Fostering students' personal and professional development in medicine: a new framework for PPD

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Context Altruism, accountability, duty, integrity, respect for others and lifelong learning are qualities that have been identified as central to medical professionalism. However, we do not have a systematically developed understanding of what is needed to optimise medical students' personal and professional development (PPD). We need some level of agreement on how to teach and assess PPD, but traditional educational methods may not be strong determinants of students' or graduates' actual behaviour in clinical settings.

Aims This paper considers the factors that demonstrably influence doctors' behaviour as a contribution to the development of a model for considering PPD within the broader context of medical practice. The model presented acknowledges that behaviour change comes about through a number of influences including education, feedback, rewards, penalties and participation. These elements can be plotted against the cognitive, affective and metacognitive processes that are intrinsic to learning.

Implications A framework that promotes the consideration of all of these factors in PPD can provide guidance for schools undergoing curriculum reform and inform further research into one of the most important and challenging aspects of medical education.

Keywords *professional competence; education, medical, undergraduate/*standards; delivery of health care; communication; curriculum.

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Introduction

The medical profession and consumers of health care recognise the importance of altruism, accountability, duty, integrity, respect for others and lifelong learning in doctors. These and other attributes are seen as the essence of professionalism.[1] In preparing students to meet these professional and societal expectations, medical schools face a number of challenges. Two of the most important concern the selection of students who have the greatest potential to exhibit these desirable qualities in the future and the implementation of a curriculum that will protect and promote them.

The importance of personal and professional development (PPD) in medical education is widely recognised[2,3] and is now supported by trends towards greater curriculum integration[4] and the early introduction of experiential learning.[5] Personal and professional development is more than an isolated curriculum theme or strand; it is a way of approaching the entire course. In a recent discussion article, Howe[6] argues that 'one of the most pressing requirements for contemporary medical education is to develop a framework for theory and practice of professional development which results in the attainment of professional competencies suitably robust for a lifetime's practice… Educational, sociological and psychological perspectives (can) elucidate key principles which are most likely to result in acquisition of desirable professional attributes.' In saying this, the author acknowledges that formal teaching alone is not enough to ensure that students will develop into competent and responsible doctors.

In addition to theories on education, sociology and psychology, there are other ways of understanding PPD. Twenty-five years ago, John Eisenberg developed a model based on observations of doctors' behaviour and used it to evaluate methods of promoting cost-effective care.[7] He identified some of the major determinants of behaviour in clinical practice. These can be summarised as education, feedback, rewards, penalties and participation. Eisenberg demonstrated that education alone has only limited effects on behaviour and

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Key learning points

Student selection and curriculum design should work hand in hand to produce graduates with high personal and professional standards of behaviour.

Research into doctors' actual behaviour in clinical practice can be used to inform curriculum design and development in PPD.

Effective teaching and learning acknowledges and works with the cognitive, affective and metacognitive aspects of each PPD experience.

The learning environment, including the behaviour of admired role models, is as much a determinant of students' PPD as the curriculum itself.

The 'Eisenberg model' plots the elements of process-oriented instruction against the insights derived from health care policy research to create a new framework for PPD, both for curriculum design and for research.

that the combination of all available factors exerts the greatest force.[8] Personal and professional development is fundamentally about behaviour change, and if we are to help students reach the highest standards of professionalism, their learning environment must reflect and reinforce the values contained in the formal teaching programme.

Student selection

Before considering the model in detail, it is important to acknowledge that one of the most obvious ways of ensuring desirable attitudes and behaviours in graduates is to select students who already demonstrate them. In Eisenberg's terminology,[7] modifying methods of student selection would be categorised as an 'administrative change' to support a desired outcome. Many of the medical schools currently engaged in curriculum reform are also taking the opportunity to place more emphasis on non-cognitive factors such as communication skills and teamwork in the selection process. The Council of Heads of Medical Schools in the UK has recommended that access to medical school be widened so that 'the social, cultural and ethnic backgrounds of medical graduates … reflect broadly the diversity of those they are called upon to serve'.[9] Programmes to widen access to medical education

extend this concept by admitting older students who may have a more mature sense of vocation than school leavers. Long-term follow-up studies will be important in testing the assumption that such changes will help in the process of producing doctors who are less vulnerable to professional lapses.[10]

The feasibility of a PPD curriculum

The challenge of fostering students' PPD and limiting the negative influences of the 'hidden curriculum' should not be underestimated.[11] Despite careful student selection, we know that students may experience 'ethical erosion'[12] and may engage in behaviours that place them at risk for failure in medical school or in their careers.[13] Developing a PPD curriculum that is demonstrably effective in promoting desirable attributes and behaviours is a challenge that requires faculty to reflect on the learning environment as well as the curriculum content.[14] Many objections can be put forward, and schools that are contemplating curriculum reform need to consider and address them with care.

Objections to a PPD curriculum

'There is not enough time'

Alongside the pressure to add more topics has come a move to reduce formal teaching time and to encourage more self-directed learning.[15] For the didactically inclined, this change represents even less time to 'get the message across'. Numerous stakeholders lay claim to the core curriculum and competition is bound to become intense, especially if there is no central curriculum committee to maintain a balance between disciplines, both current and emerging. Schools that plan to introduce PPD as a new strand must consider how this can be achieved without curriculum overload.

'PPD is not teachable'

Students enter and leave medical school with different temperaments, attitudes and insights. Their ultimate career choices usually reflect these differences and it is not without good reason that we think of 'typical' physicians, surgeons and so forth.[16] Some observers argue that PPD programmes should not try to force all students into the same straitjacket of political correctness. There is a genuine concern that learning PPD is quite different from acquiring facts or clinical reasoning skills. We recognise the gap between competence and

performance and there is no guarantee that students who can demonstrate competence in PPD will perform ethically in the future. Could students simply fake PPD? Students might, for example, participate in required teamwork exercises while maintaining a dislike of teams and a belief that teamwork has little to offer in patient care. As a measure of 'failed PPD', cheating in medical school remains a problem,[17] with electronic methods serving as additions to age-old techniques. Finally, there is the problem of assessment. Even if PPD can be taught, the argument continues, it is meaningless unless it is also assessed, but what is an acceptable level of 'self-care' or 'reflectiveness'? Can and should these qualities be dissected and assessed in the same way as cognitive or psychomotor competencies?

'Medical schools are not equipped to provide courses in PPD'

Most of today's doctors did not experience PPD as an explicit component of their own undergraduate experience. Ethics lectures often dealt with esoteric issues that graduates were unlikely to encounter in day to day clinical practice and even less likely to influence. Religious, cultural and social differences can create divisions when it comes to discussing and comparing ethical values. Teamwork exercises are likely to feel artificial unless students can grapple with authentic challenges. Discussions concerning self-care run contrary to the adolescent/young adult ethos of risk taking behaviour and personal invulnerability. Inequalities in health care on a national and an international scale are so daunting that both faculty and students are tempted to ignore them. It is little wonder that teachers begin to feel out of their depth. Unfortunately, the strategy of importing experts from other academic disciplines confirms the impression that this is exactly what the problem is.

'Some things may be better left unsaid'

Although it is less common than in the hierarchical medical care systems of years gone by, some still argue that talking about substance abuse, sexual boundaries, whistle blowing, authoritarian structures or the commercial aspects of medical practice are not really the stuff of polite medical school conversation. A tacit agreement to present a united front may mean that certain information about quality and standards of care should not be discussed openly. 'Sticking together' as a profession is seen as an important defence against rampant consumerism, litigation and unreasonable public demands on doctors.[18]

The arguments in favour of a PPD curriculum

The time factor

It is easy to underestimate the difficulty of the tasks that students undertake as they meet complex personal and professional issues in medicine for the first time. Although time is short and curricula are crowded, explicit attention to PPD should help students to prioritise their learning needs and make the best use of the time available. Dealing with personal and professional issues that can impede progress (poor organisation, poor self-care, psychological problems, drug and alcohol use) may actually save time and distress by helping students to recognise and avoid some of the common pitfalls. While students vary in their developmental stages, this does not mean that PPD cannot be taught. A similar argument was posed in opposition to the teaching of communication skills, but this argument has long since been discredited.[19]

Teachability

If medical schools rely on the kind of PPD that simply 'happens' along the way, they may risk allowing the 'hidden curriculum' to prevail.[11] Reliance on role models as the sole means of teaching runs the risk of perpetuating current problems, if students observe that some doctors have dubious ethical values, poor communication skills and haphazard approaches to self and patient care.

Faculty expertise

Concerns about the new skills that teachers need for teaching PPD are valid, but faculty who teach on PPD courses say that they also benefit from their involvement and from the process of rediscovering some of the milestones that were part of their own PPD in medical school. Personal and professional development programmes can be enriched by other health disciplines and by psychology, sociology and philosophy, provided that medical teachers take a central responsibility for the quality and relevance of the teaching sessions.

An attitude of openness

Finally, the argument that some things are better left unsaid needs the strongest rebuttal of all. An atmosphere of secrecy stands in direct opposition to the need for detachment and integrity in the exercise of professional judgement. Events at the Bristol Royal Infirmary,[10] at Alder Hey Hospital[20] and other experiences in

the UK alone have cost lives or led to significant physical, psychological and social harm. This has been recognised in the response of the UK Department of Health to the Kennedy Report.[10] Through recourse to secrecy doctors have opportunities to violate boundaries in relation to confidentiality, sexual, behavioural and substance abuse. They can also use secrecy to advance personal greed, a particular temptation for some. The commercial sector marches to the beat of a different drum, and students need to understand why the values of the commercial and professional sectors of the community will always be in opposition.[21]

The components of a PPD curriculum

The component parts are not themselves new, but they are not always organised as a distinct theme or strand. A defined PPD curriculum typically includes:

- communication skills, including small and large group communication;
- humane care;
- self-care, for students, doctors and doctors' families;
- ethics and health law, and
- medical humanities.

Communication skills

The theory and practice of doctor–patient communication have become integral parts of virtually every medical programme over the past 20–30 years.[22] Other types of professional communication, such as those required for teamwork, for presentations to large audiences or for written communication, are increasingly being recognised as part of a PPD curriculum.

Humane care or 'humanism'

Called by various names, this element of the curriculum is concerned with promoting a biopsychosocial view of health care. It is likely to be most successful when clinical teachers model behaviours that students admire,[23] support student autonomy[14] and demonstrate respect for patients by encouraging them to play an active role in teaching and learning.[24]

Self-care

Many medical schools have recognised the particular stresses that medical students and graduates typically experience[25] and students are now more aware that doctors are vulnerable to 'burnout', the abuse of alcohol and other drugs and psychological disorder. Students with early clinical exposure now see for themselves the economic and bureaucratic pressures on health professionals and the health care system.

Ethics and health law

Unlike self-care, ethics and medico-legal teaching have always been considered essential to medical curricula, but teaching methods are becoming more systematic, with medical schools and medical organisations producing explicit curriculum guidelines.[26,27] Increased emphasis on virtue ethics[28] and on quality and safety in the delivery of patient care[29] has added a practical dimension beyond the sometimes esoteric topics in bioethics curricula.

Medical humanities

There has been increasing interest in programmes of study in the medical humanities and some have proved very successful.[30] An unresolved issue for many medical schools is whether such programmes should be considered part of the core medical curriculum[31] or whether they should take the form of special study modules for students with a particular interest, avoiding the imposition of such programmes on unwilling students who would learn professionalism more effectively in other ways.

A PPD framework

Even though PPD is important and its component parts relatively clear, the lack of a coherent framework for planning and delivery could lead to a piecemeal approach, with PPD simply 'tacked on' to the real curriculum. Personal and professional development is about development, that is, behaviour change over time. Eisenberg was able to demonstrate just how weak a force education can be when trying to change doctors' behaviour. If we are to change students' behaviour (and that includes preserving desirable behaviour in the face of the hidden curriculum) then it makes sense to create a framework that will enable us to identify every possible opportunity for doing so.

Theories that have already influenced curriculum design come from adult learning theory,[32] self-directed learning,[15] social cognitive theory and concepts of self-efficacy,[33] and the idea of the reflective practitioner.[34] Constructivist approaches[35] acknowledge students' prior experiences in the active construction of meaning and emphasise the roles of co-operation and context. These theoretical perspectives come together in Vermunt's model of 'process oriented instruction',[5,36] which

Table 1 A framework for education for professionalism

Factors influencing behaviour	Processes in learning		
	A Cognitive	B Affective	C Metacognitive
1 Education	Provide a clear outline of professional requirements and standards; ethical and legal principles; ethical reasoning	Use personal experiences of patients, families and colleagues Provide evidence of benefits of PPD for patients, profession and health care system; harm done by lapses	Provide opportunities for reflection within formal teaching sessions and adequate time for reflection outside formal teaching sessions
2 Feedback	Provide formative assessments of knowledge and reasoning	Give feedback on positive personal and professional behaviours from faculty and encourage feedback from patients and colleagues	Give feedback that enables and encourages reflection, based on knowledge and understanding of students' needs
3 Rewards and incentives	Ensure cognitive mastery; include relevant PPD in other parts of the programme, especially clinical teaching; ensure that summative assessments reward knowledge	Remember the intrinsic rewards in satisfying altruistic drives and drives for self-actualisation; give extrinsic rewards including encouragement by admired role models	Ensure that teaching rewards reflection, (e.g. thoughtful discussions); create assessments such as portfolios and assignments with reflection built in
4 Disincentives and penalties	Ensure that students know that poor performance in assessment can lead to failure	Do not condone behaviours considered to be unprofessional; ensure that standards are clear and that failure in assessment matters	Do not reward recall without evidence of ability to reflect
5 Participation	Encourage student representation on curriculum committees; student participation in determining content and process of teaching programme	Allow students to experience responsibility for shared learning (e.g. small group tasks, collaborative projects); encourage peer support, provide opportunities for realistic professional simulations (e.g. clinical practice improvement projects)	Foster discussion and debates on ethical and professional issues; provide opportunities for students to understand the values of others; provide opportunities to experience human diversity

emphasises the complementary roles of cognition, affect and metacognition in the process of memory formation.

Table 1 places both theory[36] and empirical research[7] into a framework for the design and delivery of a PPD curriculum. Each cell is referenced to its place within the framework and the next section of this paper provides some examples of how each cell can be used to identify opportunities for building a programme that integrates PPD.

Influencing PPD through education

What to learn: the content of PPD (A1)
As outlined above, traditional PPD curricula usually cover topics in ethics and health law, communication skills, humanistic values and aspects of personal development such as self-care. However, the amount of PPD that can be treated with a traditional 'chalk and talk' approach is limited, because personal and professional growth is grounded in experience[6,37] rather than in the acquisition of facts.

Why to learn: the affective components of PPD (B1)
It is clear to students that professional values and competencies matter. The health and well-being of patients and families are at stake and students feel the need to discuss what can go wrong and why. News stories provide ample material for discussion and patients can contribute to teaching students.[24] When students have the opportunity to see health care from the patient's perspective, it adds to the emotional impact of PPD. Some examples in our own medical school concern teaching sessions that involve injecting drug users and adolescent patients with diabetes and meeting families involved in organ donations, both as donors and recipients. Principles of patient-centred care come alive when patients talk about what they found helpful and what they found harmful in their interactions with doctors and medical students. Patients can also be involved in teaching students a range of clinical skills including communication skills.[24,38,39] Another approach that has been used effectively in our curriculum is to invite respected

clinical teachers to discuss 'critical incidents' in their own personal and professional development. When one of our senior clinicians describes a personal crisis in the form of a depressive disorder or other illness, or the experience of making a serious mistake, the statistics on doctors' self-care take on a new significance. The fact that clinical teachers can model the behaviour of admitting to their own fallibility is in itself a valuable learning experience for students.

Interprofessional learning[40] provides another dimension for PPD because it enables students to understand more about the perspectives of other health care providers and about using teamwork to improve health care.

How to learn: the metacognitive component of PPD (C1)
One of the most important preconditions for reflection is protected time. This requires the incorporation of time for reflection within the teaching programme and the setting of an upper limit on the time allocated for face to face teaching overall. In addition to time, students may need help with the actual process. Despite the fact that students at our medical school are all graduate entrants, their first degrees have not usually given them such opportunities and many are not aware of their own learning styles and their own values when they enter the programme. A PPD curriculum should help students to acquire the skills they need to continue to be reflective practitioners in the future.[34]

Influencing PPD through feedback

Shaping what students learn through formative assessments (A2)
The process of shaping the learning experience can take the form of informal, everyday feedback as well as more formal assessment processes. Students focus on parts of the curriculum for which they are rewarded, so if students receive regular feedback on their understanding of the basic and clinical sciences but not on their knowledge of the PPD elements of the curriculum, they will spend their time on the former. The challenge is to find opportunities for students to receive regular informal and formal feedback on their knowledge and understanding of PPD issues.[41]

Feedback for motivation (B2)
From a student's perspective, obtaining high quality feedback remains one of the single most problematic areas in medical education,[42] especially in clinical settings.[43] Feedback has an immediate emotional impact. Unfortunately, most students and doctors can easily remember instances of feedback that reduced rather than promoted a sense of self-efficacy.[33] Stu-

dents repeatedly tell us that they value good quality feedback[44] because it motivates them for learning, but many standard rating forms used for clinical attachments include no more than a general measure of professional behaviour that usually receives an automatic 'tick' in the appropriate box.[45] One of the most difficult challenges for faculty development is to change this behaviour and encourage faculty to take a more thoughtful approach to feedback. The Eisenberg model advocated in this paper would suggest that we may need to create a framework similar to that shown in Table 1 and apply it to the challenge of changing the behaviour of clinical teachers as well as students!

Feedback that encourages reflection (C2)
Because feedback must be based on valid and reliable observations, teachers need to understand how their students view themselves and their professional roles. This kind of understanding takes time, but with increased class sizes it is difficult to get to know individual students. One way of mitigating the effects of larger classes is to organise the curriculum so that students can provide peer feedback.[46] Innovative approaches such as the use of E-mail[47] can also be used, as E-mail can help fulfil the criteria of good feedback by making it timely, specific and linked to learning objectives. While electronic communication is valuable for students at a distance in community placements, it is clearly no substitute for face to face interaction whenever possible. We have found that teachers who model the ability to reflect on feedback on their own teaching and practice are another important element of the PPD process.[48] Defensive teachers and institutional structures that discourage feedback can quickly extinguish the process and make students unwilling to risk speaking out.

Influencing PPD through rewards and incentives

Ensuring an adequate knowledge base (A3)
Students are rewarded when they develop a sense of mastery over complex issues.[33] This mastery can be reinforced when information relevant to PPD is integrated with other subjects rather than being taught in isolation. Problem-based learning provides the opportunity to incorporate PPD issues into realistic scenarios for small group discussion. Clinical teachers who demonstrate clinical expertise and understanding along with concern for PPD issues are the kinds of role models whom students find most credible.[23] Despite difficulties in making valid and reliable assessments of PPD within formal examination structures, PPD needs to be included simply to establish its place in the curriculum.

Affective rewards and incentives for PPD (B3)
Students are rewarded when their learning environment is supportive, both of the students and of the values presented in the PPD curriculum. Students need opportunities to satisfy altruistic drives and receive positive feedback from admired role models.[49] Over time, these experiences contribute to a greater sense of autonomy and prepare students to follow a pattern of lifelong learning.[14] This process is important because intrinsic rewards are more likely to sustain professional behaviours than extrinsic rewards.[49]

Rewards and incentives for reflection (C3)
Because reflection takes time, PPD assessments will usually need to take the form of in-course assessments, portfolios and various types of term or year-long assignments. These allow for reflection both in action and on action.[50] An extended attachment to a family, a clinical service or some other organisation can give students the opportunity to develop and critique their own ideas and deepen their understanding of their personal and professional roles.

Influencing PPD through disincentives and penalties

Taking PPD seriously (A4)
What happens if students fail to master the content of the PPD curriculum? The most obvious penalty for a student is to fail an assessment. There are relatively few hard facts in PPD, but assessments need to include questions on ethical and medico-legal principles that are critically important for future practice.[51] Concepts such as confidentiality and consent can be included in written assessments and the communication skills needed to support these concepts can be tested in other formats such as the ethics objective structured clinical examination (OSCE)[52] and by the use of standardised patients.[53] While it is difficult to ensure reliability in the assessment of a complex skill, such as ethical reasoning, for example, the alternative decision to omit PPD assessment altogether sends out the wrong message. A reliable assessment of students' PPD requires attention to a range of different measures.

Motivation to stay out of trouble (B4)
The hidden curriculum is influential because it is informal and 'collegial' – it teaches that it is not necessary to practise what you preach and that one can get away with unprofessional behaviour by mutual agreement. 'Constructive disapproval' by admired role models is one way of discouraging students from behaviours that are inconsistent with high professional standards. Students need a clear statement of what

professionalism is, what it means to be 'unprofessional' and what the results of unprofessional behaviour entail in terms of meeting the standards set by their medical school.[54] They need to know that the learning environment actually reflects these standards rather than paying them mere lip service.

The consequences of unreflective behaviour (C4)
Assessments should not reward (and may actually need to penalise) evidence of rote learning or factual recall without understanding.[55] The challenge for faculty is to build assessments that require students to demonstrate their understanding across the cognitive and the non-cognitive aspects of the curriculum.

Influencing PPD through student participation

Students' involvement in the curriculum (A5)
In fostering students' personal and professional development it makes sense to use the medical programme itself as a space for rehearsing some of the professional skills that graduates will need in the future. In our programme there are opportunities for participation via peer teaching and we encourage students to use their own experiences to construct learning opportunities for other students. Students have designed and delivered sessions on a variety of illness experiences ranging from eating disorders to Crohn's disease, and on professional issues such as indigenous health, sexuality and careers in medicine. Each year students provide introductory sessions for applicants to the medical programme and each interview panel has a student member. Students also organise peer support for more junior medical students. Representation on educational committees gives students a formal mechanism for participation in curriculum design and management.

Experiencing professional growth through participation (B5)
Students can feel that they are genuine participants in the PPD curriculum if faculty create a learning environment that values their active involvement. Small group problem-based learning (PBL), shared assignments and peer teaching are examples of learning activities that are intrinsically enjoyable and relevant to future practice.

Professions are characterised by a shared responsibility for the standards of practice of all members at whatever stage. Encouraging students to experience this sense of responsibility for one another from an early stage may help to build teamwork skills and reduce destructive competition.[14]

Participation in the reflective processes (C5)
One of the most important factors in continuous course improvement in our own programme is the feedback collected via an online feedback system.[48] Students are encouraged to reflect on all aspects of the programme. When discussing the value of different types of learning experience, there needs to be an atmosphere of mutual acceptance and open-mindedness so that students can explore new ideas about the teaching of PPD, especially when there are differences in students' and teachers' backgrounds and their cultural, social and religious assumptions.

Further development

Established patterns of behaviour are difficult to change.[7] Selecting students whose attitudes and behaviours are consistent with the standards expected of doctors is one desirable strategy for promoting professionalism. It may prove to be among the most important, but we are not yet certain that this is the case. Longterm outcome studies will help to demonstrate whether 'nature' or 'nurture' wins the day, but there can be no definitive resolution. Whatever the relative importance of the selection processes and the programme of study itself, it is essential that medical schools preserve and foster those humanistic qualities that students bring with them into medical school.

A framework that plots learning processes against the determinants of behaviour in actual clinical practice may help to identify what might be under-represented in the programmes of study in individual medical schools. Table 1 provides a few suggestions but is in no way prescriptive. What is much more important is the fact that it can be used to formulate 15 questions for medical schools to address – one for each cell. These questions take the form: 'To what extent do students in our medical school participate in determining the content and style of delivery of the PPD curriculum?' or: 'How do we ensure that our students are encouraged to develop metacognitive skills?

While evidence-based education is still in its infancy, we already have ample evidence, freely available from the field of health policy research, of the factors that influence human attitudes and behaviour. This evidence can be translated and applied to medical education so that we can test its value in guiding the theory and practice of PPD.

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