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Computers can't listen

Algorithmic logic meets patient centredness

The doctor-patient relationship is crucial to the practice of medicine and yet the rise of science in the 19th and 20th centuries shifted doctors' focus away from the patient toward another entity: the disease. Slowly, the medical profession is rediscovering the importance of the doctor-patient relationship. General practice has contributed significantly by developing the patient centred clinical method, and further models have been introduced that take into account both the doctor's and the patient's perspectives. More recent changes in medicine – particularly computerisation and the introduction of evidence based medicine – may once again threaten this emphasis on patient centredness.

The importance of the doctor-patient relationship has been recognised by physicians from Hippocrates¹ to Osler² and on to the present day. Yet the rise of science since the 'enlightenment' has acted to turn the profession's focus away from this relationship toward more biomedical matters. General practice in particular rediscovered the importance of the doctor-patient relationship in the latter part of last century, helping to define general practice as a separate medical discipline.³ Yet, as we enter a newly technological, scientific age of medicine, are we in danger of losing that focus again?

The rise of patient centredness

Kuhn⁴ describes how an existing scientific paradigm is slowly challenged by irregular observations until such time as a new paradigm is conceived and becomes dominant. This is what happened to the doctor-patient relationship. After World War II it became clear to physicians that the existing paradigm – the biomedical model – was not adequate to explain patients and their illness behaviour. In the biomedical model, all symptoms are classified into a disease based taxonomy and are then dealt with in a linear, algorithmic manner. Medical consultations – particularly those that are patient centred – are rarely linear.

In the early 1950s two seminal works gave rise to a new way of thinking. The first was by an English psychiatrist, Michael Balint. In his book *The doctor, his patient and the illness*⁵ he described a series of seminars that looked at difficult consultations in British general practice. In his introduction, Balint says: 'The first topic chosen for discussion at one of these seminars happened

to be the drugs usually prescribed by practitioners. The discussion quickly revealed... that by far the most frequently used drug in general practice was the doctor himself, ie. it was not only the bottle of medicine or the box of pills that mattered, but the way the doctor gave them to his patient – in fact the whole atmosphere in which the drug was given and taken'.

Balint's book outlined a method by which doctors could make themselves the 'drug' in the therapeutic relationship.

Across the Atlantic, psychiatrist Thomas Szaz⁶ published 'a contribution to the philosophy of medicine' at much the same time. Based on his experience and reading, he outlined three models of the doctor-patient relationship:

- active/passive
- guidance/cooperative, and
- mutual participation.

The active/passive model was dominant at that time; it has also been called the 'paternalistic' model. The active, paternalistic doctor 'does' things to the passive recipient, the patient. The other models require greater patient participation, and take greater account of the patient's perspective.

These two works led to a slow but steady increase in research looking at this 'new' perspective. The term 'patient centred medicine' was first coined in 1969.⁷ It emphasised that diseases do not exist in isolation of the patient, but rather that the patient should be the doctor's focus. In 1975, psychiatrist George Engels, summarised the deficiencies of the biomedical model. He introduced a new term: the 'biopsychosocial model'.⁸ Thus the profession started to emphasise the importance of not

only the physical, but also the social milieu and psychological background of those who suffer a symptom. The outcome was to shift the focus from diseases doing something to a person to illnesses being experienced by a person. Moira Stewart et al⁹ have provided the most comprehensive definition of patient centred medicine, describing the patient centred clinical method (PCCM) as:

- exploring both the disease and the illness experience
- understanding the whole person
- finding common ground
- incorporating prevention and health promotion
- enhancing the doctor-patient relationship, and
- being realistic.

Patient centredness has been well adopted within general practice. As a method, it can be applied systematically to consultations and has been taught widely to medical students and general practice trainees. Researchers have tested whether using the PCCM has positive effects on the consultation. In 1991 Bertakis et al, using taped interviews, identified that greater identification of psychosocial problems and less direct questioning by physicians was associated with improved patient satisfaction.¹⁰ In 2001, Little et al¹¹ identified that patients prefer doctors who use the PCCM. They followed this up by demonstrating improved satisfaction and patient enablement related to doctors' use of the PCCM.¹²

So if the responsive interplay of patient centredness is considered a good thing for the doctor-patient relationship, are we placing it at risk by allowing computers to re-introduce an algorithmic rigidity to the general practice consultation?

Computing in general practice

Australia has gone from 15% of general practitioners having a computer on their desk in 1998¹³ to 91% in 2005.¹⁴ Of the many factors to account for this, two key ones were centrally driven: the formation of the General Practice Computing Group in 1998 (and its predecessor the Information Management Strategy Group), and significant federal funding through the Practice Incentives Program and divisions of

general practice. A third factor was the release of a cheap, readily available prescribing program in response to a clear need.

Surprisingly, given the importance of the doctor-patient relationship in medical practice, there is little literature on any direct effects of this computerisation on the doctor-patient relationship itself. This change has the potential to impact (positively and negatively) on the core of medicine; surely it warrants examination.

A British review reported that most articles on computerisation in general practice examined changes to simple activities such as prescribing and using reminder systems.¹⁵ These simple outcome measures demonstrated no negative effects on patient outcomes, although concerns remained about possible effects on the doctor-patient relationship as well as impact on privacy, cost, time, and training needs. In a 1989 nationwide randomised survey in Australia,¹³ 41% of GPs also expressed concern that computers would adversely affect the doctor-patient interaction. This is not necessarily reflected in surveys of patients, who were not bothered by the computer except for concerns about privacy and confidentiality.^{16,17} Some patients welcomed their doctor having easier access to information and thought the computer facilitated their clinical encounters, improving the doctor-patient relationship and the quality of care delivered.¹⁷

Other research suggests that the introduction of computers into a consultation does affect doctor-patient interaction. The use of video observation before and after the introduction of computers has demonstrated that doctors are more likely to remain silent or delay speaking during computer use, allowing important cues from the patient to pass unremarked.¹⁸ They are also more likely to confine their attention to the monitor and keyboard, to the exclusion of the patient.

In one observational study by Als,¹⁹ the computer (or more specifically, its visible physical component, the monitor) took on a specific role in the consultation and was referred to by both the patient and the doctor. It also affected the flow of the consultation and distracted the gaze of both participants.

One Australian study suggested that, although consultation length has not changed since the arrival of the computer, the distribution of work within the consultation has, with much consultation time now spent dealing with the computer.²⁰

Evidence based medicine

Evidence based medicine (EBM) arrived in general practice contemporaneously with computers. Never have GPs had such easy access to so much hard science on which to base their decisions.²¹ However, Komaroff wrote in 1982: 'Over the past 30 years, there have been increasing attempts to transform the 'art' of medical decision making into a 'science'... The driving force behind this effort has been the perception that clinicians make medical decisions in an idiosyncratic manner, sometimes compromising the quality of care or wasting medical resources'.²²

Evidence based medicine has been held up as 'the Holy Grail', whereby doctors deliver only the 'best care' to their patients.²¹ In practice however, it has proven difficult to deliver. Barriers to the implementation of EBM have been divided into organisational, professional and social contexts,²³ with the implication that successfully introducing EBM is simply a matter of better change management. This approach ignores the more human aspects of the consultation,²⁴ and the importance of GPs exercising their expert – but patient centred – judgment. Computerisation has made the implementation of EBM in general practice much more feasible,²⁵ yet both computers and EBM have the potential to cut across our moves to a more flexible, mutually based doctor-patient relationship. When patients tell GPs their stories, it is up to the GP to listen for what is important to that patient and to tailor the use of the computer (and the EBM it facilitates) to the patient's needs. Greenhalgh articulates this when she describes how to practise narrative based medicine in an evidence based world.²⁶ She holds that: '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'.

Conclusion

In attempting to implement both clinical evidence and new technologies into practice, we must remind ourselves that GPs primarily use data contained in the stories our patients tell us, and the completeness of these stories depends upon a relationship that is intricately and delicately woven. While both computers and EBM clearly bring benefits to the consultation, they are merely tools to be used judiciously and not totems to be revered beyond their utility. We must be careful not to lose what we have recently gained. If we lose the narrative, we lose the plot.

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