (Sackett et al., 1996, p. 72)

If there are no RCTs, then the practitioner works her way down the hierarchy until she finds the best available research, and acts on that. Only in cases where there is no research evidence at all, should decisions be based on

non-research-based evidence such as the ‘opinions of respected authorities’.

Although this ‘exclusive’ hierarchy would appear to be the official line on translating evidence into practice, it is not the only approach to be described in the literature. For example, other writers advocate an ‘inclusive’ hierarchy in which all sources of evidence are considered together, but those higher up the hierarchy are given more weighting than those lower down. This is the position taken by Hewitt-Taylor (2003), who describes:

a relative weight that will be attached to each form of evidence in relation to a specific issue. (Hewitt-Taylor, 2003, p. 44)

However, she provides no details whatsoever about how the practitioner is to assign or apply these weightings.

Other writers make confusing and contradictory statements about hierarchies of evidence. For example, Aslam (2000) begins by arguing for an exclusive hierarchy similar to that advocated by Sackett:

The best evidence is that obtained from high quality research programmes, such as those using randomised controlled testing and fully documented case histories. Such evidence is, however, not always available; here midwives may use their own experiences which have been carefully noted and reflected upon. *The key is always to use the best evidence available.* (Aslam 2000, p. 17, our emphasis)

Later, however, she makes the case for an inclusive hierarchy in which *all* the evidence is considered:

In general, the higher the evidence type in the hierarchy, the greater the weight it should be accorded. However, even when good quality research data are available to assist decision-making, *the midwife should use all evidence in its proper context*; all available evidence means research findings, clinical experience, clinical skill and judgements as well as the preferences of women. (Aslam 2000, pp. 20–21, our emphasis)

Other writers are simply vague about the issue. Driever (2002) defines EBP as

The *synthesis* of knowledge from research; data analysed from the medical record; quality improvement and risk data; infection control data; international, national and local standards; pathophysiology; cost effectiveness analysis; benchmarking data; patient preferences; and clinical expertise. (Driever, 2002, p. 593, our emphasis)

This is clearly an inclusive hierarchy in which evidence from a wide range of sources is synthesised to form an evidence-based decision. Unfortunately, nowhere in the paper are we informed what such a synthesis entails, nor how it is to be performed.

Kitson (2004) also acknowledges that issues such as how different sources of evidence interact and how nurses might apply them to practice are ‘big questions’ (Kitson, 2004, p. 7), but offers no answers to them. Similarly, le May (2000) suggests that:

The complexity and skill of nursing, midwifery and health visiting relies on being able to fit together pieces of evidence collected from a variety of different sources in the quest for the total picture and resultant clinical effectiveness. (le May, 2000, p. 2)

Once again, le May appears to be advocating an inclusive hierarchy in which evidence from *all* sources is considered together. Unfortunately, despite the promise that her monograph ‘is designed to help you make informed decisions about practice’, she has no advice to give on how to ‘fit together’ all these pieces of evidence, on whether the various sources should be weighted, and how the practitioner is to decide between competing and contradictory pieces of evidence.

In summary, despite the apparent simplicity of making clinical decisions based on hierarchies of evidence, Rycroft-Malone et al. (2004) recently concluded that:

Agreed standards for determining whether research evidence is appropriate and useful for a particular patient/context and how it can be used have yet to be developed [...] *How these evidence sources are melded together* in the real-time of clinical decision-making *is still virtually unknown.* (Rycroft-Malone et al., 2004, pp. 87–88, our emphasis)

Thus, after thirteen years and numerous papers, the basic mechanism by which evidence-based decisions are made is still unknown. French (2002) takes an even more pessimistic view in which ‘the current persuasive power of EBP appears to be based on a *belief* that it is a viable construct’ (French, 2002, p. 251, emphasis in original). Thus, a decade after the initial optimistic assertion by the EBMWG (1992) that ‘a new paradigm is emerging’ (EBMWG, 1992, p. 2420), French (2002) concluded that ‘there is very little evidence to support the contention that a new construct or process exists [...] or that EBP is a distinct process which offers more than a novelty effect in a basically political scenario’ (French, 2002, p. 255).

9. Conclusion

History is the preferred metaphor, vocabulary and perspective of modernism and the government-sponsored version of EBP. A historical perspective invites comparisons between past and present in order to demonstrate progress and growth, and allows the dominant discourse to promote the current 'modern and dependable' health service (DoH, 1997) at the expense of a previous out of date and less-than-dependable one (preferably under a rival government). To be dependable is to promise that the present conditions will continue into the immediate future. It offers the enticing view that whilst the past has seen a constant evolutionary development, the present state of affairs will continue much as it is. It suggests, as we have seen, that a stable future can be understood by reference to an ever-changing past.

In order to offer dependability, the government requires a method of health care delivery that can be relied on to provide the same degree of excellence wherever and whenever it is delivered. Evidence-based nursing offers the promise of such a method. The promise of EBP is not only that it will produce the *most effective* intervention for a particular health problem, but (perhaps more importantly) that it will provide it *consistently* and *reliably*; that it will provide the same interventions for the same problems regardless of where and when they arise. However, such a promise is highly dependent on EBP being seen as a unified and coherent method of health care that will be accepted and applied uniformly by all practitioners. It is therefore vital to present an authorised version of EBP to which all practitioners can and will subscribe.

Such a presentation of 'what it is and what it isn't' must somehow account for the various 'misconceptions' to be found in the literature, and these are most easily dealt with as historical aberrations, as wrong turnings and dead ends on the evolutionary path of EBP from its original introduction as a 'new paradigm' in 1992 to its current status as the dominant discourse for health-care. The strength of the historical metaphor is the notion of linear progress towards a single, actual present and a predictable better tomorrow: A then B then C then... until we eventually reach Z, the ideal state, the end of history. It also offers more than a suggestion that perhaps we have already arrived at Z, since to admit otherwise is to infer that things could be better; that the health service could, in fact, be *more* modern and *more* dependable than it is.

But if history and the idea of progress is the metaphor of the modernist State, then geography, as Deleuze suggests, is the metaphor of the postmodern nomad. If we shift perspectives and regard EBP *not* as a historical progression from A to Z in a more or less straight line, but as a cross-section across geological layers or strata, then we are presented with a rather different picture; a map rather than a tracing. A geological perspective

presents EBP not so much as a single evolving timeline, but as a series of co-existing, conflicting realities. Even a cursory glance at the literature on EBP will show us that its development is not, and has never been, linear. There is no straight line to be drawn from early definitions which see EBP as A, to later definitions which see it as having progressed to B and *then* to C. Rather, the publication dates of the many contradictory papers reveal that A *and* B *and* C continue to exist side by side in the current literature, and have always done so.

From this geological perspective, then, it would seem that the evidence-based nurse follows the tradition established by evidence-based medicine, *and* that she focuses on what makes nursing different. It means that she considers qualitative research to be of little value to nursing, *and* that it is useful as a supplement to quantitative research, *and* that it is better for certain types of nursing situations, *and* that it is better in all cases, *and* that each case has to be judged on its own merits. It means that the clinical experience of the evidence-based nurse, and even her expertise, is devalued in favour of evidence from research, *and* that her experience is crucial, *and* that it is often misleading. It means that she should always place the findings of research above her own judgement, *and* that she only sometimes should, *and* that her clinical judgement always takes precedent. It means that the evidence-based nurse recognises a hierarchy of evidence with the RCT at the top, *and* that her own experience (both clinical *and* non-clinical) is at the top, *and* that she constructs individual hierarchies for each individual situation, *and* that there is no hierarchy, *and* that there is a hierarchy, but that her clinical expertise can override it whenever she chooses. It means that she always uses the 'best' evidence from highest on the hierarchy in any clinical situation, *and* that she sometimes (but nobody knows how) combines all sources of evidence but accords greater weighting to certain types. Ultimately, it means that the evidence-based nurse can do more or less whatever she wants to and is still able to justify her actions from the literature.

This is clearly a subversive reading of EBP. Seen from this perspective, EBP leads not to uniformity and dependability, but to diversity and experimentation; not to standardised care but to individualised practice (that is, practice based on the individual decisions of each practitioner); not to government-dictated clinical decisions, but to nomadic thought, free to wander; not to a 'modern and dependable' health service, but to a postmodern and diverse one.

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