

## Is insight important? Measuring capacity to change performance

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*Background* Some doctors who perform poorly appear not to be aware of how their performance compares with accepted practice. The way that professionals maintain their existing expertise and acquire new knowledge and skills – that is, maintain their ‘currency’ of practice – requires a capacity to change. This capacity to change probably requires the individual doctor to possess insight into his or her performance as well as motivation to change. There may be a range of levels of insight in different individuals. At some point this reaches a level which is inadequate for effective self-regulation. Insight and performance may be critically related and there are instances where increasing insight in the presence of decreasing performance can also cause difficulties.

*Objective* This paper presents an exploration into the nature of insight, its relationship to professional per-

formance and its measurement as part of performance, reflecting the combined experiences of a group of experienced education researchers and the results of literature searches on insight and performance.

*Conclusion* There may be individuals in whom insight is so lacking that they are beyond remediation. If there is a dichotomy between adequate and inadequate levels of insight, testing this could be a cost-effective way of determining where efforts for remediation should be focussed.

*Keywords* Clinical competence/\*standards; physicians, family/\*standards; education, medical, continuing/\*standards; quality of health care/standards.

*Medical Education* 2002;36:965–971

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### Introduction

Most medical education programmes, at both undergraduate and postgraduate levels, list the following among their learning objectives. Firstly, the intention that their students should possess the skills to recognize their strengths and weakness. Secondly, that students should be able to self-direct their learning. In this way the medical workforce should maintain its competence

in existing medical practice and acquire the new knowledge and skills that emerge as medical practice develops further. This workforce will remain competent for *current* practice. Most professional groups encourage participation in continuing education programmes that aim to facilitate this personal and professional growth. However, it is difficult to demonstrate a capacity for self-directed learning and traditional continuing medical education has been shown to only infrequently change performance in practice, even where short-term changes in knowledge occur.<sup>1,2</sup>

While there is little evidence to suggest that the majority of doctors do not maintain a reasonable level of performance in current practice, more is known about those doctors investigated after reports of poor practice. A not uncommon finding in the assessment of such doctors is that many are somewhat isolated professionally and some appear to be unaware of their poor performances and what are often substantial gaps in their knowledge and skills.<sup>3,4</sup> Doctors in this group have proved to be difficult to remediate and usually leave medical practice.<sup>5</sup>

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### Key learning points

Professionals require insight into their level of performance to be able to change performance.

Understanding insight may be a key to understanding how doctors maintain their currency of practice.

Research on performance assessment should include measurement of insight and links to capacity for change.

This finding raises questions about how performance assessment of doctors should be approached. Is it enough to measure changes in knowledge and skills only? Can quality assurance and continuing education programmes achieve their goals if they focus on what the doctors themselves choose to learn, without any analysis of their current strengths and weaknesses? If so, can we trust *all* doctors individually to identify their weaknesses and then direct their learning towards improving their performance in areas of weakness? This paper explores the concept of *capacity to change* performance in medical practice and its measurement.

### Method

The paper is based partly on literature identified in Medline and PsychInfo databases, from 1967 to 2001, using 'insight', 'professional competence' and 'measurement' as key words, and partly on discussions during 3 days of the Cambridge Conference. It has undergone subsequent drafting and redrafting. Because a huge number of hits resulted from the phrase 'insight into' being included in abstracts, and because most search engines do not enable exclusion of the term 'into', they were copied into Word and RefMan and appropriate limitations were undertaken to identify and deselect irrelevant hits. This resulted in a group of over 100 references on 'insight'. However, very few were directly relevant to the concept of *insight* in practice performance. References on 'insight' used here therefore represent exemplary or typical articles from a few common research or theoretical perspectives.

### What is capacity to change?

Having the capacity to change implies that an individual has insight into personal strengths and weaknesses, that these insights are correct (perhaps against agreed professional benchmarks) and that motivation to

improve is present. Insight is an important component of this, but this is not well defined in the context of medical performance. The literature on insight is vast and complex. In psychological theory, *insight* was a term first coined by Kohler to describe the behaviour of apes solving puzzles.<sup>6</sup> The apes apparently progressed in sudden leaps (insights) in attempts to manipulate objects to reach strategically placed food items. However, subsequent critiques of Kohler's work, which had also implied that insight was an innate capacity, cautioned that the apes might have engaged in many attempts and trials prior to the alleged episode of insight. The term 'insight' was subsequently generalised to other forms of 'aha!' phenomena, such as solving crossword puzzles or other more complex problems, where the solution appears as if from nowhere.

The psychoanalytic movement uses the term to refer to the capacity to understand the psychological functioning of the self and others, and sees it as an advanced psychological trait or capacity.<sup>7</sup> It has also been used in psychological medicine as a fundamental concept in the aetiology and susceptibility to treatment of schizophrenia.<sup>7,12</sup> Some authors also use the term *empathic accuracy* to describe the capacity of professionals (or any individual) to 'achieve some measure of insight into the thoughts and feelings of others'<sup>8</sup> and *insight* has been defined as a contributor to expertise.<sup>9</sup>

In the professional or psychoanalytical conceptualization, *insight* or *empathic accuracy* has been shown to be amenable to development through continued acquaintance with clients' problems and with immediate feedback on the accuracy of perceptions.<sup>8</sup> In psychotic disorders, lack of insight has been shown to be detrimental to the prognosis or responsiveness to treatment<sup>7</sup> but this is not true of obsessional disorders.<sup>10</sup> It is hypothesised that there are two components to insight in psychoses – the ability to recognise symptoms and the willingness to attribute these to the individual's state rather than external factors.

It could be argued, and is consistent with the concept presented here, that professionals with low insight have not had enough direct immediate feedback on their performance to become skilled in analysing their own capacities. Individuals with unusual approaches to problems, whether psychotics or professionals, especially when in a position of power or authority, are more likely to engender avoidance in others, reducing the potential for feedback. Unusual behaviour might then become regarded by that individual as 'normal' for them and engender further rationalisation, distancing or withdrawal. Such a hypothesis would also explain the difficulty of whistle-blowing in situations where poor professional performance has become the norm.

An emerging perspective on learning from work<sup>11</sup> suggests that insight, or capacity to develop, might be part of *judgement*: judgement both about the need for and consequences of professional action (in relation to patients or clients), and in terms of making inferences about the ‘self’ and its worth.<sup>11</sup> This perspective does not define judgement in terms of its clinical decision-making characteristics (heuristics), but in terms of the sifting and weighing of evidence – as in a legal process. This process, if applied to the self, could be part of insight.

Unfortunately, attempts at measuring insight as an attribute in either patients or professionals have shown it to account for a small amount of variance in behaviour.<sup>12–14</sup>

Hence, the literature does not reveal a strong appreciation of the meaning and importance of insight in the context of medical education and assessment, except that it may be relevant to the substantial proportion of poor performers who do have psychopathology, such as depression.<sup>4</sup> It has been suggested that insight is necessary for social workers to perform adequately.<sup>13</sup> Capacity to change, however, is a necessary attribute throughout an entire medical career and may be present much earlier than diagnosable psychopathology.

We suggest that in this context insight be defined as an awareness of one’s performance in the spectrum of medical practice. It may comprise a combination of three related constructs: awareness of one’s own performance (where the frame of reference is a spectrum over time of one’s own making); awareness of the performance of others (where the spectrum is defined externally), and a capacity to reflect on both of these measures and make a judgement.<sup>11</sup> This is illustrated in Fig. 1. In psychiatry, in an attempt to diversify feed-

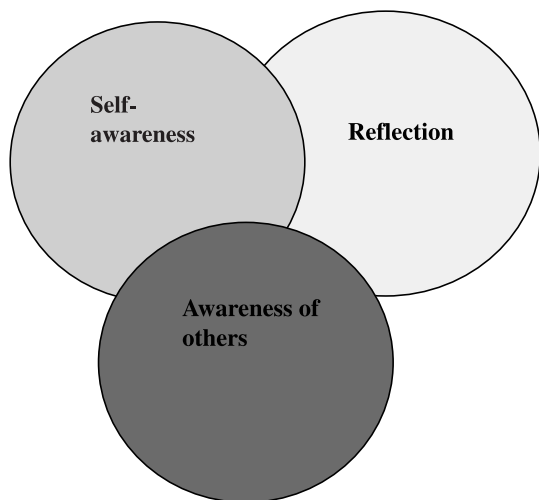


Figure 1 Three elements in capacity to change.

back on clinical performance beyond the traditional one-to-one relationship, continuous group-based peer review has been trialled successfully and shown at least to have self-perceived benefits.<sup>15</sup> This may be viewed as one method of providing doctors with an external spectrum of activity against which to make self-judgements about performance. Other methods of providing this external framework, including peer review, are discussed extensively elsewhere in this series.<sup>16</sup>

Insight may be essential for individuals who need to possess the internal reference standards against which to compare performance. Ideally, insight is present throughout a career, although this may not be a single characteristic that is stable over time, but rather one that is highly context-specific. For example, a doctor may be aware of deficits in his or her ability to manage diabetes and therefore either study the subject more or refer patients with diabetes to someone who is better at its management. Figure 2 illustrates this concept in a simple 3 × 3 table that categorizes and cross-tabulates both performance and insight from low–typical–high.

The individual categories in this figure are worth considering further. Clearly, if a doctor has low insight and low performance (Cell G), he or she is likely to perform poorly and not be aware of this. Such ‘unconsciously incompetent’ doctors may be the most difficult to re-mediate. However, this is not the only category of potential concern. A doctor with high insight and low performance (Cell A, ‘consciously incompetent’) might also cause concern because they are clearly poorly motivated to improve, perhaps because of stress, despite the fact that they should have the ability to improve. A doctor with low insight and high performance (Cell I, ‘unconsciously competent’) may also not be ideal because he or she may engage in practice that is risky, although this may be a strength in the development of new treatment methods. However, such doctors might not easily adapt to new skills such as the recent switch from open to laparoscopic surgical

↑ <i>Insight</i>		
High insight Low performance A	High insight Typical performance B	High insight High performance C
Typical insight Low performance D	Typical insight Typical performance E	Typical insight High performance F
Low insight Low performance G	Low insight Typical performance H	Low insight High performance I
→ <i>Performance</i>		

Figure 2 Insight and performance.

techniques. Most doctors fall into the 'typical' category for insight and performance (Cell E) for much of their practice spectrum. During a career, performance is likely to lose currency due to narrow experience or new developments, and regular exposure to current practice should encourage those with insight to change. However, those without insight may not change practice even if regularly exposed to deficiencies in performance. This then raises the question as to why we should bother to attempt remediation.

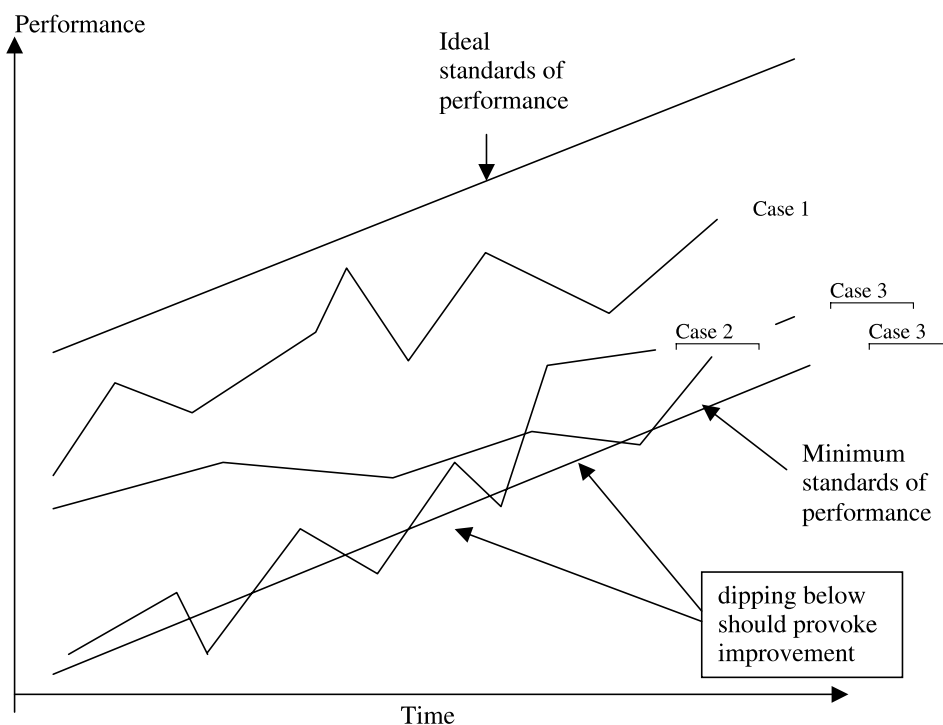
This concept is illustrated in Fig. 3, in which performance in several components of performance fluctuates over time and usually remains within the boundaries of minimal standards and ideal standards. Handfield-Jones and Mann<sup>16</sup> include an extended discussion of how this process operates in different contexts. They also suggest that insight might operate at discrete 'up' points along the trajectory. The important issue is that for most doctors these 'up' points do occur and, moreover, that each time performance dips below minimal standards and *the individual is aware of this*, then performance should improve.

### Measuring capacity to change

If it is true that poorly performing doctors with poor insight are unremediable, then measuring the capacity

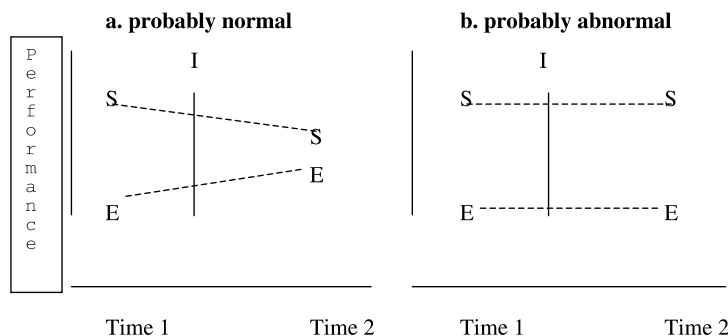
to change assumes more importance in two contexts. The first concerns helping the able majority of doctors to remain current. This is relevant to existing continuing education and quality assurance programmes, which could be altered at relatively low cost in order to formalise feedback to individuals about their areas of strength and weakness. This would essentially ensure that participants in continuing education address real needs and maintain currency of practice.

The second context refers to the screening of doctors with reported problems in order to determine their capacity for remediation. This would be more costly as it would have to achieve high validity and reliability if high stakes decisions were likely to result. There would need to be formal measures of the individual doctor's performance, and this would have to be formally compared with external benchmarks. The assessments would have to cover all domains of performance and include multiple methods<sup>16,17</sup> such as peer review. They would also have to be highly individualised to the practice of the individual doctor, assessed and targeted to known problem areas. The differences between self and external assessments might represent an important measure of capacity to change, inferring a kind of insight or change 'gap'.



**Figure 3** Possible career pathways in relation to ideal and poor standards.

**Figure 4** Insight measure. Note that the time interval is not determined; it is possibly left to the individual doctor to establish an appropriate interval  
 Legend: I = individualized intervention to improve performance.

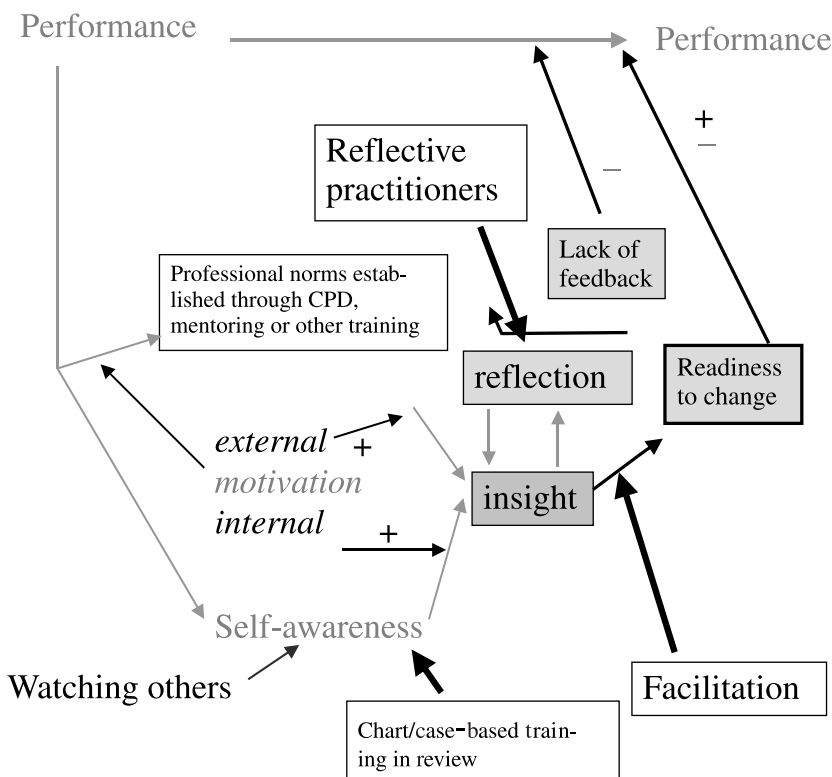


This is illustrated in Fig. 4, which graphically represents a hypothetical self-assessment of an aspect of competence (S) and external assessment (E) on two separate occasions separated by an intervention (I). The intervention should be individualized to improve performance in a known area of weakness detected during initial or prior testing. In Fig. 4a, the individual at Time 1 believes he or she is performing better than external assessment indicates. After the intervention, this individual now realizes he or she was not performing as well as he or she had thought, but the external assessment shows that performance has improved. This individual has achieved both improved performance and a more realistic self-awareness of that performance.

Ideally, external and self-assessments should be close to each other. In Fig. 4b the individual neither improves performance nor changes his or her awareness of the performance, and so has a poor capacity to change and may therefore be resistant to remediation.

**The entire model**

The entire model is presented in Fig. 5. The central elements to this are the interactive constructs of reflection and insight. Although the concept of the reflective practitioner has been much used in medicine,<sup>18</sup> we consider it to be distinguishable from insight for two reasons. Firstly, Schon does not use the concept



**Figure 5** The model of personal development and performance improvement.

of insight.<sup>19</sup> Secondly, the notion of the reflective practitioner is developed from study of individuals who are motivated towards and successful at practice improvement.

A number of factors may trigger or contribute towards insight: watching others practice, engaging in case review with or without a mentor, the degree of external or internal motivation and the visibility of professional practice norms. Some of these factors may operate through self-awareness. In some literature, insight and self-awareness are seen as synonymous.<sup>20</sup> These factors together drive a readiness to change that would normally have a positive impact on performance. However, lack of continuous feedback will significantly impair the operation of all the different elements that contribute towards improved performance. More importantly, lack of, or weak, insight will effectively arrest any progress towards readiness to change. This model suggests that some assessment methods might be more effective than others in producing change.

### Assessment methods

Two types of assessment are required. The first concerns a type that compares self and external assessment of performance, using one or more of a range of methods to measure performance broadly from several perspectives; a current view is reported elsewhere.<sup>21</sup> The second type of assessment refers to the fact that the nature of capacity to change requires specific tools that measure issues such as motivation, mood, learning behaviour and awareness of what others think. Ideally, all such measures would provide comparative data from both the individual doctor and others who interact with that doctor. Table 1 lists some examples, including possible indicators.

Some of these issues can be addressed with existing tests and rating scales, while others may require new assessment methods to be developed. A structured interview may be useful as it might further explore the differences between self and external evaluations about highly targeted behaviours noted in other tests. Failure of the interviewed doctor to present thinking about the issues could demonstrate the absence of insight.

Another method that may be useful is a version of the original 'significant insight moment analysis',<sup>22</sup> later called 'critical incident analysis'. The analysis should not focus on the incident itself, but rather on the meaning of the incident to the individual doctor who experiences it. If the question put to the doctor asked: 'What moments have you had that provided insight (positive and negative) into your practice?' then the discussion could analyse how the doctor self-assesses

**Table 1** Additional measures of capacity to change

Constructs	Description	Indicators
Professional and social network	Professional isolation versus integration Sociability	Solo practice Number of professional contacts Internet use
Learning behaviour	Self-directed learning Deep learning Conscientiousness Acceptance of feedback Self-awareness Reflection	Self-directed learning-scales Learning style questionnaires Observation by others
Motivation	Stress Depression Financial Acknowledgement Openness to new ideas Life events	General health questionnaire 'Burnout' scale
Personality Locus of control	Conscientiousness Intro/extroversion Neuroticism Openness Sociability	Personality test scales

and responds to those assessments. This could become a form of personal SWOT analysis that could reveal much about the doctor's thought processes. A further method that could be adapted is Chart Stimulated Recall (Case-Based Oral), in which the reasoning, rather than the facts, is the subject of analysis.

### Conclusion

Insight into one's performance and the capacity to change performance are clearly relevant to the assessment of performance of doctors, particularly those doctors whose performance is thought to be poor. Without capacity to change, remediation will be ineffective. However, measurement of the capacity of an individual to change remains elusive. Further research is required to improve understanding of the constructs included in the concept of a capacity to change, and to develop and trial tools that might measure those constructs. Understanding this issue may be the key to maintaining currency of practice over a long career.

## Contributors

All authors contributed equally to the discussions that led to the writing of this article which were undertaken during the 10th Cambridge Conference on Medical Education. RH and BJ took the main responsibility for preparing the draft, co-ordinating input from other authors and writing the final version of the paper.

## Acknowledgements

Grateful acknowledgement is made to the sponsors of the Conference: the Medical Council of Canada, the Smith & Nephew Foundation, the American Board of Internal Medicine, the National Board of Medical Examiners and the Royal College of Physicians.

## Funding

There was no external funding for this project.

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Received 21 March 2002; editorial comments to authors 15 May 2002, 17 June 2002; accepted for publication 26 June 2002