Do no harm: is it time to rethink the Hippocratic Oath?

Merrilyn Walton[1,*] and Ian Kerridge[2]

1   School of Public Health, Faculty of Medicine, University of Sydney, Sydney, New South Wales,
Australia

2   Centre for Values, Ethics and Law in Medicine, University of Sydney, Sydney, New South
Wales, Australia

*Correspondence: Professor Merrilyn Walton, Edward Ford Building, School of Public Health, Faculty
of Medicine, University of Sydney, Sydney, New South Wales 2006, Australia. Tel: 00 61 2 9351 3678;
E-mail: merrilyn.walton@sydney.edu.au

Abstract

Introduction

The 1964 revision of the Hippocratic Oath addressed the disconnection in language and context
between the classical doctrine and 20th century medicine. Now, 50 years later, we argue that any
revision of the Oath must be responsive to the significant social, technical and political changes that
have occurred in health care.

The context for the Hippocratic Oath

This paper examines the ways in which health care and the health professions have changed over
the last half-century and describes a range of environmental and contextual features that expose the
inadequacies of the 1964 Oath in the worlds of today and the future. We note the constancy of the
doctor–patient dyad in contemporary ethical codes and consider from the perspective of patient
safety those aspects of care that might fall short of the optimum if the focus on the doctor is
retained. We ask whether there is any merit in maintaining a focus on the ethics or professionalism
of doctors, or whether more of our attention should be directed towards the ethics of health care
itself.

Conclusions

Patient safety is widely acknowledged as a major health issue. Being open about the
interdependency of doctors, the complex socio-political nature of health care, and the inevitability
of errors and adverse events need not challenge the authority of the doctor. Rather, openness about
both the ways in which medicine has changed and the harms that doctors may (inadvertently) cause
might afford medicine the opportunity to build a different relationship with patients (and with
society more broadly), that recognises complexity, human fallibility and the uncertainty of medicine.

This article has been written in response to the following line from Lasagna's modernisation of the Hippocratic Oath [1]: 'I swear to fulfill, to the best of my ability and judgment, this covenant:'

Introduction

When Louis Lasagna, academic dean at the School of Medicine, Tufts University, Medford, Massachusetts, USA, revised the Hippocratic Oath in 1964,[1] he was addressing the disconnection in language and context between the classical doctrine and 20th century medicine. Now, 50 years later, is either Oath relevant to 21st century health care? Central to both versions of the Oath is the paramount importance of the doctor–patient relationship and the doctor's primary obligations to patients. Each version maintains the ethical decree beginning with 'I' and focuses on what the individual doctor should do. The underpinning tenet is that if every doctor complied with these ethical requirements, patients would not be harmed and communities' trust in medicine would be maintained. The enduring presence of the Hippocratic Oath has reminded the medical profession of the requirement to behave as professionals, has broadcasted to the public that doctors have professional obligations to their patients, and has reinforced the mutual benefits to both medicine and society. Given the extent of the scientific, social and technological changes that have occurred since 1964, is that Oath relevant today? This paper examines the ways in which both health care and the health professions have changed over the last half-century and asks whether the focus on the ethics or professionalism of doctors – which forms the basis of medical oaths – should be supplanted by a focus on the ethics of health care itself. We conclude with a set of values and concepts that might set the foundations for medicine's social and professional responsibilities now and in the future.

Why Context is Relevant

Context refers to the situation or environment in which a social practice – such as health care – occurs. In the fifth century BC, when Hippocrates (circa 460–377 BC) is thought to have practised, medicine was moving away from transcendental explanations of disease and healing (such as those involving malevolent spirits, sorcery, witchcraft or factors of divine origin) to theories grounded in the natural world. The Hippocratics and Pythagoreans believed that health was a manifestation of a balance among the 4 humours, or bodily fluids (blood, phlegm, choler or yellow bile, and black bile), each of which mirrored one of the 4 elements of the external or natural world (fire, water, earth and air).[2] Hippocratic medicine, therefore, provided 'real-world' explanations for ill health and disease and rejected established ideas that disease was caused and cured by gods.[2] It also, therefore, provided a basis for medical practice, as it was doctors, rather than gods, who could protect and promote the well-being of patients. However, because few treatments were available, there was both little unintentional harm that doctors could do and little they could do therapeutically, other than to provide advice about purging, exercise and diet. In these circumstances the doctor–patient relationship was central. The role of the doctor in this context was therefore clear: medicine was there, at the bedside, waiting, watching, listening, comforting, interpreting and administering advice. This role, this context, forms the foundation and the content of the Hippocratic Oath. However, the Oath, and indeed the entire Hippocratic Corpus, also served another, related, function: it bound physicians together into a cohesive and politically effective social group,[3] building upon the ideas and values explored in the writings of Socrates, the Greek tragedies and the Homeric epics to place Hippocratic physicians at the centre of health care and to ensure their dominance of both the medical marketplace and the entire public discourse on health and illness. Although the Hippocratic Oath was modified in the centuries after the first drafts, it survived the collapse of Hippocratic–Galenic medicine and the emergence of scientific medicine, maintaining the centrality of the doctor and the doctor–patient relationship in the maintenance of health, and the treatment and prevention of disease.

The 1964 Revision of the Oath

Dr Arnold Relman refers to the period post-World War II as the 'Era of Expansion', a period typified by explosions in the volumes of hospitals, doctors and research.[4] Paul Starr, similarly, in The Social Transformation of American Medicine, refers to the post-war years as the 'Liberal Years'.[5] Starr reports that between 1950 and 1970, the medical workforce in the USA increased from 1.2 to 3.9 million people and expenditure grew from US$12.7 billion to US$71.6 billion (4.5% to 7.3% of gross domestic product).[5] Both comment on the development of modern medicine in the context of the industrial complex.[4, 5] Medicine, once an individualistic, intuitive and personal enterprise, had by the second half of the 20th century become a complex interdependent and impersonal social service.[6] However, although the practice of medicine was changing rapidly, the structure and organisation of service delivery remained largely unaltered.[7]

In response to these changes, Lasagna removed from the Hippocratic Oath references to deities, as well as statements prohibiting surgery and abortion, mandatory fees and the servitude of teachers.[1] Doctors now pledged to uphold the covenant to the best of their own abilities and judgement, rather than to the gods. The centrality and primacy of the doctor in health care were thus retained and were, to some extent, strengthened by the removal of any references to third parties. The revised Oath therefore took some account of changes in practice and social context, but maintained the primacy of the doctor. Thus, although the revised Oath still spoke of and to the political, moral and epistemic power of the doctor, it failed to embrace the patient or any other form of externality. Medicine was therefore beholden only to itself, and not to God(s), regulators, other professions, and certainly not to agentic consumers.

The Meaning of the Oath Today

Fifty years on, the Oath still has some ethical and cultural meaning; it still encourages reflection upon moral virtues, still speaks of service and collegiality and still privileges learning, practice, wisdom and knowledge. Yet it also seems less and less commensurate with scientific medicine, with practical health care, with social context and with more contemporary ideas about ethics and human rights and about what it is that society values. For it is no longer the case that the doctor, or the doctor–patient relationship, is solely responsible for safe health care. Other factors have emerged. Diagnosis and treatment are no longer simply the domain of doctors and are no longer accessible only through the doctor's clinical acumen. Biotechnology, medical informatics and the emergent biosciences have made health care more complex and more democratic. Consumers may access extensive amounts of information about their health, may seek care from many different sources, may test and treat themselves and may be more aware of their health care needs. When they become sick, they are likely to need the care and attention of not simply one doctor, but the expertise of many different doctors and many different health professions, each of which has its own domain of practice, its own language, its own knowledge and its own norms. The health professional–patient relationship, once a stable dyad, is now a complex set of relationships in which the patient is often the only constant. Notwithstanding bioethical and professional codes, available since the 1960s, navigating this terrain has become a challenge for doctors: the consulting room and the bedside are very crowded places.

Medicine, too, has changed. Although medicine has always existed within a market-place, increasingly, medicine occurs not in a public space but in a private one, not in a social world but a commercial one, not at the clinic or bedside but within a complex organisation structure reflective of coalitions between government and industry. In this complex landscape of health care, it is not always easy to put patient interests first, even for clinicians with the best of intentions. Thus, Pellegrino laments that the doctor's capacity to keep patients from harm is being eroded by 'obsession with the bottom line, professional competition, profit, honours and prestige'.[8] Yet even if medicine were to disentangle itself from these conflicting interests, patients might still come to harm as a result of the varied set of human relationships existing within an array of complex

technological and organisational structures, all of which act independently of one another and all of which are, to some extent, unpredictable.[9]

This unpredictability and the constantly changing nature of the system require doctors to change the way they work, acquire new knowledge and skills about patient management and human factors, and understand and apply patient safety concepts and principles. The shift to a system/population health management approach, or from individual health care delivery and individual performance to team performance, underpins much of the new learning required.[10] However, although many health care practitioners and commentators, like Pellegrino, acknowledge changes in the health system,[8] the health system itself has been slow to respond.[5] Medical schools have struggled to articulate coherent curricula in medical ethics, professionalism and patient safety and to make these attractive and relevant to graduating students.[11]

Complexity of the health care system and adverse events

Although the Oath and later ethical and professional codes imply that doctors have the capacity to harm patients, patient harm today has another genesis: health care itself. Harm by health care was first reported in the literature in the early 1980s, coinciding with a malpractice crisis in the USA and, more recently, with government focus on the safety and quality of health care and on incidents of harm. (Incident reporting, first described in the 1950s, is now routinely used in hospitals to identify medication errors,[12] misidentification of patients[13] and the retention of swabs in operations.[14]) The recent attention to patient harm from health care stems from the 1990 Harvard Medical Practice Study,[15] which showed the extent of adverse events in hospital patients. Since its publication, research in both developed and developing countries has continued to show unacceptable rates of patient harm.[16-21] Evidence of serious adverse events resulting from health care has therefore been with us for the last 22 years. Despite this, there is little evidence of systems improvements and the same problems persist, although significant attempts have been made to improve the safety and quality of care.[22] A 2010 review of adverse events occurring in North Carolina hospitals demonstrated that they remain commonplace.[23] A 2010 US Inspector General report estimated that 13.5% of hospitalised Medicare beneficiaries experienced adverse events during their hospitalisation,[24] and Australian data from the New South Wales Clinical Excellence Commission confirmed the high prevalence of adverse events in Australian hospitals.[25]

Notwithstanding the extensive literature on adverse events, few studies have addressed the difficulties doctors, by contrast with other professional groups, have in reporting adverse events. The 'culture of blame'[26-28] in medicine affects all doctors, but particularly interns and residents, who are reluctant to trust reporting systems or to discuss them with more senior colleagues.[29] Unlike nurses, doctors tend to under-report medical errors and prefer to utilise a blame-free approach in mortality and morbidity conferences and peer review processes to better understand how mistakes were made and might have been prevented than to report them using hospital incident management systems.[28, 30-34]

Irrespective of whether the reporting of adverse events could be improved, it is clear that despite concerted efforts to reduce adverse events and improve the safety and quality of health care, a safer and more reliable patient-centred health care system remains elusive.[22, 35]

The system of health care

There is broad consensus that responsibility for the occurrence of adverse events is mainly attributable to the system of health care, rather than to the actions of health professionals who cause harm through errors of omission or commission. When adverse events are investigated and analysed by hospital teams using root cause analysis, multiple factors are usually found to have contributed to the majority of unexpected and often poor outcomes. The fact that adverse events arise as a consequence of the (dys)function of health care systems, rather than as a consequence of individual error or negligence is hardly surprising given the enormous complexity of the health care

system and the large number of health professionals involved in the delivery of health care to individuals and communities.

Patients today depend on the skills and knowledge of a range of health professionals.[36] For a patient to benefit from his or her health care, health professionals must be both technically competent and able to effectively communicate with their patient, the patient's carers and with one another. This idea that a patient's care relates to the capacity of other health practitioners to communicate efficiently, accurately and in a timely manner in all their communications is central to understanding health care as a system.

Furthermore, acknowledging that patient outcomes are the consequence of the effective involvement of large numbers of experts practising within a particular environment shifts the focus from the individual practitioner–patient relationship to the health care system, and from the role and authority of any one professional or professional group to the role and integration of different health professions within a system of care focused on optimising patient care and safety. This approach may have important benefits. For example, Dr Brent James, of Intermountain Health in the USA (a leader in health care redesign), has argued that by focusing on doctors and other health professionals as participants in the process of care rather than as controllers of care, it is possible to significantly improve the quality and safety of care while simultaneously reducing its costs.[37]

Technology and adverse events in health care

Biotechnology allows the treatment of patients and conditions that were previously untreatable, but it also creates the possibility of harm. Technology has transformed medicine with new vaccines, new pharmacotherapies, new forms of medical imaging, new (and variably invasive) genetic diagnostics, and new therapeutic interventions, such as laparoscopic surgery, each of which has spawned new domains of expertise and new specialties. Yet each carries the possibility of harm. Equipment may fail or be inappropriately applied; users may be poorly trained, and inspection and maintenance may be deferred or simply not done. As early as 1981 evidence was emerging that technology had the potential to harm: one study showed that one in three hospital patients were harmed by emergent therapies or diagnostics.[38] One of the most striking examples of such harm occurred following the introduction in the 1990s of laparoscopic cholecystectomy, in which bile duct injury rates doubled those in open cholecystectomy, largely as a result of inadequate education and training.[39]

Crucially, biotechnologies are also not generally developed, supplied or maintained by clinicians, but are the responsibility of biotechnology companies, service providers and facilities managers. Medical equipment must be delivered, housed and maintained at appropriate intervals by people with appropriate qualifications and training. This means that entirely new groups of experts have entered the health care space, creating an even greater possibility of harm and an even greater need for appropriate skill development and interprofessional communication.

Specialisation

Although the 'culture wars' between different health care providers in medicine are not new – doctors have traditionally shared the medical marketplace with barber surgeons, bone-setters, apothecaries, midwives and so forth – medical specialisation as we know it only really emerged in the 19th and 20th centuries. One of the (unintended) consequences of specialisation and the accompanying additional layers of therapeutic and organisational complexity is the increased opportunity for errors, which has occurred partly because subspecialisation developed in response to advances in science and technology, rather than in response to any planned organised improvement. Specialisation created not only an increased technical and clinical capacity, but an increased likelihood of duplication and inefficiency.[7, 40]

Advances in medicine also allow people to survive infectious diseases (in particular) and to live into old age when they have increasingly developed chronic non-communicable diseases, each of which requires specific pharmacotherapies and the expertise of discipline- or organ-specific specialists. This explosion of both illness and therapeutics has created enormous challenges for health systems, governments, doctors and patients. For the medical specialist, keeping oneself up to date with drugs and treatments, both within one's own sphere of practice and within others, is a constant challenge, and the failure to do so is a constant threat to patient safety. For the patient, compliance with each treatment regime prescribed by concurrent specialists is, increasingly, a very real economic, practical and epistemic burden. In part, this is because specialisation remains focused on the doctor–patient dyad, rather than on the patient, and each specialist is perceived as independently managing the care and treatment of his or her particular discipline. (In this regard it is worth noting how a 'patient-centred' approach might differ from this model of specialisation and might emphasise instead cooperation and the sharing of knowledge with one clinician who takes overall responsibility and acquires a deep understanding of the patient's wishes in relation to his or her health priorities. Although such an approach has been shown to lessen the patient's burden of symptoms,[41] as well as to decrease mishaps in communication and to improve diagnosis,[42] there is much less information on the impact such an approach might have on the management of patients with multiple chronic co-morbidities.)

Are Our Ethical Frameworks Relevant in the Context of Health Care Today?

The Hippocratic Oath has persisted beyond its initial formulation and remains a touchstone of contemporary ethical and professional codes and frameworks, principally because it embodies fundamental values and professional virtues. Yet it is important to ask whether the focus on the doctor – rather than the patient – should continue to underpin codes of ethics or whether this should be regarded as a 'historical moment', an idea whose time has passed. Surprisingly, however, although the changes in medicine and health care have been widely noted, what is striking is the persistence of ancient ideas about the doctor in contemporary charters and codes, such as the US Physician Charter[43] and CanMEDS in Canada.[44]

The protocol for the 2002 document entitled 'Medical Professionalism in the New Millennium: A Physician Charter', which resulted from a collaboration involving US medical organisations and the European Federation of Internal Medicine, grew out of concerns about the impact that the changing health care environment, including emergent biotechnology, market forces, problems in health care delivery, bioterrorism and globalisation, were having on medical professionalism.[45] The Charter is guided by three fundamental principles: the primacy of patient welfare; patient autonomy, and social justice. Although the context of the changed health environment was the genesis for the Charter, which includes explicit statements about the difficulties doctors face in honouring these three principles, the central structure of the Charter continues to focus on the doctor's obligations to his or her patients.

The CanMEDS framework describes a set of competencies or abilities that doctors need in order to optimise patient outcomes.[44] As with the Physician Charter, the medical expert remains at the core of the CanMEDS framework and doctors are required to demonstrate the competencies of a professional, communicator, collaborator, manager, health advocate and scholar. As in the Physician Charter, the responsibilities or obligations of health care in the CanMEDS framework remain grounded in the doctor–patient dyad, and the roles of the individual doctor and the medical expert.

The 'Silences' of Codes of Ethics and Professionalism

Much can be said for codes of ethics and codes of professional practice as they serve reflective, political and aspirational purposes. They also inevitably reflect the thinking about medicine and the role of doctors that prevails at the time of writing. Yet do the revisions of the Hippocratic Oath, including that written by Lasagna and the new contemporary oaths, adequately capture the realities of modern health care or the ways in which we have come to think about the ethics of health care

and civil society. Although these oaths and charters reveal that they have expunged much of the ancient structure of medicine from their texts (they no longer make mention of abortion or 'cutting for stone'), they maintain a focus on the doctor–patient dyad, on therapy and on the application of scientific knowledge. What they also lack is a sense of the complexity of medicine, a sense that health care is a function of the way in which systems operate, a real sense of the role and relevance of other health professionals in the design and delivery of health care, and a sense that illness emerges from social contexts as a consequence of social determinants (as opposed to illness impacting upon others) and, bizarrely, any sense that the patient's rights, claims or preferences, rather than the doctor's skills, should determine care.

In our view, the emphasis on medicine, on science and technology and on conservative or restricted views about what ethics are, is reflected in much of contemporary medical education. Around the globe, medical curricula are increasingly crowded; they bend under the weight of professional expectations that medical programmes should produce graduates who are competent researchers as well as practitioners, and struggle to meet the demands imposed by advances in science and biotechnology for more and more curricular time, largely at the expense of the humanities and health social sciences, which are inevitably forced into second place. As a consequence, ethics education has become more stunted, and focuses less on reflection and phronesis and more on governance and professionalism, and patient-centred approaches to patient safety have gained little traction. Learning about medical errors and their management, health care systems, human frailty, the values, limits and practical skills of interdisciplinary care, the idea of 'partnering' with patients, and cultural competence is rarely made explicit in teaching or given the same weight as the learning of scientific knowledge and skills.

Given the complexity of contemporary health care, the emergence of consumer or patient advocacy, the expansion and professionalisation of other health professions and the increased emphasis on rights, the continuing focus on doctors and science and the myopic exclusion of patient safety and richer constructions of ethics are deeply problematic. There is also no reason why this should be the case; indeed, it is unlikely that when Flexner advocated a scientific basis for medicine over 100 years ago, he would ever have intended this to develop at the expense of humanistic and social medicine.[46]

A Patient Safety Approach

Patient safety often tends to be regarded as an outcome of care rather than as a set of patient-centred competencies designed to minimise harm and improve quality of care. This is a critical misunderstanding because patients are now cared for by a vast array of health professionals and patient outcomes are dependent upon the interplay of social, organisational, environmental, clinical and economic forces, many of which are outside the control of individual clinicians.

Contemporary views of patient safety manage the inherent complexities of the health care system by moving the lens through which the provision of ethical and safe care can be ascertained away from the moral responsibilities of individual doctors to a set of competencies to be mastered. This requires both a deep understanding of the principles and concepts of patient safety, and the development of new skills. These competencies are described in a number of frameworks. The first to be developed was the 2005 Australian National Patient Safety Education Framework (NPSEF), which describes a comprehensive set of patient safety competencies.[47]

Examining the Hippocratic Oath through the Lens of Patient Safety

In the next section we discuss two of the pledges within the 1964 Hippocratic Oath using a patient safety perspective.[1]

> **Pledge 1:** 'I will not be ashamed to say "I know not", nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.'

On one level this pledge appeals because it suggests the importance of humility and the necessity to consult others in a patient's interests, but what is most noteworthy about this pledge is what it doesn't say. Missing is any sense of a medical system or a health care team populated by a diverse range of health professionals, rather than just doctors. In this pledge the doctor remains central and in control, even when he or she lacks the requisite knowledge or expertise to optimally care for a patient. This is both an inaccurate and an unfortunate portrayal of contemporary health care. Rarely does a patient rely solely on a single practitioner. Surrounding every patient is a network of medical practitioners and other health professionals, such as pharmacists, physiotherapists, rehabilitation therapists, nurses, receptionists, hospital clerks and more. Doctors who work within the confines of the doctor–patient dyad therefore not only misconstrue their place in the health system, but increase opportunities for miscommunication and errors associated with patient management. It is now increasingly clear that the best outcomes for patients are achieved when the health professionals treating the same patient act as a team. Salas et al.[48] identify the following shared characteristics of health care teams: knowing and understanding the roles of others who care for the patient; making and communicating decisions; possessing specialised knowledge; functioning under conditions of high workloads, and acting as a collective unit as a result of the interdependency of the tasks performed by team members. Unfortunately, many doctors misunderstand teamwork and think that being the nominated doctor 'in charge of a patient' fulfils the requirement of them to work in a team, whereas teamwork and multidisciplinary care are complex processes underpinned by knowledge and the application of specific skills.

The growing literature on teams in health care provides evidence of the different types of team, the characteristics of successful teams and the measurable outcomes of effective teamwork. Yet, despite what we know about the value of multidisciplinary care and effective teamwork, these models of care have not penetrated large areas of practice and, with the exception of some areas of cancer care, surgery, palliative care, mental health and aged care, multidisciplinary care remains the exception, rather than the rule.[49, 50] The modern Hippocratic Oath provides some clues as to the cultural and professional challenges to efforts to improve the quality and safety of health care.

> **Pledge 2:** 'I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know. Most especially must I tread with care in matters of life and death. If it is given to me to save a life, all thanks. But it may also be within my power to take a life; this awesome responsibility must be faced with great humbleness and awareness of my own frailty. Above all, I must not play at God.'

Like each of the pledges contained within the revised Oath, this pledge has intuitive appeal (despite its adherence to the authority of religious faith). Humility, care, responsibility and respect for confidentiality and human dignity all represent values that any practitioner, whether Eastern or Western, specialist or non-specialist, would recognise and support. Yet, as with the other pledges, much is revealed by what it does not say. Two things are missing. The first is an acknowledgement that a doctor may harm a patient, or kill a patient, not as a result of the doctor's power or his or her judgement, but by the doctor's error. The second absent factor is the voice of the patient.

Although the outcomes of health care result from the considered application of medical and bioscientific knowledge by experts in their respective disciplines, many other factors determine whether a treatment will benefit or harm a patient. Where the treatment is provided – an out-patient clinic, an in-patient ward, a consulting room, in the home or in the community – can influence the safety of health care. Other factors, such as the knowledge and experience of the practitioner, environmental factors, and patient conditions and co-morbidities, also impact upon the continuum of care. What this means is that achieving a safe outcome requires a deep understanding of organisations, systems and human factors, the recognition, prevention and management of error, and the willingness and capacity to use quality improvement tools to measure and improve patient outcomes. Poor teamwork, a failure to engage with patients as partners, inadequate understanding

of human factors, and suboptimal knowledge about health care as a system are all linked to the occurrence of adverse events.[51]

Leaders in patient safety, such as Leape et al.,[22] write that adverse events remain a significant challenge for medicine, despite efforts by governments, hospitals and clinicians to minimise them. Adverse events are usually caused by mistakes, and many result in death or disability. Whereas error is an accepted, and valuable, part of science, doctors have been less willing to recognise and learn from errors. McIntyre and Popper[52] suggest a main reason for this reluctance is the doctor–patient relationship itself and a fear that the doctor's authority will crumble in the eyes of peers and patients. This commitment by medicine to the fragility and inviolability of the doctor–patient relationship, has, since the publication of their paper[52] calling for a 'new ethics' in 1983, been disproven time and time again. No longer is there any doubt that patients welcome honesty and can accommodate the possible fallibility of their doctors, but, despite this, many doctors remain reluctant to be open about errors – particularly their own – perhaps for reasons of continuing (largely unfounded) fears of litigation, blame and loss of reputation. The language of the modern Oath speaks of the enormous power of the clinician and is silent on health care systems and systems errors, and gives only a slight tilt of the head to the possibility of harm or error. Leape et al.[22] suggest that other barriers to the reduction of the human suffering caused by health care lie in the medical ethos and institutionalised hierarchical medical structures in academic medicine and health services that actively discourage teamwork and transparency, and undermine attempts to establish clear systems of accountability for safe health care.

The other notable absence in the Oath is the patient. The patient is presented as a sick and vulnerable person in need of expert care, as someone whose life can be saved or ended by the actions of his or her doctor. The patient as an agent is entirely absent. The Oath contains no mention of the patient's wishes, preferences for care, values, or capacity to choose or act. There is no notion of autonomy, or liberty, or rights within the Oath, and there is no place for equal partnership. Whereas oaths, by their very nature, speak to the professional – about the professional's duties and responsibilities – the placement of the doctor quite clearly at the centre, alone, in the revised Oath, is completely inconsistent with modern ideas about human rights and the capacity of patients to direct their care, both when they have capacity and when they lose it. We suggest that without the patient as an autonomous, agentic individual at its core, the Oath has little contemporary relevance and says more about the hegemony of the profession, and the barriers to safe and effective care, than it does about modern ethics or health care.

Putting Patients First: Incorporating Patient Safety Principles into a 21st Century Code of Ethics

Codes of ethics and professional practice can usefully be seen as 'marks of a profession' or as signs that a group is organising itself, claiming epistemic and moral authority, defining its borders (and thereby its relationships with other groups), making a claim for self-regulation, and stating both what it believes it owes to others and what it, in turn, is owed. Codes are often, therefore, inward-looking and exclusionary. They may be blind to the social and political dimensions of practice as more effort is concentrated on maintaining the interests of the profession than on those of society more broadly. This is a problem because human welfare and the functioning of health care systems are ultimately moral concerns that are of interest not just to the members of single professions, but to everyone.

It is time, therefore, for ethical and professional codes to take more account of the socio-political aspects of health care, the roles of other health professions and the understanding that patient outcomes are a function of entire systems of care and do not derive from only the actions of solo clinicians. This does not mean that such codes should abandon their commitment to fundamental moral values such as care, compassion, integrity, veracity, confidentiality, respect for autonomy and human dignity and the like, but that this should be supplemented by a commitment to principles of patient safety, which acknowledge the complex human and organisational dynamics that may

optimise patient care and may, inevitably, lead to error and adverse events (Fig. 1). We also believe now is the time to democratise the (re)development of codes of ethics and professionalism, and to involve other health professionals, health bureaucrats and members of the community in discussions about the ethos of medicine and the place of doctors within systems of health care that are designed to increase human welfare.

Figure 1. Values and patient safety factors to underpin an ethical code for the 21st century
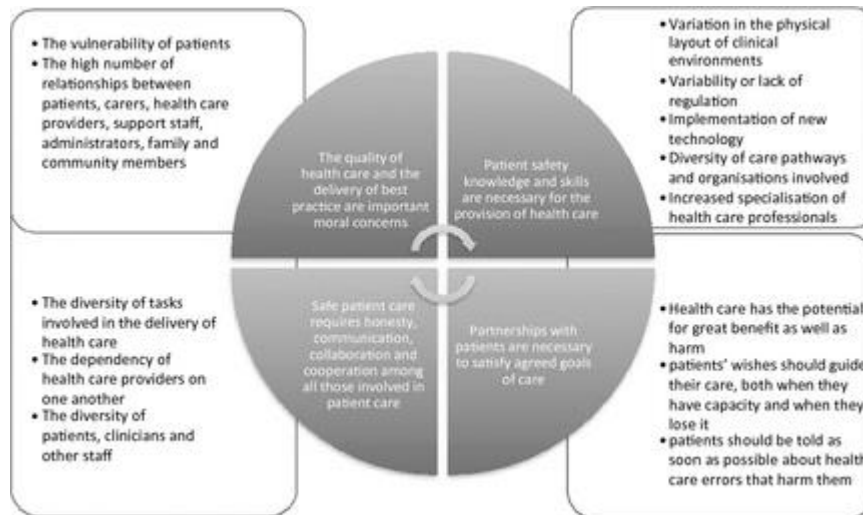
Conclusions: Next Steps

Maintaining the trust of patients and the community remains a central concern for the medical profession. Early codes of ethics provided clear statements of what a patient might expect when treated by a physician practising in the Hippocratic, Stoic or Epicurian traditions. Historically, that trust was maintained through the education and accreditation of doctors and through a system for dealing with the few 'rotten apples'. Harms, therefore, were isolated events, the products of a 'rogue' doctor or event. However, even if this was ever an accurate picture of health care, it is certainly not today. The evidence shows clearly that patients are frequently harmed as a consequence of their health care and that the majority of adverse events result not from the actions of incompetent or unethical doctors or trainees, but from the failure of doctors and other health professionals to appreciate the context, dynamism and complexity of modern health care.

Patient safety is widely acknowledged as a major health issue. Being open about the interdependency of doctors, the complex socio-political nature of health care, and the inevitability of errors and adverse events need not challenge the authority of the doctor; rather, openness about both the ways in which medicine has changed and the harms that doctors may (inadvertently) cause might afford medicine the opportunity to build a different relationship with patients (and with society more broadly), that recognises complexity, human fallibility and the inherent uncertainty of medicine.

Acknowledgements

References

1. Eva KW. Trending in 2014: Hippocrates. Med Educ. 2014;48:1–3.

2. Porter R. The Greatest Benefit to Mankind: A Medical History of Humanity from Antiquity to the Present. London: HarperCollins 1997.

3. Broadbent W. Growth of the art and science of medicine. The 1895 Address in Medicine. Annual Meeting of the British Medical Association, London. Lancet 1895;2 (1805):266–73.

4. Relman AS. The new medical–industrial complex. N Engl J Med 1980;303 (17):963–70.

5. Starr P. The Social Transformation of American Medicine. Washington, DC: Basic Books 1982.

6. Knowles JH. Hospitals, Doctors and the Public Interest. Cambridge, MA: Harvard University Press 1965.

7. Hillman K. The changing role of acute-care hospitals. Med J Aust 1999;170:325–8.

8. Pellegrino ED. Medical ethics in an era of bioethics: resetting the medical profession's compass. Theor Med Bioeth 2012;33:21–4.

9. Plsek PE. Creativity, Innovation, and Quality. Milwaukee, WI: ASQ Quality Press 1997.

10. Combes JR, Arespacochaga E. Lifelong learning physician competency development. Chicago, IL: American Hospital Association's Physician Leadership Forum 2012.

11. Silverman HJ, Dagenais J, Gordon-Lipkin E, Caputo L, Christian MW, Maidment BW III, Binstock A, Oyalowo A, Moni M. Perceived comfort level of medical students and residents in handling clinical ethics issues. J Med Ethics 2013;39:55–8.

12. Vincent C, Aylin P, Franklin BD. Is healthcare getting safer? BMJ 2008;337:a2426.

13. Chassin MR, Becher EC. The wrong patient. Ann Intern Med 2002;136 (11):826–33.

14. Secker-Walker J, Taylor-Adams S. Clinical incident reporting. In: Vincent C, ed. Clinical Risk Management. London: BMJ Books 2001;370–6.

15. Brennan TA, Leape LL, Laird N et al. Incidence of adverse events and negligence in hospitalised patients: results of the Harvard Medical Practice Study I. N Engl J Med 1991;324:370–6.

16. Wilson RM, Harrison BT, Gibberd RW, Hamilton J. An analysis of the causes of adverse events from the Quality in Australian Health Care Study. Med J Aust 1999;170:411–5.

17. Baker GR, Norton PG, Flintoft V, Blais R, Brown A et al. The Canadian Adverse Event Study: the incidence of adverse events among hospital patients in Canada. CMAJ 2004;17 (11):1678–86.

18. Schiøler T, Lipczak H, Pedersen BL, Mogensen TS, Bech KB, Stockmarr A et al. Danish Adverse Event Study: incidence of adverse events in hospitals. A retrospective study of medical records. Ugeskr Laeger 2001;163 (39):5370–8.

19. Vincent C, Neale G, Woloshynowych M. Adverse events in British hospitals: preliminary retrospective record review. BMJ 2001;322 (7285):517–9.

20. Davis P, Lay-Yee R, Briant R, Ali W, Scott A, Schug S. Adverse events in New Zealand public hospitals I: occurrence and impact. N Z Med J 2002;115 (1167):U271.

21. Wilson RM, Michel P, Olsen S, Gibberd RW, Vincent C, El-Assady R et al. Patient safety in developing countries: retrospective estimation of scale and nature of harm to patients in hospital. BMJ 2012;344:e832.

22. Leape L, Berwick D, Clancy C, Conway J, Gluck P. Transforming healthcare: a safety imperative. Qual Saf Health Care 2009;18:424–8.

23. Landrigan CP, Parry GJ, Bones CB, Hackbarth AD, Goldmann DA, Sarek PJ. Temporal trends in rates of patient harm resulting from medical care. N Engl J Med 2010;363:2124–34.

24. Levinson DR, Office of the Inspector General. Adverse Events in Hospitals: National Incidence among Medicare Beneficiaries. Washington, DC: Department of Health and Human Services 2010.

25. Clinical Excellence Commission. Clinical Incident Management in the NSW Public Health System 2010. Sydney, NSW: CEC 2011.

26. Reason JT. Managing the Risks of Organisational Accidents. Aldershot: Ashgate Publishing 1997.

27. Leape LL. Error in medicine. JAMA 1994;272:1851–8.

28. Vincent C, Stanhope N, Crowley-Murphy M. Reasons for not reporting adverse incidents: an empirical study. J Eval Clin Pract 1999;5:13–21.

29. Wu AW, Folkman S, McPhee SJ, Lo B. Do house officers learn from their mistakes? JAMA 1991;265 (16):2089–94.

30. Lawton R, Parker D. Barriers to incident reporting in a health care system. Qual Saf Health Care 2002;11:15–8.

31. Penson RT, Svendsen SS, Chabner BA, Lynch TJ, Levinson W. Medical mistakes: a workshop on personal perspectives. Oncologist 2001;6 (1):92–9.

32. Mizrahi T. Managing medical mistakes: ideology, insularity and accountability among internists-in-training. Soc Sci Med 1984;19:135–46.

33. Novack DH, Detering BJ, Arnold R, Forrow L, Ladinsky M, Pezzullo JC. Physicians' attitudes towards using deception to resolve ethical problems. JAMA 1989;26 (20):2980–6.

34. Applegate WB. Physician management of patients with adverse outcomes. Arch Intern Med 1986;146 (11):2249–52.

35. Baker RG. The challenges of making care safer: leadership and system transformation. Healthc Q 2012;15:8–11.

36. Mickan SM, Rodger SA. Effective health care teams: a model of six characteristics developed for shared perceptions. J Interprof Care 2005;19:358–70.

37. James BC, Savitz LA. How Intermountain trimmed health care costs through robust quality improvement efforts. Health Aff (Millwood) 2011;30 (6):1185–91.

38. Steel K et al. Iatrogenic illness on a general medical service at a university hospital. N Engl J Med 1981;304 (11):638–42.

39. Runciman W, Merry A, Walton M. Safety and Ethics in Health Care: A Guide to Getting it Right. Aldershot: Ashgate Publishing 2007.

40. Dally P, Ewan C, Pitney WR. Assessment of an Australian medical internship. J Med Educ 1984;18 :181–6.

41. Little P, Everitt H, Williamson I et al. Observational study of effect of patient-centredness and positive approach on outcomes of general practice consultations. BMJ 2001;323 (7318):908–11.

42. DiMatteo MR. The role of the physician in the emerging health care environment. West J Med 1998;168 (5):328–33.

43. ABIM Foundation, ACP-ASIM Foundation, European Federation of Internal Medicine. Medical professionalism in the new millennium: a physician charter. Ann Intern Med 2002;136 (3):243–6.

44. Royal College of Physicians and Surgeons of Canada. The CanMEDS framework. Ottawa, ON: RCPSC 2005. http://www.royalcollege.ca/portal/page/portal/rc/canmeds/framework. [Accessed 13 June 2013].

45. Members of the Professionalism Project, ABIM Foundation. Medical professionalism in the new millennium: a physicians charter. Lancet 2002;359:520–2.

46. Flexner A. Medical Education: A Comparative Study. New York, NY: MacMillan 1925.

47. Walton M, Shaw T, Barnett S, Ross J. Developing a national patient safety education framework for Australia. Qual Saf Health Care 2006;15:437–42.

48. Salas E, Dickinson TL, Converse SA. Toward an understanding of team performance and training. In: Swezey RW, Salas E, eds. Teams: Their Training and Performance. Norwood, NJ: Ablex 1992; 3–29.

49. Baker DP, Gustafson S, Beaubien J, Salas E, Barach P. Medical Teamwork and Patient Safety: The Evidence-Based Relation. Rockville, MD: Agency for Healthcare Research and Quality 2005.

50. Lemieux-Charles L, McGuire WL. What do we know about health care team effectiveness? A review of the literature. Med Care Res Rev 2006;63 (3):263–300.

51. Neale G, Woloshynowych M, Vincent C. Exploring the causes of adverse events in NHS hospital practice. J R Soc Med 2001;94 (7):322–30.

52. McIntyre N, Popper K. The critical attitude in medicine: the need for a new ethics. BMJ 1983;287:24–31.