Review of ethics curricula in undergraduate medical education

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Summary Medical ethics education, it has been said, has 'come of age' in recent years in terms of its formal inclusion in undergraduate medical curricula. This review article examines the background to its inclusion in undergraduate curricula and goes on to examine the consensus that has arisen on the design of ethics curricula, using Harden's curriculum and S.P.I.C.E.S models as templates. While there is consensus on content for undergraduate medical ethics education, there is still significant debate on learning and teaching methods. Despite the broad agreement on the need to apply adult education principles to ethics teaching, there would appear to be some tension between balancing the need for experiential learning and achieving the 'core curriculum'. There are also as yet unresolved difficulties with regards to resources for delivery, academic expertise, curriculum integration and consolidation of learning. Assessment methods also remain contentious. Although there is consensus that the ultimate goal of medical ethics, and indeed of medical education as a whole, is to create 'good doctors', the influence of the 'hidden curriculum' on students' development is only beginning to be recognized, and strategies to counteract its effects are in their infancy. The need for proper evaluation studies is recognized. It is suggested that the areas of debate appearing in the literature could be used as a starting point for evaluation studies, which would form the empirical basis of future curriculum development.

Keywords Curriculum; education, medical, *methods; education, medical, undergraduate; *ethics, medical; Great Britain.

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Introduction

Medical ethics has a 2500-year history in medical education, but despite this it has only been in the last 30 years that it has 'come of age' in terms of formal inclusion in medical curricula.[1] This has been part of a broad curricular effort, originating in North America, to develop students' values, social perspectives and interpersonal skills for the practice of medicine. It came from the medical profession's and society's concerns about the personal attributes and humanistic sensitivity of doctors, the selection of medical students, the socialization and cynicism engendered by medical education[2–5] and the overly scientific nature of preclinical medical education.[6] As part of this drive, it was recognized that medical ethics education should be accorded a greater formal presence in the medical curriculum.[7–11] This required to be more than the transmission by 'gentlemanly osmosis' of procedures and values between doctors and their students in the traditional apprenticeship model of medical education,[12] which was the situation prior to 1970 in the United States[13] and in the United Kingdom prior to 1987.[8]

By 1990 medical ethics had become an integral part of the core curriculum in most American Medical Schools.[14,15] Following the recommendation by the General Medical Council (GMC) in *Tomorrows' Doctors*, their 1993 consultative document on the future of undergraduate medical education in the United Kingdom, that it should be included in the core of United Kingdom medical curricula,[9] most medical schools now include ethics education.[16]

The formal inclusion of medical ethics education in the medical curriculum has produced a growing number of ethics curricula. Within these curricula there has been a diversity of goals and methods used. While it is recognized that there is no single, best model for medical ethics education, consensus is developing on the design of ethics undergraduate curricula.[1,8,11,15] In examining

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the consensus, I will consider Harden's approach to the curriculum in terms of aims, content and its organization, learning methods and assessment.[17]

What are the aims of medical ethics education?

In their 1989 review of the literature, Miles and colleagues identified the consensus which had developed on the aims of medical ethics education.[1] They listed the following aims:

1 To teach doctors to recognize the humanistic and ethical aspects of medical careers.
2 To enable doctors to examine and affirm their own personal and professional moral commitments.
3 To equip doctors with a foundation of philosophical, social and legal knowledge.
4 To enable doctors to employ this knowledge in clinical reasoning.
5 To equip doctors with the interactional skills needed to apply this insight, knowledge and reasoning to human clinical care.

The achievement of these aims would lead to the final goal of medical ethics education; 'to endow physicians with practical knowledge', i.e. an informed ability to realize values in clinical management.[18] This would produce doctors who should be able to competently analyse clinical situations, identifying any inherent moral issue(s) using knowledge of the range of moral concepts used frequently in ethical theory, while being sensitive to variations in circumstances that change meaning in ethically sensitive ways. They would be aware of their own values and beliefs, and those of each individual decision maker in the process of decision making (for example, the patient, the patient's family, colleagues and health care team members), and those of society in general. They would be aware of the influence of all these matters, and of their own interactional style, on ethical decision making.[1,2,19–25]

While Miles *et al.*'s review was mainly of the North American literature, the consensus which has developed in the United Kingdom is similar. The GMC, in *Tomorrows' Doctors*, stated that students by the end of the medical curriculum should, 'acquire a knowledge and understanding of ethical and legal issues relevant to the practice of medicine . . . and an ability to understand and analyse ethical problems so as to enable patients, their families, society and the doctor to have proper regard to such problems in reaching decisions'.[9] The UK Consensus Statement, by teachers of medical ethics and law in United Kingdom medical schools, recommend that ethics teaching should 'reinforce the overall aims of medical education: the creation of good doctors who will enhance and promote the health and medical welfare of the people they serve in ways which fairly and justly respect their dignity, autonomy and rights'.[11]

Miles *et al.* also cited consensus on 'alluring, but unrealistic' expectations for medical ethics education:

1 It should not, in a pluralistic society, dictate a single moral viewpoint, but it should teach physicians to be 'more circumspect, more reflective about themselves in relation to patients and about the relationship of their profession to the larger community'.[3]
2 It 'should not be expected to create sound moral character', rather it 'should equip young physicians of sound character with the knowledge and skills required to practice good medical care'.[18,26]
3 It should not be viewed as a solution to the problems engendered by the process of medical education, for example the 'dehumanising' effects of medical education as described by Wolf *et al.*[27] which should be addressed through other reforms.

This first view, that in a pluralistic society medical ethics education should not dictate a single moral viewpoint, is entirely consistent with the growing recognition of the limitations of professional codes, and of the importance of doctors being aware of the ethical decision making process. However the 'consensus' opinion on the other two issues has been challenged.

Social scientists have long embraced the notion that medical education affects students' normative beliefs and personal identities.[15] Studies such as Bosk's analysis of postgraduate surgical training illustrated that medical training involves the transmission of a distinctive medical morality.[28] Hafferty and Franks challenge the prevailing belief, within the culture of medicine, that while it may be possible to develop students' skills in recognising the presence of common ethical problem; skills in ethical reasoning; improved understanding of the language and concepts of ethics; it is not possible to influence, through the provision of course material or even an entire curriculum, students' values and beliefs, or ensure ethical conduct.[29] Calman and Downie also challenge the idea that students' moral values cannot be changed.[30]

Hafferty and Franks argue that medical ethics is best framed as part of one's professional identity rather than a body of knowledge and skills, and that most of the critical determinants of a doctors' identity operate not within the formal curriculum, but in the more subtle, and less well recognized 'hidden curriculum'. They view medical education as a form of 'moral enculturation', of which formal ethics teaching is only a small

part, and that any attempt to develop a comprehensive ethics curriculum must acknowledge the broader cultural milieu within which the curriculum must function. In order to foster ethical development in students, both the formal and 'hidden' curriculum must be addressed by curriculum planners.

The recent proposals on the future of undergraduate medical education, in both the United States[7] and the United Kingdom,[9] have called for a training process which serves to nurture, not suppress, desired virtues. One of the principal recommendations for undergraduate medical education in *Tomorrows' Doctors* is that attitudes of mind and of behaviour that befit a doctor should be inculcated and new graduates should be imbued with attributes appropriate to his/her future responsibilities to patients, colleagues and society in general.[9] An approach to medical ethics, and medical education as a whole, which does not recognize its responsibility to engender students with these desired values is unlikely to produce the type of doctor envisaged.

What content should be included?

There have been many suggested areas for inclusion in the undergraduate medical curriculum. Table 1 is a summary based on recurring topics appearing in the literature. Each component of Table 1, it could be argued, merits a place in a comprehensive ethics curriculum. However, the General Medical Council's recommendations on the medical curriculum advocated reducing the burden of factual information imposed on students.[9] They proposed that a core curriculum, encompassing the essential knowledge and skills, and the appropriate attitudes to be acquired by the time of graduation, should be defined. This core could be augmented by special study modules, to allow students the opportunity to study areas of particular interest to them in depth. The recommendation on reducing the burden of factual information imposed on students, was also in the report 'Physicians for the Twenty-First Century' which has been influential in shaping the design of medical education in the United States.[7]

The De Camp conference, of prominent medical ethicists in the United States, produced what they believed to be the essential short-term goals of medical ethics education (Table 2).[26] From these goals the content of a core curriculum for medical ethics could be identified. This list is well recognized as setting a minimum standard for ethics education in United States medical curricula.[15] Gillon, in an editorial for the *Journal of Medical Ethics* in which he proposed a core curriculum for medical ethics education in the United Kingdom, advocated using the De Camp recommen-

Table 1 Content areas for medical ethics education (after Miles *et al.* 1989[1])

Ethical theory and humanities
Basic concepts in medical ethics
Religious theory and medicine
Humanities
Professional ethos
Codes of medical ethics
Physician bias about patient quality of life
Duty to treat HIV infected persons
Compassion
Rights and duties of doctors
Determination of death
Pain control
Organ donation, requests, selecting recipients
Innovative technology
Physicians and cost constraints or economic incentives
Multidisciplinary issues
Impaired colleagues
Consultation and team ethics
Differences with colleagues
Relations with lawyers, nurses and reporting agencies
Use of ethics consultants and committees
Patient autonomy and clinical dilemmas
Autonomy and personhood
How patients relate risk to values
Obtaining consent
Patients' refusal of recommended treatments
Truth-telling and withholding information from patients
Patient privacy and confidentiality
Evaluation of decision making capacity
Proxy consent, informed consent, coerced consent
Role of families in treatment decisions
Sexual responsibility
Abortion
Defective neonates
Maternal-foetal conflicts
Rights of children, psychiatric patients, handicapped persons
Artificial insemination, in-vitro fertilisation
Care of the dying, comatose, or hopelessly ill
Forgoing life support
Euthanasia
Student physicians
Academic integrity
Revealing student status to patients
Students' feeling of excess entitlement
Disclosure of new information to patients
Role of student physicians
Academic medicine
Authorship
Research ethics
Social issues
Preventative medicine; health and disease concepts
Justice and health care
Legal medicine, forensic medicine, malpractice
Nuclear war
Genetics
Community service

Table 2 De Camp's/Gillon's recommendations on the medical ethics core curriculum (After Culver *et al.*,[26] Gillon[31])

De Camp recommendations
1. The ability to identify the moral aspects of medical practice.
2. The ability to obtain a valid consent or refusal of treatment.
3. The knowledge of how to proceed if a patient is only partially competent or fully incompetent.
4. The knowledge of how to proceed if a patient refuses treatment.
5. The ability to decide when it is morally justifiable to withhold information from a patient.
6. The ability to decide when it is morally justified to breach confidentiality.
7. The knowledge of the moral aspects of caring for a patient whose prognosis is poor.

dations as a starting point.[31] The recent UK Consensus statement proposed a model for the United Kingdom core curriculum which they believe to be consistent with the General Medical Council's stated goal for undergraduate medical ethics teaching (Table 3).[11]

Many of the topics being suggested for inclusion in medical ethics curricula reflect the increasing appreciation of context in medical ethics, as topics such as dying and grief, pain control, or issues of student identity are not 'ethical issues' in the strictest terms. The focus of medical ethics has been broadened from classical dilemmas and determining ethical 'correctness', to examining ethical behaviour under the constraints of actual practice, placing more emphasis on 'everyday ethics', i.e. the issues that routinely arise in daily medical practice.[1,25,32] Another dimension of everyday ethics is its reliance on the non-controversial, where medical ethics education need not always involve dilemmas, much less insoluble ones. Instead it can communicate specific take-home messages based on consensus principles or values.[33]

The trend towards ethics being context-based is not without opposition, however.[1,34] Hundert suggests students might be less likely to recognize an ethical problem if general ethical theories are not introduced before considering clinical situations.[35] Barnard argues for fundamental theory because he believes cases overemphasize ethics as problem-solving at the expense of cultivating a 'professional philosophy and demeanour' that lessens the likelihood of problems arising in the first place.[36] Hafferty and Franks also warn against the dangers of over-emphasizing micro-ethical issues, i.e. those affecting individual patients and practitioners, at the expense of macro-ethical issues, i.e. those affecting groups, institutions and the general public. They also caution against an approach to case study construction which exclusively relies on students identifying the presence of ethical problems, as this may lead to underreporting of problems or may distort the nature of the educational experience, given that they are undergoing a process of socialization that is designed, in part, to alter their perception of what is going on around them.[29]

How should the content be organized?

In the traditional model of medical ethics education, which developed with its formal inclusion in United States undergraduate medical curricula, medical ethics was customarily taught as a separate course in the preclinical years.[15] In the traditional United Kingdom medical curriculum, the teaching of medical ethics was often 'eclectic and scarce . . . If students were lucky they received a few lectures during the entirety of their clinical studies, sometimes accompanied by small group discussions'.[11]

Medical ethics educators realized that a single, separate course in medical ethics during the medical curriculum was inadequate to meet the goals of medical ethics education, and although self-contained courses could be valuable, they can also have the effect of marginalizing ethics.[29] As a result they experimented with different curricular designs. Layman, in her 1996 deliberation on the ethics curricula that have been developed for the health care professions, identified four curricular patterns which have emerged:[37]

1 Integrated modules across the curriculum.
2 A single discrete course and integrated modules across the curriculum.
3 Multiple courses.
4 Multiple courses or seminars and clinical rotations.

A common feature of the medical ethics curricula which developed is that the foundation of knowledge and analytical skills obtained by students in the preclinical years is built through providing ethics education in clinical settings.[20,22] This would enable the students to develop and employ their previously acquired knowledge, and acquire the interactional skills needed to apply this insight, knowledge and reasoning to clinical care.[38]

However, to have a dichotomy between the types of learning experience provided for ethics education in the preclinical and clinical phases of the medical curriculum, is not supported by empirical evidence. Early clinical exposure to patients has been shown to assist the development of a patient-centred, rather than disease-centred, approach to patients.[1] Early clinical experiences can foster ethical sensitivity,[39] help the

Table 3 Recommendations of the UK Consensus Statement on the core curriculum

1. Informed consent and refusal of treatment
   - The significance of autonomy: respect for persons and for bodily integrity.
   - Competence to consent: conceptual, ethical and legal issues.
   - Further conditions for ethically acceptable consent: adequate information and comprehension, non-coercion.
   - Treatment without consent and proxy consent – when and why morally and legally justified.
   - Assault, battery, negligence and legal standards for disclosure of information.
   - Problems of communicating information about diagnosis, treatment and risks: the importance of empathy.

2. The clinical relationship truthfulness, trust and good communication
   - The ethical limits of paternalism towards patients.
   - The significance of honesty, courage, prudence and facilitating attitudes: virtues in practice of good medicine.
   - Legal and ethical boundaries of clinical discretion to withhold information.
   - Practical difficulties with truth telling in medicine: inter-/intraprofessional conflicts and other barriers to good communication.
   - The ethical and legal importance of good communication skills and the significance of the patient's narrative (as distinct from other professional narratives) in building relationships of trust. The importance of cultural, gender, intergenerational, religious and racial sensitivity.

3. Confidentiality and good clinical practice
   - Professional information, privacy and respect for autonomy.
   - Trust, secrecy and security in the sharing of information: the practical demands of good practice.
   - The patient and the family: potential moral and legal tensions.
   - Disclosure of information: public vs. private interests.
   - Compulsory and discretionary disclosure of confidential information: professional and legal requirements.

4. Medical research
   - Historical and contemporary examples of abuses of medical research.
   - Individual rights and moral tension between duty of care to the individual and the interests of others.
   - Therapeutic and non-therapeutic research.
   - Professional and legal regulation of medical research.
   - The ethical significance of the distinction between research, audit and innovative and standard therapy as well as between patients and healthy volunteers.
   - Research and vulnerable groups: ethical and legal boundaries of informed and proxy consent.
   - Research on animals: ethical debates and legal requirements.

5. Human reproduction
   - Ethical debates about, and the legal status, the embryo/foetus.
   - The maternal-foetal relationship: ethical tensions.
   - Abortion: professional guidelines, legal requirements and debates about the use of tissue from aborted foetuses.
   - Sterilization: ethical and legal issues.
   - Pre- and postnatal screening and testing: ethical issues concerning informed consent and the determination of the interests of the future child.
   - Assisted conception: legal boundaries and ethical disputes.

6. The 'new genetics'
   - Gene therapy: ethical issues concerning the distinction between treating the abnormal and improving the normal.
   - Somatic vs. germline treatment and research; ethical and legal arguments.
   - Eugenics vs. patient-centred care.
   - Genetic counselling: responsibilities to patients vs. responsibilities to families.
   - Benefits and dangers of genetic testing and screening after birth; the risks of unwelcome information and of genetic stigmatization.
   - Cloning: genetic vs. personal identity – ethical implications.

7. Children
   - Respect for the rights of children: evolution of current ethical issues.
   - The relevance of age in the determination of competence to consent to or refuse treatment.
   - Ethical debates about legal boundaries of consultation with younger and older children as regards consent to treatment.
   - The doctor/parent relationship: proxy decision-making and protecting children's interests.
   - Good ethical and legal practice in reporting suspected child abuse.

8. Mental disorders and disability
   - Definitions of mental disorders, mental incapacity (including mental illness, learning disability and personality disorder).
   - Ethical and legal implications, and research on, the seriously mentally disordered with or without consent.
   - Patient, family and community: ethical and legal tensions

Table 3 (*Contd.*)

9. Life, death, dying and killing
   - Palliative care, length and quality of life and good clinical practice.
   - Attempting ethically to reconcile non-provision of life-prolonging treatment with the duty of care: killing and letting die, double effect, ordinary and extraordinary means.
   - Withholding and withdrawing life-prolonging treatment – and potentially shortening life – in legally acceptable ways.
   - Euthanasia and assisted suicide: ethical and legal arguments.
   - Transplantation: ethical and legal issues.
   - Death certification and the role of the coroner's court.
10. Vulnerabilities created by the duties of doctors and medical students
   - Public expectations of medicine: difficulties in dealing with uncertainty and conflict. Ethical importance of good inter- and intraprofessional communication and teamwork.
   - The General Medical Council. Professional regulation, standards and the Medical Register. Implications for students and their relationships with patients.
   - Responding appropriately to clinical mistakes: personal, legal and ethical responsibilities.
   - Unethical and unsafe practice in medicine: 'whistleblowing'.
   - The law of negligence, NHS complaints and disciplinary procedures.
   - The health of doctors and students and its relationship to professional performance: risks, sources of help and duties to disclose.
   - Medical ethics and the involvement of doctors in police interrogation, torture and capital punishment.
11. Resource allocation
   - Inadequate resources and distributive justice within the NHS: the law.
   - Theories and criteria for equitable health care: needs, rights, utility, efficiency, desert, autonomy.
   - Debates about rationing: personal, local, national and international perspectives. Markets and ethical differences between competing health care delivery systems.
   - Boundaries of responsibility of individuals for their own illnesses and ethical implications.
12. Rights
   - Conceptions of rights – what are they?
   - Links between rights and duties and responsibilities.
   - International declarations of human rights.
   - The importance of the concept of human rights for medical ethics.
   - Debates about the centrality of rights for good professional practice in medicine.
   - Rights and justice in health care.

student examine the values he/she brings to clinical care, and teach clinical-ethical reasoning.[1,15] It can foster effective collaboration with nurses,[40] lawyers and other professionals.[41,42] Patient contact in the early years of medical school has therefore been shown to be important in students' ethical development.

What learning methods should be adopted?

Review of the learning methods, which have been adopted for medical ethics education, requires not only examination of teaching methods, but also the educational strategies employed.[16]

What educational strategies should be adopted?

Harden *et al.*'s S.P.I.C.E.S model, can be used as a basis to review the consensus on the educational strategies to be used for medical ethics education.[43]

1 Student-centred/teacher-centred

Recent recommendations on the future design of medical curricula in both the United States and the United Kingdom have advised movement towards student-centred education in medical curricula.[7,9] This has been reflected in the recommendations for medical ethics education. The Pond report, a multidisciplinary working party report on the teaching of medical ethics in the United Kingdom, recommended that learning should be exploratory.[8] Seedhouse advocated that students be actively involved in the learning process.[24] Fox *et al.*'s 1995 review article stated that consensus now exists that adult learning principles should be applied to medical ethics education.[15]

2 Problem solving/information gathering

The move in medical education, towards a reduction in the amount of factual information students are required

to obtain,[7,9] has been considered by medical ethics educators.[11,31]

The central focus of medical ethics is clinical reasoning and decision-making. On qualifying, students are expected to be able to synthesize the information imparted to them during their undergraduate years and be able to apply it to the care of their patients. There has therefore been a move towards problem-based learning (PBL) in medical ethics education. Parker advocates its use on the premise that the nature of ethical enquiry is highly compatible with the learning processes which characterise PBL.[44] In particular he argues:

1 PBL is problem driven. Ethical enquiry, even in its more abstract forms, derives from dilemmas occurring in everyday life.
2 PBL encourages the recognition and toleration of uncertainty, which are pervasive features of clinical practice. Ethics is a philosophical discipline which has doubt and uncertainty, dispute and argument as its staple diet and modus operandi.
3 The process of group discussion, inherent in PBL, fitted well with the ways in which ethical enquiry is conducted. While there is room for individual contemplation and research, active interchange is a stimulus to individuals' creative and innovative thinking, and helps clarify one's own point of view. The challenge of different perspectives stimulates 'epistemic curiosity', helping to develop reflective practitioners.[45]

Tysinger *et al.* in their evaluation of small-group, problem-based ethics teaching at the University of Texas, have expressed concern about not being able to cover the breadth of theory and the required range of common moral problems in medicine due to the requirement for cases to be unique, specific and realistic.[46] This criticism would be relevant if ethics was the only curricular component taught this way. Where the whole curriculum is PBL based it should be possible to cover the entire range of important issues, including ethical issues.

3 Integrated teaching/discipline-based

There is widespread consensus that medical ethics should be integrated horizontally and vertically in the medical curriculum.[1,8,11,15] The purpose of integration is to 'demonstrate the ubiquitous nature of ethical issues and to convey the message that competence in medical ethics is central to being a doctor'.[15] There is widespread consensus that ethics teaching should be multidisciplinary and interprofessional if it is to meet its broadening goals.[1,8,15] It is not merely that 'rarely are clinicians sufficiently trained in ethics', and 'ethicists rarely have sufficient clinical knowledge and experience to teach alone competently'.[26] With the broadening goals of medical ethics teaching it would be difficult to imagine a single person with such broad expertise. In addition, interdisciplinary education reinforces the need for doctors to value the perspectives of people from varying backgrounds and sets an example for subsequent interprofessional collaboration. A popular strategy being employed is having teams of clinicians and non-clinicians teaching cooperatively.[15] However while teaching in medical ethics is often widely shared within medical schools, its adequate provision and coordination requires at least one full time senior academic in ethics with relevant professional and academic expertise.[11]

The UK consensus statement, as part of full integration, recommends teaching in ethics and law featuring in students' clinical experience, 'consistently forging links with good medical and surgical practice'.[11] Each clinical discipline, they recommend, should address ethical and legal issues of particular relevance to it. However while vertical integration has been successfully accomplished in many curricula, as of 1995 in the United States, where medical ethics education is most advanced, there were no reported curricula which have fully realized the ideal of cohesive, integrated and comprehensive medical ethics education spanning the whole of the medical curriculum.[15] This is due to the practical problems of planning such a course. In the clinical years of medical curricula, vertical integration has proved labour intensive, requiring careful planning. Frader, for example, described requiring to integrate ethics conferences into five different clinical rotations on a weekly basis.[34] Brody described having to run more than 30 such conferences every month.[47]

4 Community-based/hospital-based

The GMC in *Tomorrow's Doctors* recommend that clinical teaching should adapt to changing patterns in health care, and should provide experience of primary care and of community medical services as well as of hospital services.[9] Consistent with broader trends towards primary care and generalism, medical ethics educators are beginning to focus on issues that arise in the primary care and community settings, for example, patient non-compliance with preventive measures, the limits of patient advocacy and the role of physician gatekeepers.[15] With the increasing emphasis on context in medical ethics education, these issues would possibly be best addressed by involving the members of community and primary health care teams, in

community and primary care settings. Medical ethics education, in common with the trend in medical education is moving towards the left of this continuum.

5 Systematic (planned)/apprenticeship (opportunistic)

As has been previously mentioned, teaching in medical ethics has moved away from the apprenticeship approach towards a more systematic approach to teaching.[12] Again this is in keeping with the general trend in medical education. A current trend in medical ethics education is towards emphasizing student ethics,[10,48,49] which reinforces ethical issues of immediate relevance for medical students. An illustration of this trend towards student ethics is the use of teachable moments, i.e. significant events in medical education that raise ethical problems for students in a predictable fashion, for example when they encounter cadavers for the first time.[50] Fox *et al.* identify other potential experiences which afford unique learning opportunities, including students' first physical examination, first invasive procedure, first pelvic or rectal examination, first encounter with a terminally ill patient, first cardiopulmonary resuscitation and first patient death.[15]

However Fox *et al.* warn that while it is useful to be aware of student preferences, students cannot be expected to recognize all their needs and deficiencies and a careful balance has to be struck between the requirements of the core curriculum and respecting student preferences.[15] Miles *et al.* stressed the importance of medical ethics education being 'conceptually coherent' and 'academically rigorous'.[1] The UK consensus statement recommends that 'ethics and law be introduced systematically in order to prepare students to meet their own professional and legal responsibilities when working with patients.'[11] This will require coordination of teaching, particularly during students' clinical attachments. The trend towards experiential learning has to be balanced against the need for a coherent and rigorous curriculum in which each student covers the core curriculum.

What teaching methods should be used?

Many of the pioneers of formal medical ethics education began their careers as teachers of moral philosophy or theology.[21] As outsiders venturing into a field then populated almost exclusively by physicians and scientists, they brought the objectives and methods of liberal arts courses into medical schools. As a result, formal medical ethics education was originally classroom-based and its pedagogic aims were cognitive.[15] Formal lectures were the predominant method used.[11,25]

As the goals of medical ethics education evolved, so too have the teaching methods. The diverse aims of medical ethics education imply the need for a variety of methods at different times in medical education.[5,51] There has been a move away from formal lectures to more small group, case-based discussion.[1,8,15,25] There is growing consensus that ethics instruction should be case-centred, especially during the clinical phase of education.[1,8,11,15,25] Case discussion serves many of the aims of ethics teaching; it teaches sensitivity to the moral aspects of medicine, illustrates the application of humanistic or legal concepts to medical practice and shows doctors acting as responsible moral agents.[47,52–54] The combination of large group presentations and small group discussions, with the discussion groups immediately following the plenary sessions, allowing the material presented in the large group setting to trigger small group discussion has become popular. Triggers can be generated by other methods, for example by using material from the media, simulated or real patients, panel discussions, quiz shows, staged debates and mock trials.[15] The UK consensus group, while indicating a preference for small group teaching which echoed that of the Pond report,[8] recognized that insufficient resources may limit its implementation. They recognized that interactive work with large groups could still be effective and should be considered rather than opting for little or no coverage of the core curriculum. The key, they feel, is to make all teaching, of whatever sized group, both clinically relevant and pitched to the academic background and ability of the audience taught.[11]

Puckett *et al.* reported that students were learning better in an environment where their new professional roles can be both 'observed and practiced.[55] Bresnahan and Hunter reported that their students felt 'classroom discussions had been all very well, …but now they were learning to care for patients, ethics teaching should be where the action is'.[56] Methods which have been employed to facilitate students' learning in clinical settings include: ethics grand ward rounds, ward rounds with ethicists, simulated patients and retreats. Recently several medical schools have introduced specific courses for improving interactional skills related to medical ethics.[57–60] These have usually taken place during the clinical years, the students being challenged to apply ethical concepts in actual practice. Examples include the Yale University Ethical and Humanistic Medicine course, where students watch each other role-play clinical tasks, such as obtaining informed consent, delivering bad news, and discussing 'do not resuscitate' orders. They compare the techniques they observe and perform, and then discuss a list of 'practical

suggestions' specific to each interactional skill.[59] In the UK, Cushing and Jones describe a 'Breaking Bad News' course at the London Hospital Medical College and St Bartholomew's, which uses group discussion, video presentations and role-play involving actors, to develop students skills in 'breaking bad news'.[61]

Educational tools such as audio-visual materials, ethics manuals and annotated bibliographies have been used.[1] Grunstein-Amado advocates redirecting resources to values education and suggests using the values journal method which is based on a systematic record of students' personal value systems reflected in their stories and life experiences, and on their responses to case presentations.[62]

How should assessment be carried out?

There is widespread consensus on the importance of assessment for medical ethics education.[1,8,11,15] Miles *et al*. advocates its use as it 'communicates (to students) that ethics is as rigorous and deserving of attention as other areas of the medical curriculum'.[1] The UK Consensus statement argues that 'Ethics should be formally assessed as are all other core subjects within the curriculum . . . Without such assessment ethics cannot be taught successfully within medical schools'.[11] Assessment should be both formative and summative,[15] and it should also reflect the integration of medical ethics into the medical curriculum, 'each clinical discipline should address ethical and legal issues of particular relevance to it and its students should be subject to assessment as they would for any other teaching in that specialty'.[11]

However, the methods to be used to assess learning remain contentious. Sensitivity to values and competence in interactional skills are not readily amenable to the usual assessment measures undertaken by medical schools. The diversity of the aims for medical ethics education also creates problems for its assessment.[1] While many propose that assessment should focus on skills and knowledge, such as identifying and weighing value-laden aspects of decision making, defining the relevance of principles to the case, and coming to a defensible clinical opinion,[13,26,63] qualities such as compassion, empathy and respect for patients, are also part of ethical competence. Their assessment touches on the issue of assessing students' moral character, and if, when, and how, this should be tackled.[1]

Numerous techniques have been devised to assess the cognitive aspects of ethical problem solving, such as the abilities to understand concepts, construct rational arguments and recognize moral problems.[64–66,68] Other measures have focused on stages of moral development and on values preferences.[67,69,70] While these measures of moral development and value preference have been developed mainly for evaluation purposes, they have potential use as assessment instruments.

Various approaches have been used to assess humanistic qualities using ratings by medical tutors, patients, nurses or peers.[10,71–73] Behavioural skills have been assessed through chart review, objective structured clinical examinations, direct observation, videotaping and simulated patients.[57–61,74,75] There is yet no 'gold standard' for medical ethics assessment.[15]

How can the hidden curriculum be addressed?

The growing appreciation for the detrimental aspects of traditional medical education has motivated many medical ethics educators to prevent, or counteract, the harmful effects of the hidden curriculum, promote humanistic qualities and behaviour, and foster ethical development.

A number of different approaches have been proposed to tackle the problems of the hidden curriculum and promote the ethical development of students. Hafferty and Franks recommend:[29]

1 Teachers require to become aware of students' perceptions at the earliest possible stage of their training, before they are affected by their medical education.
2 The content, and possible impact, of a hidden curriculum are best addressed by a consortium of faculty, students and expert outside observers, whose goal is to address the training process in its broadest sense.
3 Positive role-modelling should be fostered among faculty members, which can influence student behaviour. This approach is supported by empirical data suggesting students are more profoundly affected by role models than by formal course-work.[55,74,76]
4 Students should be given the 'real life' opportunity to appreciate the relevance of ethics to medicine at the organizational level, i.e. increased attention should be paid to the macro-ethical issues as ethics education cannot be properly conceptualized in isolation from the broader social contexts in which they arise.

Other strategies that have been employed include medical ethics educators joining forces with educators from humanities disciplines in applying a 'classical humanities approach'.[51] Other methods to promote

humanistic qualities in students draw more heavily on psychology and social sciences, for example the 'humanistic psychology approach' which is based on the assumption that students who are treated more humanely themselves will be more likely to act humanely towards others.[51] It usually makes use of longitudinal peer support groups that encourage students to discuss the stresses of becoming a doctor,[55] and may include other structured activities such as role playing sessions, meetings with faculty advisers, or stress management training.[51]

Other techniques focus on patients' experience by deliberately exposing students to patients more frequently, or more intensely, than is customary. Enhanced patient contact is intended to foster compassion, empathy and understanding of the patient's perspective in relation to one's own. An example is the 'Experience of Care Project' at Pennsylvania State University pairs medical student's one-on-one with patients whom they physically accompany throughout their hospital stays.[77]

Evaluation

Medical ethics education has come a long way recently, with the recognition of its importance and its central role in undergraduate medical curricula. While there is consensus on content for undergraduate medical ethics education, there is still significant debate on learning and teaching methods. Despite the broad agreement on the need to apply adult education principles to ethics teaching, there would appear to be some tension between balancing the need for experiential learning and achieving the 'core curriculum'. There are also as yet unresolved difficulties with regards to resources for delivery, academic expertise, curriculum integration and consolidation of learning. Assessment methods also remain contentious. Although there is consensus on the ultimate goal of medical ethics, and indeed of medical education as a whole, which is to create 'good doctors', the influence of the 'hidden curriculum' on students' development is only beginning to be recognized and strategies to counteract its effects are in their infancy.

Self *et al.*[67] Hebert *et al.*[64] and Shorr *et al.*[78] have commented on the lack of information regarding evaluation. Reasons given for the lack of evaluation include: the perceived difficulty of objectively evaluating intangibles dealt with in medical ethics courses such as values and beliefs;[79] and the lack of suitable evaluation instruments.[69] Studies such as Hebert *et al.*[64] Resler *et al.*[69] Shapiro and Miller,[66] Hundert *et al.*[25] and in the nursing field McAlpine *et al.*[80] show that proper evaluation is possible. Further evaluation studies require to be performed to provide the empirical basis for future curriculum development. The issues identified could be used as a starting point for such studies.

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