



## Narrative based medicine: Narrative based medicine in an evidence based world

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*Narrative based medicine***Narrative based medicine in an evidence based world**

Trisha Greenhalgh

In a widely quoted riposte to critics who accused them of naive empiricism, Sackett and colleagues claimed that “the practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence . . . . By individual clinical expertise we mean the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice.”<sup>1</sup> Sackett and colleagues were anxious to acknowledge that there is an art to medicine as well as an objective empirical science but they did not attempt to define or categorise the elusive quality of clinical competence. This article explores the dissonance between the “science” of objective measurement<sup>2</sup> and the “art” of clinical proficiency and judgment,<sup>3-5</sup> and attempts to integrate these different perspectives on clinical method.

**The limits of objectivity in clinical method**

Science is concerned with the formulation and attempted falsification of hypotheses using reproducible methods that allow the construction of generalisable statements about how the universe behaves. Conventional medical training teaches students to view medicine as a science and the doctor as an impartial investigator who builds differential diagnoses as if they were scientific theories and who excludes competing possibilities in a manner akin to the falsification of hypotheses. This approach is based on the somewhat tenuous assumption that diagnostic decision making follows an identical protocol to scientific inquiry—in other words, that the discovery of “facts” about a patient’s illness is equivalent to the discovery of new scientific truths about the universe.

The evidence based approach to clinical decision making is often incorrectly held to rest on the assumption that clinical observation is totally objective and should, like all scientific measurements, be reproducible. Tannenbaum summarised this view in 1995: “Evidence-based medicine argues for the fundamental separability of expertise from expert and of knowledge from knower, and the distillation of medical truth outside the clinical encounter would seem to allow both buyers and sellers in the health care market to act independently and rationally.”<sup>6</sup>

Although many disciples of the evidence based medicine movement (perhaps especially those with a management, rather than a clinical, background) might support this positivist image of evidence based practice, its founding fathers made no such claim for the objectivity of clinical method. Indeed, it was Sackett and his colleagues who found that whenever the diagnostic acumen of doctors is studied, different clinicians show a singularly unimpressive amount of agreement beyond chance.<sup>7</sup> Sackett et al argued that we should acknowledge and measure the amount of disagreement between different clinicians in different circumstances rather than dismiss it or attribute it to

**Summary points**

Even “evidence based” clinicians uphold the importance of clinical expertise and judgment

Clinical method is an interpretive act which draws on narrative skills to integrate the overlapping stories told by patients, clinicians, and test results

The art of selecting the most appropriate medical maxim for a particular clinical decision is acquired largely through the accumulation of “case expertise” (the stories or “illness scripts” of patients and clinical anecdotes)

The dissonance we experience when trying to apply research findings to the clinical encounter often occurs when we abandon the narrative-interpretive paradigm and try to get by on “evidence” alone

**This is the last in a series of five articles on narrative based medicine**

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inexperience or incompetence. Clinical agreement, expressed statistically as the  $\kappa$  score, is of the order of 50% beyond chance for routine clinical procedures such as detecting the presence or absence of pulses in the feet, classifying diabetic retinopathy as mild or severe, and assessing the height of the jugular venous pressure. (Incidentally, cardiologists agreed rather more often than this in diagnosing angina from patients’ descriptions of chest pain and, in some studies, rather less often in interpreting the abstracted, hard reality of electrocardiographic tracings.<sup>7</sup>)

Those who have studied the phenomenon of clinical disagreement, as well as those of us who practise medicine in a clinical setting, know all too well that clinical judgments are usually a far cry from the objective analysis of a set of eminently measurable “facts.” Pitting oedema, for example, will be more readily detected in a patient who has just mentioned that she ran out of “water tablets” last week than in someone who has made no such comment.

In the language of empiricism such an observation could be interpreted as ascertainment bias, but in the language of social constructionism it reflects the notion that even objective facts are theory laden.<sup>8</sup> Our medical training can be viewed as a kind of deductive narrative that predicts the fact of pitting oedema for which the trained clinical mind is then prepared. Evidence supports the claim that doctors do not simply assess symptoms and physical signs objectively: they interpret them by integrating the formal diagnostic criteria of the suspected disease (that is, what those diseases are supposed to do in “typical” patients as described in standard textbooks) with the case specific features of the patient’s individual story and their own accumulated professional case expertise.



LAINE PAYNE

### Diagnosis: evidence or the interpreted story?

We all know that anecdotal experience, the material of traditional medical practice and teaching,<sup>9</sup> is unrepresentative of the average case<sup>10 11</sup> and thus a potentially biased influence on decision making.<sup>12</sup> Evidence based clinical decision making involves the somewhat counter-intuitive practice of assessing the current problem in the light of the aggregated results of hundreds or thousands of comparable cases in a distant population sample, expressed in the language of probability and risk—the stuff of clinical epidemiology<sup>7</sup> and bayesian statistics.<sup>13</sup>

How, then, can we square the circle of upholding individual narrative in a world where valid and generalisable truths come from population derived evidence? My own view is that there is no paradox. In particle physics the scientific truths (laws) derived from empirical observation about the behaviour of gases fail to hold when applied to single molecules. Similarly (but for different reasons), the “truths” established by the empirical observation of populations in randomised trials and cohort studies cannot be mechanically applied to individual patients (whose behaviour is irremediably contextual and idiosyncratic) or episodes of illness.

In large research trials the individual participant's unique and multidimensional experience is expressed as (say) a single dot on a scatter plot to which we apply mathematical tools to produce a story about the sample as a whole. The generalisable truth that we seek to glean from research trials pertains to the sample's (and, hopefully, the population's) story, not the stories of individual participants. There is a serious danger of reifying that population story—that is, of applying what Whitehead called the fallacy of misplaced concreteness<sup>14</sup>—and erroneously viewing summary statistics as hard realities.

Misplaced concreteness is also an apt description of the dissonance we experience when we try to apply research evidence to clinical practice. Hunter has suggested that the reason why medical practice cannot constitute a science is that medicine lacks rules that can be generally and unconditionally applied to every case, even every case of a single disease.<sup>15</sup> This is borne out, for example, by Tudor Hart's observation that only 10% of patients in primary care have the sort of isolated, uncomplicated form of hypertension that lends itself to management by a standard evidence based guideline.<sup>16</sup> Hence, although there are certainly

“wrong” answers to particular clinical questions, it is often impossible to define a single “right” one that can be applied in every context.

### Integrated diagnostic judgments: evidence within the interpreted story

The box shows a comment made by a general practitioner in Cardiff, cited in a lecture by Nigel Stott, which I have expanded into a hypothetical example about Dr Jenkins. Meningococcal meningitis was diagnosed against the odds on the basis of two very non-specific symptoms and what was, on the face of it, a lucky hunch; the general practitioner who made the diagnosis had seen meningococcal meningitis only once in 96 000 consultations. Consider the decision sequence in this encounter: Dr Jenkins contemplates the brief history hastily obtained by the receptionist over the telephone and, using his intimate knowledge of the family, begins to put together the story of this illness.

One interpretation of this doctor's action is that he subconsciously compared the script so far with the tens of thousands of “illness scripts” from children over the years who had become (or were perceived to have become) acutely ill and decided that this script didn't fit with the template “nothing much the matter.” The word “strangely” is rarely used by parents to describe the manifestations of non-specific illness in young children (compare the familiar expressions “off colour,” “not herself,” “poorly,” “washed out,” all of which occupy a very different semantic space from “strangely”<sup>17</sup>). It may be this single word that alerted the doctor to the seriousness of the case.

Of the many medical maxims (rules of thumb) that come to mind when trying to make sense of this story, Dr Jenkins might have taken particular note of the second and fifth maxims presented in the box to inform his decision making. This doctor's skill, which would be extremely difficult to measure formally, was to integrate judiciously selected best evidence (for example, on the prognosis of early meningococcal meningitis with and without the urgent administration of penicillin) with the potential significance of the word “strangely” and his personal knowledge about this family (their uncomplaining track record, the mother's

#### Dr Jenkins's hunch

“I got a call from a mother who said her little girl had had diarrhoea and was behaving strangely. I knew the family well, and was sufficiently concerned to break off my Monday morning surgery and visit immediately.”

#### Maxims that might be considered in this case:

- We cannot commit ourselves completely and immediately to all patients who seek our help
- If meningococcal meningitis is suspected the doctor must act urgently and make the patient a priority
- Diarrhoea in previously well children is generally viral and self limiting
- Meningococcal meningitis produces a characteristic rash and neck stiffness
- Meningococcal meningitis presents non-specifically in primary care

good sense, and the memory of the child as one whose premorbid behaviour had been nothing out of the ordinary). Taken alone, neither best research evidence nor the intuitive response to a short but unusual story would have saved this patient, but the integrated application of both has produced a feat we would all be proud to replicate just once in our clinical careers.

The well documented frustration that health professionals experience when trying to apply evidence based research findings to real life case scenarios occurs most commonly when they abandon the interpretive framework and attempt to get by on evidence alone.<sup>18-20</sup> Such a situation might have occurred if Dr Jenkins had suspended his clinical judgment and adhered exclusively to the letter of a guideline on the early diagnosis and treatment of meningitis.

### Stories within stories

The doctor-patient encounter takes place in a highly structured transactional space, in which the behaviour of both parties is determined by socialised expectations. In the American philosopher Leder's view, the "text" that constitutes the diagnostic encounter, and which distinguishes it from other human narratives or modes of communication, is a story about the "person as ill."<sup>21</sup> This in turn integrates four separate secondary texts:

- the experiential text—the meaning the patient assigns to the various symptoms, deliberations, and lay consultations in the run up to the clinical encounter (a subject eloquently explored by Heath<sup>22</sup>);
- the narrative text—what the doctor interprets to be "the problem" from the story the patient tells—the traditional medical history;
- the physical or perceptual text—what the doctor gleans from a physical examination of the patient (using the ill defined but recognisable set of skills that have been called "practical reason"<sup>23</sup>); and
- the instrumental text—what the blood tests and x rays "say."

In the instrumental text, "machines are employed to co-author a fuller story."<sup>22</sup> The shadow on the chest radiograph of a 19 year old student returning from an overland trip across India may be objectively identical to that of a 56 year old smoker who has never been out of Sweden. Both may have coughed up blood. But the radiologist who looks at the x ray films "sees" tuberculosis in one and a high probability of cancer in the other. According to Leder, the search for the "objective" analysis of diagnostic tests (for example, looking at an x ray film without a clinical or social history) is a flight from interpretation, and one that is doomed to fail.<sup>21</sup> This prediction from a hermeneutic perspective resonates strongly with the call from evidence based circles for the "truth" of the instrumental text (that is, the results of diagnostic tests) to be interpreted judiciously on the basis of bayesian pretest probabilities determined by the history and physical examination (for example, how likely on clinical grounds the patient is to have a particular condition).<sup>7</sup>

Leder's analysis and much of what has been written on the narrative stream in clinical medicine, centres on the diagnostic sequence, thus addressing only the first part of the clinical encounter. But there is also a therapeutic narrative: the formulation of a plan of what to

do next and the enactment of that narrative.<sup>23</sup> Should the doctor order further tests, treat (if so, with what?), refer to a specialist colleague, or watch and wait? The increasing recognition that these decisions should arise out of informed dialogue between doctor and patient<sup>24</sup> has shown that there is a need for further research into the narrative of shared decision making<sup>25</sup>—an aspect of narrative analysis in medicine that will no doubt expand over the next few years.

### Conclusion

Appreciating the narrative nature of illness experience and the intuitive and subjective aspects of clinical method does not require us to reject the principles of evidence based medicine. Nor does such an approach demand an inversion of the hierarchy of evidence so that personal anecdote carries more weight in decision making than the randomised controlled trial. Far from obviating the need for subjectivity in the clinical encounter, genuine evidence based practice actually presupposes an interpretive paradigm in which the patient experiences illness in a unique and contextual way. Furthermore, it is only within such an interpretive paradigm that a clinician can meaningfully draw on all aspects of evidence—his or her own case based experience, the patient's individual and cultural perspectives, and the results of rigorous clinical research trials and observational studies—to reach an integrated clinical judgment.

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