On the pursuit of clinical excellence

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Received August 2008
Revised October 2008
Accepted October 2008

Abstract

Purpose – The purpose of this paper is to offer a pragmatic definition of clinical excellence.

Design/methodology/approach – The paper is a conceptual review of key studies relating to clinical excellence.

Findings – The pursuit of clinical excellence can be profitably considered in terms of 15 pillars of excellence comprising "technical" pillars, "personal" pillars, and "future" pillars. The five technical pillars are: evidence-based thinking and practice; professional and peer accreditation; decision support systems; effectiveness and efficiency; learning and risk management. The five personal pillars comprise: interpersonal skills; collaboration and leadership; resilience and stress management; user involvement; moral principles. The five future pillars consist of: policy and succession planning; teaching and training; innovation; research and publications; income-resource generation.

Originality/value – These 15 pillars of excellence may serve as an *aide-memoire* for clinicians in their professional practice, as a pragmatic framework for both individual and organizational appraisal, accreditation, revalidation and reward systems, and as a teaching tool for a range of health-care professionals.

Keywords Health services, Clinical governance, Patient care, Best practice

Paper type Viewpoint

"The pursuit of excellence has been my objective in life" is the inscription on the United States Congressional Gold Medal given in 2008 to the renowned heart surgeon Dr Michael DeBakey by an Act of Congress enacted in 2007 (see Figure 1).

Topics such as "clinical excellence", "patient safety" and "clinical governance" have been to the fore in recent years to encourage high standards of clinical practice, with organizations and journals devoted to such efforts. In Britain, we have a National Institute for Health & Clinical Excellence and a National Patient Safety Agency. In the USA, there is the National Institute for Healthcare Improvement. All forms of clinical "audit" are encouraged in centres where healthcare is provided. Introducing high levels of quality into healthcare has now a major presence in the internet, with a number of ventures assuming prominence in recent years (e.g. www.advisory.com; www.saferhealthcare.org). On both sides of the Atlantic, there is a major recognition of the need to reduce errors, and also to raise the general quality of clinical care (Institute of

The author is grateful to Dr Nick Sevdalis of the Clinical Safety Research Unit, Imperial College, for his helpful comments on an earlier draft of this article, and also for constructive comments from an anonymous reviewer. The author thanks Dr Kari Hawkins, Dr Georgina Browne, Professor Barbara A Wilson, Dr Fergus Gracey, Dr Veronica Bradley, Adriana Falcinelli and Jessica Newell for their help in preparing this manuscript for publication. The author is also grateful for the helpful comments of an anonymous referee.

Clinical Governance: An International Journal
Vol. 14 No. 1, 2009
pp. 24-37

1477-7274
DOI 10.1108/14777270910933442

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Figure 1.
Inscription on Medal of Congress awarded in 2008 to Michael DeBakey

Medicine, 1999; UK Department of Health Publications, 2000; Wachter *et al.*, 2002; Vincent, 2006; Peters and Peters, 2008). While organizational and design considerations that help reduce medical errors are undoubtedly important in ensuring high quality health care, the major focus of this article is on the human component of clinical excellence, overlapping in part with the concept of professionalism (Stern, 2006).

"Clinical excellence" now features in the characterisation of merit systems for medical consultants in the National Health Service, but how can clinical excellence best be defined? Current systems for assessing clinical excellence appear to focus narrowly on a limited number of domains of activity, and there is a need for a more embracing and more translational view that is easier to implement in practice (Halligan and Donaldson, 2001; Degeling *et al.*, 2004). This article proposes a novel schematic framework for viewing clinical excellence, in terms of 15 "pillars of excellence" in three categories: "technical" pillars, "personal" pillars, and "future" pillars (Figure 2). The five technical pillars are:

(1) evidence-based thinking and practice;
(2) professional and peer accreditation;
(3) decision support systems;
(4) effectiveness and efficiency;
(5) learning and risk management.

The five personal pillars comprise:

(1) interpersonal skills;
(2) collaboration and leadership;
(3) resilience and stress management;
(4) user involvement;
(5) moral principles.

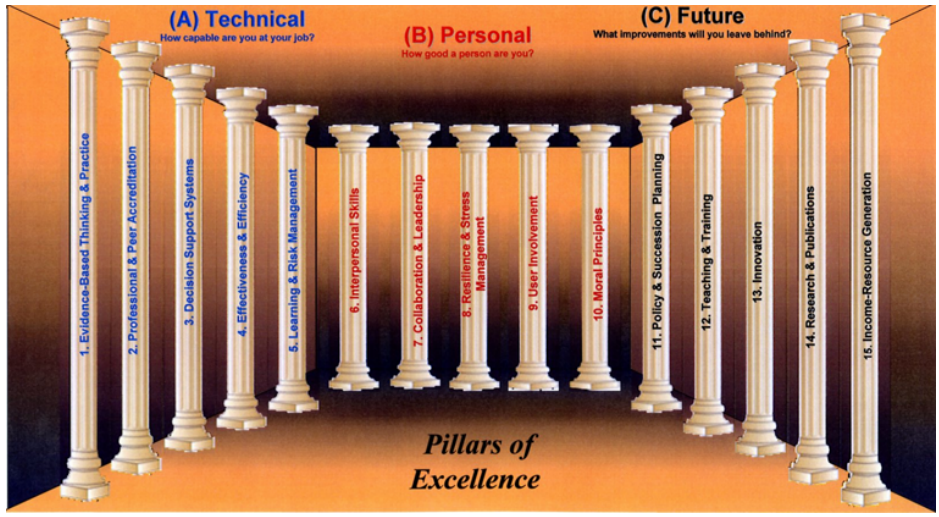

Figure 2.
The 15 pillars of clinical excellence

The five future pillars consist of:

(1) policy and succession planning;

(2) teaching and training;

(3) innovation;

(4) research and publications;

(5) income-resource generation.

Technical pillars

Evidence-based thinking and practice

Although evidence-based practice has often been equated with evidence that is based solely on published work in standard journals, systematic use of personally-collected series of cases may often be as valuable. Thus, both public and personal evidence-based practice should be harnessed to help in health-care decision making. It is also worth noting that prospective authors can always publish their findings in journals that specialise in irreproducible or negative findings (e.g. *Journal of Negative Results in Biomedicine*, www.jnrbm.com), and that reference can be made to these publications in subsequent, more standard publication outlets.

As with most approaches, there are qualifications in the use of evidence-based practice to support health-care decisions, especially if it is implemented in unsatisfactory ways (Holloway *et al.*, 2004). As Tallis (2004, p. 35) has noted:

> While evidence-based medicine is a *necessary* condition of good medical care, it is not a *sufficient* condition. The evidence and the guidelines and protocols that are based upon it do not take the doctor all the way to the decision in an individual case. There is room for judgement, for application of common sense, and for modifying practice in the light of the patient's priorities.

The quality of evidence, the amount of evidence, and the relevance of evidence need to be critically appraised. In the long run, the effectiveness of evidence-based practice will

only be as good as the evidence on which it is based (Smith, 2007). Whatever the quality, amount and relevance of the evidence, its maximum benefits may only be manifest when it is applied by an experienced and knowledgeable health-care worker (Norman, 2006). There may need to be algorithms and problem-solving routines to help make full use of the evidence in question. Any implementation of evidence-based practice needs to take into account patient's preferences and patient compliance in relation to investigative or treatment procedures, and also any organizational changes that may need to occur for such practice to flourish. Finally, evidence-based practice itself needs to be subject to the rigours of evidence-based analysis, with findings from appropriate controlled trials. Such findings should include implementation issues such as cost, expenditure of time, and compliance of health-care workers (Levant, 2005; Kaplan and Frosch, 2005).

The implementation of evidence-based practice involves a change in mind-set throughout all levels of a health service. As Sir David Weatherall (2005, p. 27) has commented:

> Would any government have the courage and foresight to hand over the future development of the NHS to a commission composed of a balanced mix of experts and consumers with the time to evolve the long-term policy, supported by scientifically-based pilot studies, that is required for an evidence-based health service?

Obtaining compliance with evidence-based policies and procedures is a challenge (Sevdalis and McCulloch, 2006).

Professional and peer accreditation

It is common for external peer reviews to take place in the fields of academic research, university teaching and school teaching. There is no reason why this should not extend to clinical practice. In the UK, cancer services stand out as an example of peer review that could be emulated, in one form or another, by other disciplines (Richards, 2008). In the context of clinical services, there are clearly many different types of review (Evans *et al.*, 2004). It is already commonplace in some countries such as Holland to have external peer reviews with the aim of improving clinical practice and having consistently high standards across health care providers (Bourdillon, 1999; Van Weert, 2004). Peer review by colleagues in one's field should be regarded not as a threat, but as a welcome addition to the armamentarium of the clinician in his/her search for optimal patient care and for the truth in areas of clinical controversy, and has parallels in the search for truth in other settings, such as medicolegal practice (Lauer, 2002). As well as being observed by peers, and having one's work critically reviewed, peer review could also usefully encompass visiting other experts in one's field, and observing them in action.

Decision support systems

Decision support systems vary from simply using commercial search engines such as Google to using dedicated medical databases, database-support systems, use of health information technology, flow-charts with computerised support, guideline-based reminder systems and expert systems with their own algorithmic formulae to suggest possible diagnoses (Liu *et al.*, 2006; Tang and Ng, 2006; Chaudhry, 2008; Graber and Mathew, 2008). Decision support systems apply both to diagnostic and treatment scenarios, though diagnostic settings have tended to be the most frequent focus of

concern. For example, in the area of neurological diagnosis, Glick *et al.* (2006, p. 2119) noted that "The process of diagnosis appears to account for more than half of the adverse events in neurologic patients". Attempts have been made to integrate decision support guidance within user-friendly systems, such as the Map of Medicine (www.mapofmedicine.com), which is a web-based visual representation of evidence-based patient care journeys covering (in October 2008) 28 medical specialties and 390 pathways. Computer-based decision support systems that are evidence-based have been found useful in cancer care and may usefully be extended to other clinical domains (Patkar *et al.*, 2006). It would appear that a "high level of intelligence" is no protection against individuals making major mistakes that emanate from simple reasoning flaws (Sternberg, 2002).

Effectiveness and efficiency

There is increasing pressure on health care providers to measure effectiveness and efficiency of healthcare. It is therefore worth noting the truism attributed to Einstein, "Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted". Outcome measures should include the extent to which the patient can independently and successfully participate in everyday activities that he/she was able to enjoy prior to the illness/injury. Other important outcome measures include the degree of stress experienced by the patient, the well-being of family members who have to interact with the patient, and how satisfied patients and families are of the experience emanating from the clinical interventions that have taken place. Patient reported outcome measures (PROMs) have in initial trials been shown to be useful measures of the effectiveness of certain treatments (Brown *et al.*, 2007). In the case of cost-effectiveness, it is possible that moves to link high quality care with pay ("pay-by-performance"), as envisaged in the Quality and Outcomes Framework of the contract for General Practitioners in Great Britain, may result in a greater readiness by both staff and organizations to put cost-effective policies and procedures into practice. As Fisher (2006, p. 1847) has noted on the issue of pay-by-performance, "Accountability for performance on the basis of evidence is now the watchword for clinical services".

Learning and risk management

There are three main forms of learning that are relevant in health-care settings: learning from experience, and thus not repeating mistakes; learning a new set of skills that can be used in routine or emergency clinical settings; and acquiring new sets of factual knowledge that may help to inform clinical decision making and procedural competence. In parts of the National Health Service, there is a "knowledge and skills framework" that encourages the development of key skills and knowledge to form the basis of effective health care delivery.

Risk detection and reduction should apply the principles of preventative medicine to clinical settings such that the potential for errors is realised and steps taken to ensure that they do not occur (Grout, 2007). These settings may range from the prevention of falls to the reduction of prescription errors. In the case of errors relating to equipment use, it is also important to consider design features that will help prevent errors occurring in the first place. In aviation, near-misses are often accorded as much attention as actual crashes, and "failure modes effects analysis" has been used as an analogous tool to critically examine near-misses in health-care. Since near-misses are as important

and probably more common than adverse incidents they should be reported and investigated with the same rigour. Error analysis and prevention not only apply to health care providers, but also to patients who receive care (Buetow and Elwyn, 2007).

Personal pillars

Interpersonal skills

Interpersonal skills range from the ability to communicate well with patients and colleagues, to expertise in handling social and emotional aspects of human interaction. Errors in health-care settings often result from misunderstandings that arise between staff, and between staff and patients, and these in turn frequently arise from poor communication. The end result may be incidents such as administration of the wrong medication, "wrong site" surgery (Chassin and Becher, 2002), or, in the case of staff-patient interactions, poor compliance with treatment. While some settings, such as operating theatres and intensive care units, lend themselves to careful scrutiny of communication failures (Lingard *et al.*, 2004; Reader *et al.*, 2007), it is important to consider communication in wider contexts, since lapses are even more likely to occur where the relevant parties are not physically present. The ways in which treatment outcomes are framed may also impact in more subtle ways on communications between clinician and patient (Sox, 2007). Modern communication networks, such as e-mail, have brought their own benefits and challenges - there is a growing trend in some health care systems for e-mail to be used for activities such as appointment scheduling, electronic prescription refills, "web visits" to clinicians and general messaging between clinician and patient before or after a consultation (Stone, 2007). How best to have good communication within teams represents a challenge in itself; in this respect, informal meetings may often be as important (working lunches that are free for staff, subsidised away-days in relaxing settings where staff are not on call and can be "bleep-free", etc), and these may also encourage mutual respect among team members (Drife and Johnston, 1995). Having other team members sit in on one's activities will promote good understanding between team members, and this is all the more important for promoting understanding between clinicians and non-clinicians. This could take the form of encouraging managers to sit in on clinics, investigations or treatments, and encouraging clinicians to sit in on meetings where managers make difficult resource decisions.

Empathic and self-reflective skills contribute to good communication outcomes in consultation settings (Laidlaw *et al.*, 2007). Studies of empathy in clinical contexts have highlighted individual differences between clinicians, with psychiatrists tending to score higher than other physicians (Hojat *et al.*, 2002). Empathy, tolerance and consideration for others are also important in relationships between healthcare professionals, and have sometimes been found to be lacking (Rosenstein and O'Daniel, 2008).

Collaboration and leadership

In the past few decades, we have also witnessed a minor revolution of sorts, with most health care activities being more and more of a multi-disciplinary nature, due in part to the increasingly specialised and technical nature of medical science (e.g. Leuthardt, 2006). Issues relating to team working and leadership have therefore become more important in clinical care settings (Olsen and Neale, 2005; Longaker, 2008). It is

incumbent on clinicians, and also other health care professionals to understand better the nature of working within a team and in particular which factors lead to team success and to team failure (West and Borrill, 2006). Team working should not only ensure that "joined-up thinking" occurs between team members, but also that strong and effective leadership is provided by the head of the team, with adherence to key principles and constancy of purpose, especially during times of reform and uncertainty. Undre *et al.* (2006) have reviewed the workings of a surgical operating team, and the role that cognitive lapses may play in errors that can occur. In surgical settings, errors in information transfer and communication, due to factors such as surgeons' reduced familiarity with patients and blurring of responsibilities, may have detrimental effects on patient care. Personality factors will play a key role in how teams operate, and characteristics such as risk-taking, being sensitive to the needs of others, showing leadership, etc. need to be carefully fashioned (Firth-Cozens and King, 2006). Good leadership entails skills in directing, supporting and delegating, and also being a good role model for enunciating and persevering with key principles, regardless of obstacles and difficulties (Gardner, 1996; Ghosh and Green, 2008).

Resilience and stress management

The ability to be able to deal with stressful situations, to persevere in spite of a number of potentially stressful events, and to manage stress constructively are important qualities for a health care professional. Jensen *et al.* (2008) have pointed to a number of key features of "physician resilience" – the ability to prioritise work activities; having well-structured work routines; having peer support mechanisms in place; ensuring good work-life balance; being aware and reflective of one's strengths and limitations; having core values, a degree of optimism and an altruistic frame of mind; maintaining a sense of humour; and an element of acceptance and forgiveness of oneself and others. At the individual level, having personal support networks is also important, especially in dealing with crisis situations (Sandars, 2007).

User involvement

Typically, in clinical practice we are dealing with one main type of user, namely patients whom we treat, together with their families. In the UK, there have been several initiatives to promote greater involvement of patients in the healthcare they receive, such as the expert patients programme (www.expertpatients.nhs.uk) and the NHS Centre for Involvement (www.nhscentreforinvolvement.nhs.uk). Referring clinicians, managers, governments and other bodies could be seen to be indirect users of a clinical service. The user involvement pillar of clinical excellence simply stipulates that we ask those who directly or indirectly use a service what they think of the service that has been provided (Lipner *et al.*, 2002; Violato *et al.*, 2003; Weigelt *et al.*, 2004). Patients and their families should be given every opportunity to comment on their care in a health service, and there is evidence that in some situations feedback from at least 50 patients would be of value in gauging satisfaction (Nelson *et al.*, 2004). The idea of "360 degree feedback"/"multi-source feedback", which is common in some areas of industry, but is less common in a health service, tries to espouse similar concepts to those which are incorporated within user-feedback (Wood *et al.*, 2006*;* Reed *et al.*, 2008). An issue that remains open for discussion and research is the extent to which the content of such feedback should be linked to specific rewards or even to pay (Rynes *et al.*, 2005).

Moral principles

In his commentary on professionalism in medicine, Hafferty (2006, p. 2152) has proclaimed that "medicine is a moral community, the practice of medicine a moral undertaking, and professionalism a moral commitment". In the goal-driven and competitive environment of many health care settings, it is easy to forgo moral principles, such as the key Gandhian principles of truth and compassion. Such principles need to be strictly followed in dealings with both patients and colleagues, even if this involves a degree of self-sacrifice, personal distress or loss of self-esteem. Opportunities for morally laudable professional activity may more conveniently arise around or after retirement, and health-care professionals in the developed world should be encouraged to grasp such opportunities (Ausman, 2007; Cheatham, 2007).

At the scientific level, it has been shown that preoccupation with money results in self-centred behaviour (Vohs *et al.*, 2006) and there is every likelihood that this phenomenon transfers unconsciously to clinical environments. In current times, there is perhaps more pressure to think of goals and targets, rather than the means used to attain these goals and targets, and thus a temptation to forgo high moral standards in the process. Having an "ethical compass" and key values is critical in order to survive the challenges of modern health-care environments (Gardner, 2007).

In extreme cases, some senior individuals in health-care settings may develop a Hubris syndrome (Owen, 2007) where power, over-confidence and arrogance appear to take hold and result in immoral behaviour. This has been observed in higher education (Frankfurt, 2005) and probably also occurs in some health-care settings.

Future pillars

Policy and succession planning

Forward policy planning may not be among the immediate concerns of more junior health professionals, but it is a skill that will be in demand in the later stages of his/her career. The ability to predict developments that will impact on healthcare practice, and to make necessary preparations in advance, is a key skill that needs to be nurtured and supported. There is an increasing realisation in health-care systems of the importance of succession planning (Dolan, 2005) so that there are no major, unexpected gaps in a service when someone retires or suddenly dies/becomes incapacitated. Succession planning incorporates a wide variety of activities, from teaching juniors about all the technical and managerial skills involved in performing certain tasks, to writing books and papers that convey lessons that one has learned in one's career. While we have legal wills between parents and children, there is seldom focus on professional or academic wills that may not only deal with patient care and financial issues (DeAngelis, 2008), but also bequeath the material fruits of one's knowledge and experience to key younger colleagues. This could include, not only off-prints and books, but also teaching materials such as slides and videos.

Teaching and training

Excellence in imparting knowledge may be evident in specific outcomes, whether they be successful health professionals or clinical publications that become standard sources of reference for patient care. A good teacher not only imparts key pearls of wisdom, but also acts as an exemplary role model and has non-cognitive qualities such as the ability to inspire students in the learning process (Sutkin *et al.*, 2008) and reflect

on his/her teaching practice. In this age of globalisation, teaching and training should cross national boundaries. Telemedicine has opened up new opportunities for sharing knowledge and skills with others at considerable distance from the base unit (Wootton *et al.*, 2006). While many health-care units in the west have informal links with those in developing countries, the concept of twinning hospitals is worth considering. This could include, for example, not only exchange of staff, but also transfer of surplus equipment, drugs, and books. An important component of knowledge sharing that is often ignored is educating the public about health-related issues. The advent of the world-wide-web places clinicians in a unique position whereby they can bring positive influences to those who receive their health-care. Patients are making increased use of web-based resources to inform themselves about health issues, and perhaps on occasions being overwhelmed by information of varying degrees of reliability. It is therefore important that both health-care professionals and governments try to help patients discern the valuable from the worthless or the misleading. In the UK, the Information Accreditation Scheme recently set up by the Department of Health should be helpful in this respect (www.dh.gov.uk/en/Healthcare/PatientChoice/BetterInformationChoicesHealth/Informationaccreditation/index.htm).

Innovation

Progress comes through innovation, and specifically through development of new knowledge, new procedures and new treatments (Greener, 2005). How to nurture and to reward creativity in health-care staff, while at the same time ensuring high standards of clinical care, remains a challenge, especially in the present environment of business-oriented medicine. Joint academic-clinical appointments remain a defence against the decline of creativity in health-care, but there also needs to be a culture where research and innovation are welcomed and rewarded, with as few bureaucratic obstacles as possible in place that could discourage innovation activities. In the UK, the NHS Institute for Improvement and Innovation (www.institute.nhs.uk) has been specifically established to improve healthcare by helping to introduce new ways of working, new technologies and high-quality leadership. The internet provides new opportunities for clinicians to produce innovations in healthcare delivery and evaluation (Cross, 2008).

Research and publications

While research skills may seem to be the providence of those with academic-clinical appointments, it is important to note that many of the greatest discoveries in medicine were based on the ability to make acute and astute observations, and to draw clinically relevant conclusions from such observations. One of the best examples of this is the discovery of the benefits of vaccination, which was originally based on the dissociation between prevalence of occurrence of smallpox and cowpox (Stewart and Devlin, 2006). As Rutherford (1986, pp. 164-165) has noted:

> Good research does not always require a budget of hundreds of thousands of dollars, batteries of computers and an electron microscope; the essential requirement is a question that can be answered positively or negatively by carrying out a series of measurements and making the correct mathematical or statistical analysis.

Research skills and competencies should be rewarded in health-care professionals, especially where these have been acquired on the initiative of the individual involved.

Observations and discoveries are of little value unless they are written up for others and for future generations to learn about. Both publishing papers, and also publishing single-author books, are skills that need to be acquired and encouraged, and should form a key component of any clinical excellence framework.

Income-resource generation

The ability to generate income and to attract resources, such as grants and collaboration with industry, has seldom been perceived as a distinctive skill for professionals in clinical practice to acquire, but it could be argued that it is all the more important in today's age of resource-stretched health-care systems (Chung and Shauver, 2008). Skills and success in generating income and resources need to be acknowledged and rewarded, but need also to set in the context of ethical principles and what is in the best interests of patient care and scientific progress (Frangioni, 2008).

Conclusions

The central tenet of this article is that "clinical excellence" is a multifactorial entity, and that the range of relevant factors can be collapsed into three critical domains relating to technical proficiency, personal skills and future legacy. An important feature of the current proposal is its inclusion of "personal" pillars, an area that has traditionally been neglected in appraisal and reward systems (Larson, 2007).

Around 25 years ago, a Professor of Medicine, Neil McIntyre, and the philosopher, Sir Karl Popper, joined forces (McIntyre and Popper, 1983) to eloquently plead for a "critical attitude in medicine: the need for a new ethics". The pillars of excellence outlined in this article should help to provide a stimulus and a distinctive framework that encourages a critical attitude and a new ethics in medicine. This schematic framework may be useful as a personal *aide-memoire* for clinicians in their professional activities, and may additionally serve as a pragmatic guide for both individual and organizational appraisal, accreditation, revalidation and reward systems. The framework may also be useful as a teaching tool for conveying principles relating to quality of care, not only to medical students but also to a range of health professionals. One might envisage in the future some institutions offering a postgraduate Diploma in Clinical Excellence.

A critical, further step would be to gather evidence derived from a checklist or appraisal format that was based on the framework described in this paper, and to then consider not only some form of validation study, but also how easy and acceptable it was to implement evaluations using this framework in standard clinical settings. In this way, we may be able to lay the foundations for a "science of clinical excellence", one that is applicable to complex settings such as healthcare delivery, where there are often challenges to implementing excellence in practice (see Gardner *et al.*, 2001).

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