

# Patient-oriented learning: a review of the role of the patient in the education of medical students

John Spencer,<sup>1</sup> David Blackmore,<sup>2</sup> Sam Heard,<sup>3</sup> Peter McCrorie,<sup>4</sup> David McHaffie,<sup>5</sup> Albert Scherpbier,<sup>6</sup> Tarun Sen Gupta,<sup>7</sup> Kuldip Singh<sup>8</sup> & Lesley Southgate<sup>9</sup>

**Aim** To explore the contribution patients can make to medical education from both theoretical and empirical perspectives, to describe a framework for reviewing and monitoring patient involvement in specific educational situations and to generate suggestions for further research.

**Methods** Literature review.

**Results** Direct contact with patients can be seen to play a crucial role in the development of clinical reasoning, communication skills, professional attitudes and empathy. It also motivates through promoting relevance and providing context. Few studies have explored this area, including effects on the patients themselves, although there are examples of good practice in promoting more active participation.

**Conclusion** The Cambridge framework is a tool for evaluating the involvement of patients in the educational process, which could be used by curriculum planners and teachers to review and monitor the extent to which patients are actively involved. Areas for further research include looking at the 'added value' of using real, as opposed to simulated, patients; more work on outcomes for patients (other than satisfaction); the role of real patients in assessment; and the strengths and weaknesses of different models of patient involvement.

**Keywords** Clinical competence; communication; education, medical, undergraduate, \*methods; professional-patient relations; review literature (publication type); teaching, \*methods.

*Medical Education* 2000;34:851-857

## Introduction

'For the junior student in medicine and surgery it is a safe rule to have no teaching without a patient for a text, and the best teaching is that taught by the patient himself.'

William Osler, 1905<sup>1</sup>

To many people, medical education without patients would be an extraordinary concept. Patient contact during a doctor's training is generally seen to be a 'good thing' – the earlier it starts, the better. Teachers work hard to ensure clinical contact, students love it and ask for more, and patients themselves seem only too willing to help. The traditional apprenticeship approach to training has depended crucially on patient contact. The

importance of what can be learnt from 'the patient' has been repeatedly emphasized in writings about both the learning and the practice of medicine. Generations of students have been regaled with advice such as '*Listen to the patient – he is telling you the diagnosis*'. Features such as 'A memorable patient' in the *British Medical Journal* testify to the continuing fascination anecdotes about patients hold for doctors, and to the perceived educational potential of reading and thinking about interesting cases. Traditionally, however, the role of the patient in medical education has been passive, with the patient acting as interesting teaching 'material', often no more than a medium through which the teacher teaches.

For something that has been considered such an integral part of medical education, the literature on the role of the patient in the educational process is limited. The greater proportion deals with the role of simulated or standardized patients in assessment.<sup>2,3</sup> Publications on the role of *real* patients in teaching and learning have focused largely on patient satisfaction with teaching encounters,<sup>4,5</sup> and only a few have looked at what patients can actively contribute to teaching other than just 'being there'.<sup>6</sup>

<sup>1</sup>University of Newcastle upon Tyne, UK; <sup>2</sup>Ottawa, Canada; <sup>3</sup>Flinders University, Casuarina, Australia; <sup>4</sup>St George's Hospital Medical School, London, UK; <sup>5</sup>Wellington School of Medicine, New Zealand; <sup>6</sup>University of Maastricht, Netherlands; <sup>7</sup>Townsville, Australia; <sup>8</sup>Singapore; <sup>9</sup>CHIME, University College London, UK

**Correspondence:** Dr John Spencer, Department of Primary Health Care, University of Newcastle upon Tyne, Newcastle upon Tyne, NE2 4HH, UK

At the same time, medical schools have been criticized for being remote from the populations they serve and for producing graduates who are unable to meet the needs of the community.<sup>7,8</sup> They have been exhorted to review their 'mission' and to ensure that the education they provide is more relevant to societal needs, as opposed to serving the needs of academy. Thus, recent influential policy documents on medical education from bodies such as the United Kingdom's General Medical Council and the Association of American Medical Colleges,<sup>9,10</sup> have recommended that medical schools ensure early patient contact and community placements in order to promote a better understanding of patients' experience of ill health, the social determinants of health and disease, and the needs of the community.

Furthermore, the relationship between health care providers and the public is changing, moving from the traditional paternalistic model of the passive patient, to one of the 'expert patient'<sup>11</sup> in partnership with professionals, something that is now firmly on the agenda of policy makers.<sup>12,13</sup>

In this paper we explore what patients can contribute to the education and training of doctors, from both theoretical and empirical standpoints, then describe a framework for evaluating the interaction between student, teacher and patient. Finally we discuss the potential for further research and development in this important area.

## What does contact with patients contribute to medical education?

### Theoretical perspective

Current theories about clinical reasoning argue that it depends upon the development of so-called 'illness scripts',<sup>14</sup> cognitive structures that describe features of prototypical cases. These contain clinically relevant information about the particular problem, its presentation, key features, consequences and, most importantly, the context in which the problem develops. When a clinician sees a patient, she searches her memory for

an appropriate illness script, then individualizes it by adding specific information relating to the present case. This is the basis of pattern recognition, which is the essential problem-solving strategy used in most instances. Illness scripts are idiosyncratic, are often 'pegged' to real patients, and medical students start compiling them the moment they begin to meet their first patients. Contextual information (about the patient, the setting and so on) is also stored alongside the clinical information, which enables more efficient retrieval for future use. In theory, the more opportunity the student has to see the different manifestations of the disease, ideally through patient contact in a range of appropriate contexts, and to discuss and reflect on them, the richer their 'library' of scripts will be.

Contact with patients also helps emphasise the relevance of the learning which, in turn, is a powerful motivator.<sup>15</sup> *'At last – this is what we came to medical school to do!'* is a common sentiment expressed by medical students seeing patients for the first time. Direct involvement in patient care also helps promote relevance, and may help counter the ethical dilemma commonly experienced by students, that of exploiting the patient's goodwill for their own education without contributing anything to their care.

An emerging theme in medical education is the need, in our increasingly pluralistic communities, to help encourage students to value cultural diversity through the development of appropriate attitudes.<sup>16</sup> A model for 'understanding the whole person' in the context of teaching and learning has been described, which emphasises the importance of focussing on the patient as an individual.<sup>17</sup> It offers the learner insights, not only into the role of 'culture' in health and illness, but also into areas such as the social origins of disease, health and illness beliefs and behaviour, how problems present, the importance of eliciting the patient's ideas, concerns and expectations, and an appreciation of the patient's resources, as opposed to focussing solely on their medical problems. Patient contact can facilitate effective exploration of these areas.

### Key learning points

- contact with real patients plays a crucial role in the training and education of doctors, but is an under-researched area
- historically, patients have played an essentially passive role in medical education, but there are examples of good practice in promoting their more active participation
- questions for further research include: What is the 'added value' of real, as opposed to simulated patients? Does participation in teaching have an effect on health outcomes? How much active involvement is desirable and feasible? and, What is the role of real patients in assessment?

Concern has been expressed about the lack of empathy shown by some doctors, and the need to 'restore humanism in medical care',<sup>18</sup> perhaps more than ever before, as 'technology triumphs'.<sup>19</sup> Medical schools, it is argued, have contributed to this situation through an undue emphasis on the biomedical model at the expense of facilitating the personal and professional development of the students through reflection and the promotion of self awareness.<sup>20</sup> To quote one author on the subject, 'During medical education we first teach science, then we teach detachment'.<sup>19</sup> Empathy, Spiro and colleagues argue, is best learnt through spending time in conversation with patients, listening to their stories, and sharing their experiences.<sup>19</sup>

A final, and obvious, area in which contact with patients contributes to medical education is in the development of professional skills, notably communication skills. The use of real patients in communication skills teaching and learning broadly takes two forms: pre-recorded videotapes of real consultations which are then analysed; and live interviews with patients – the advantage of the latter situation is that the patient can give instant feedback to the learners.

### Examples from the literature

Research into the role of the patient has been limited. We describe here a selection of studies that have explored this area.

Stacy and Spencer looked at what patients thought they contributed to students' learning when taking part in long-term, community-based projects.<sup>6</sup> Contrary to the contention of one author that 'those patients who "teach" us about how to give care effectively and humanely are not usually aware of doing so',<sup>21</sup> this study demonstrated that, when asked, patients *did* see themselves as making specific contributions to students' education and training. They saw themselves as experts in their own condition (both in terms of telling and showing), as exemplars of the condition (intuitively, perhaps, recognizing the importance of 'illness scripts'), and as having a hand in the development of professional skills and attitudes. Even without explicit briefing, many patients seemed to understand not only how they could actively facilitate the students' learning, but could also suggest ways in which it might be further developed.

The authors of a paper describing an innovative project in East London described how students' awareness of factors influencing health and quality of life could be enhanced by working in partnership with patients.<sup>22</sup> In the 'Patients as Partners' programme, students were attached on a one-to-one basis to so-called patient-partners, ordinary people with long-

term health problems recruited through community organizations, hospital doctors and general practitioners and local health groups. The students met their patient-partners several times over a period of several weeks, visiting them at home and accompanying them on various visits. The aims were to help students deepen their understanding of the factors influencing health and illness, and 'to elevate the status of patients within the educational process'. The patient-partners not only acted in the capacity of teacher and expert (sharing knowledge and expertise of their condition), but also acted as assessors, giving feedback on learning. In addition, they attended briefing meetings, helped the students to define their learning objectives, and made recommendations about training. For this they were modestly remunerated. Evaluations were very positive.

In other settings, the use of real patients as 'triggers' in problem-based learning has been shown to provide a rich learning experience, fostering in the students a sense of responsibility and encouraging them to explore complexity, to develop their communication skills and feelings, to reflect on different perspectives on a patient's problems and to access a wide and diverse range of learning resources, possibly more than with the traditional paper case.<sup>23,24</sup>

Several initiatives have been described in which real patients and/or their carers have collaborated at a more proactive level in clinical education, for example at the level of curriculum planning, or as trained and accredited teachers. These include programmes involving parents of children with multiple disabilities ('Parents-as-teachers'),<sup>25</sup> and patients with rheumatological conditions. In the latter case, the patients undergo a training programme, are accredited in their role and receive remuneration.<sup>26,27</sup> Evaluation of such programmes is invariably positive.

Finally, as mentioned earlier, the role of patients in assessment has been widely researched.<sup>3</sup> Standardized patients have been shown to be acceptable, reliable and cost-effective in a range of settings involving assessment and certification. However, research into the role of real patients in assessment is limited. One study showed that ratings from between 30 and 50 (untrained) patients were required to obtain a stable and reliable estimate of a single physician's competence.<sup>28</sup>

### How do patients benefit from involvement in teaching?

Several studies have looked at patient satisfaction with teaching encounters in a variety of settings.<sup>4,5,29</sup> The levels of satisfaction reported are high, a major element seemingly being the satisfaction of helping in the

education and training of doctors as a demonstration of gratitude for having been helped themselves. However, patients' attitudes depend on personal priorities and the nature of the presenting complaint.<sup>30</sup> Some studies have shown they are also concerned about consent and confidentiality.<sup>29,31</sup> Patients also report feeling better informed as a result of being involved in a teaching encounter.<sup>32</sup> There is little published work on other benefits. The literature on the possible adverse effects of involvement in clinical teaching is also limited, although no studies have highlighted any significant problems.<sup>33</sup> However, a study of the health care perceptions of *standardized* patients showed that these worsened 12 months after participation in objective structured clinical examinations (OSCEs). The authors were unable to show whether the effects were due to the patients becoming better educated consumers, or to variables particular to the OSCE.<sup>34</sup>

### The Cambridge framework

Despite a long tradition of using patients in medical education, the potential teaching resource available through their more active involvement has been described by one author as 'largely under-utilized'.<sup>35</sup> We have developed a framework – the Cambridge framework – which could be used to stimulate discussion about the involvement of patients in medical education. The model comprises a set of attributes of educational settings, for the most part independent of their physical location, seen predominantly from the patient's perspective, which could be altered to shape the experience for all parties. The list of attributes was drawn from the collective experience of the authors which embraced a wide range of clinical disciplines, in both hospital and the community, and the basic sciences. The list is not exhaustive.

We have grouped them under the headings: *Who?* *How?* *What?* and *Where?*, to aid description. The potential value of the framework is that it provides an overview, and offers curriculum planners and teachers possibilities for reflection on how active a role patients are playing and what they are teaching students in any particular educational encounter. It can thus be used to monitor whether there is enough variation in the involvement of patients in a course, or part of a course. It can also be applied to any learning situation involving patients, including paper-based simulations.

#### Who?

Each patient is an individual. Since most people belong to more than one cultural group, and outward mani-

festations of their background may, in any case, be misleading, it is important to respond to each patient as an individual, acknowledging the cultural context in which health and illness are expressed, and being sensitive to stereotyping and prejudice.<sup>16</sup> The list of relevant individual characteristics might include age, gender, ethnic background, socio-economic status and sexual orientation.

For the curriculum as a whole, it is important that students encounter a representative societal sample.

#### How?

This group of attributes can be modified according to desired or intended learning outcomes, as the full range of all these aspects may arise during normal patient–doctor interactions. Some attributes (such as 'novice' or 'expert' patient) can only be altered by involving different patients – but most apply to all patients.

To illustrate the use of the model in evaluating a teaching and learning situation, consider for example the 'Questioning – Informing' domain. A patient with diabetes might be prepared for a contact with a student by being asked to describe to them what it is like to have the condition. The student may also be 'primed' to learn from the patient about the experience of having diabetes – the patient as informer. Likewise, the same patient may be asked to question the student to gain a deeper understanding of diabetes and discover more about what exactly is going on with their bodies. The student will have to be prepared to give the patient information, to research any areas about which he or she was uncertain, and could send the patient (and clinical teacher) a letter informing them about their particular concerns – the patient as questioner. Consider how learning in each of these scenarios might be altered if the patient was a 'novice', i.e. recently diagnosed, or an 'expert', with long standing diabetes. A full list of the 'How?' attributes is shown in Box 1.

#### Box 1 – The 'How?'

Brief contact	Prolonged contact
Passive role	Active role
Time limited	Time committed
Trained	Untrained
Inexperienced ('novice')	Experienced ('expert')
Planned encounter	Unplanned encounter
Simulated situation	Real situation
'Questioning'	'Informing'
Known patient	Unknown patient
Focussed learning	Holistic learning
Tutor involved	Tutor not involved

**What?**

This aspect of the interaction between patient, student and clinical teacher looks at ‘content’. It describes the sort of problem the patient might present to the student. Consider a patient with a serious fracture of the ankle being involved in teaching at different points in their illness – while waiting for the X-ray result shortly after injury, waiting to go to theatre, during the operation, recovering in hospital, attending their general practitioner because unable to work, or attending for removal of the plaster. A patient in the early stages of an illness will be able to help the student understand their anxieties and fears in a different way from a patient with a long established problem who may have been given adequate and effective explanations and appropriately counselled. Likewise, patients who meet students on several occasions over a period of time, whether in hospital or in the community, will have opportunities to be involved in student learning that are not possible when there is a single encounter. A patient who is in the throes of illness will obviously tell a different story from one who is well. It is important for students to hear about both aspects. The subject of learning may be quite different at these different stages and the patient may be better placed to be involved in learning in very different ways. The ‘What?’ attributes are listed in Box 2.

**Where?**

Finally, where the interaction takes place will also alter the patient’s role in student learning and the student’s role in patient care. One might consider the different impact of learning when the same patient and student meet in the patient’s house, with the patient fully dressed and speaking their own language, or in an intensive care ward with the patient virtually naked, with no family members present, speaking in a language they have difficulty understanding. The learning opportunities and patient involvement, while different,

**Box 2 – The ‘What?’**

Undifferentiated problem	Defined problem
Straight forward	Challenging
High impact	Low impact
General	Specific
Clinical science	Basic science
Minor	Major
Simple skills	Complex skills
‘Revealed’ attitudes	‘Hidden’ attitudes
Particular focus	Generic approach

**Box 3 – The ‘Where?’**

‘Our place’	‘Your place’
Community	Hospital
‘My culture’	‘Your culture’
‘My clothes’	‘Your clothes’
Service setting	Educational setting

may offer just as much potential and are certainly just as important. A list of the ‘Where?’ attributes are shown in Box 3.

**Example of the use of the framework**

We will illustrate how the framework can be applied to define various aspects of patient-oriented learning experiences by using it to describe the Training Ward in Linköping. Here final year students from medicine, nursing and physiotherapy work in shifts on a small orthopaedic ward. They are responsible for the care of all the patients on the ward, who are mainly elderly patients with hip fractures or orthopaedic problems requiring care and rehabilitation. The students also learn about teamwork and leadership.<sup>36</sup>

Concerning the question of ‘Who?’, it is important that the patients are as representative of the population as possible, although the very nature of the setting (elderly orthopaedic patients) limits the possibilities.

From the point of the view of the patient’s role, the ‘How?’ can be interpreted as follows: there are few opportunities for prolonged contact, given that the students only spend two weeks working on the ward; the patient is probably passive (in the paper describing the ward<sup>35</sup> there is actually no mention of the patient’s role); time is limited (depending on the patient:student ratio); the patient is initially untrained and inexperienced; the encounter is planned, and of course real; and the role of the patient is ‘questioning’. The learning may be focussed on specific issues, such as pain relief, or may be of a more holistic nature (more likely the former, given the purpose of the attachment, which is to learn about running the ward); finally, the tutor is crucially involved in supervision.

If we characterize the ward experience in terms of the ‘What?’, it involves, for the most part, defined problems. The contact will be mostly straightforward for patients, unless there are complications. The supervisors should see to it that, for patients, the impact is not too high. The work on the ward involves clinical science with some basic anatomy. For some patients it will be a major experience, for others it will be minor. Although the skills required are mostly simple, to students they

will seem complex, especially when they start working on the ward. Attitudes will probably be 'revealed' (i.e. explicit). The problems may be specific or generic.

The 'Where?' of the Ward, from the patient's point of view, is 'your place', in the hospital, also 'your culture' and likely 'your clothes'. The setting is both service and educational with emphasis on the service aspect.

The description of the Ward shows how the framework can be used to generate a detailed description from various points of view. The framework helps to break down the educational setting into different elements, which can help to make course developers and teachers aware both of the patient's contribution and of what students are actually doing and learning. This can be used to adapt and improve the learning situation. For the curriculum as a whole, the description can be used to ensure that students see different patients in different settings. The framework also provides guidelines for how students should prepare for the patient contact.

### Further research and development

As stated previously, the literature on the role of the patient in medical education, both descriptive and evaluative, is limited. There are several areas in which further study is warranted.

Firstly, how much *active* involvement of patients is educationally desirable and/or feasible? These are particularly important questions at a time when the demand is very much for a more active role for patients in all aspects of health care.

Secondly, and related to those questions, what is the 'added value' of using real patients as opposed to simulated/standardized patients, and in which settings? There are major resource and organizational implications in more widespread use of the latter. There are also many potential advantages in certain situations, particularly in providing opportunities for learners to experiment in a safe environment without the possibility of harming a real person, as well as in the context of assessment.<sup>3</sup> Students and practitioners alike cannot distinguish between simulated and real patients, and their use has been shown to be acceptable, valid and reliable.<sup>37</sup> The way in which patients are used in assessment, including certification and re-certification, has been highlighted as an important area for further research.<sup>38</sup>

Thirdly, more work is required on outcomes for patients involved in medical education – both the benefits and possible adverse effects. Changing patterns of health care provision and demography in many countries are resulting in increasingly frail and sick

patients occupying hospital beds for shorter times, increasing day care, and more health care provision in the community. This is mirrored in the changing locus of medical education. Outcomes for patients and students involved in health care education will differ in each of these settings. A range of outcomes could be explored, such as quality of life and concordance, but one that may have great potential in this area is that of 'enablement'. The concept has been developed in general practice in the United Kingdom, and a simple instrument produced which assesses how 'enabled' a patient feels after a consultation, i.e. how better able they feel to cope with their problems.<sup>39</sup> This might be adaptable for use in the educational setting.

Fourthly, work is needed on the strengths and weaknesses of different models of patient involvement; this requires more precise descriptions of how exactly patients *are* involved in particular educational settings.

### Contributions

All authors contributed equally to the original concept and the development of the model during the 9th Cambridge Conference. JAS and SH each wrote parts of the first draft of the paper, JAS co-ordinated further authorship, and is guarantor.

### Acknowledgements

Acknowledgements to Gail Young for commenting on an advanced draft of the paper.

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Received 12 April 2000; editorial comments to authors 5 May 2000; accepted for publication 21 June 2000