

# Potential of using simulated patients to study the performance of general practitioners

PAUL KINNERSLEY

ROISIN PILL

**SUMMARY.** *A review of the literature on the use of simulated patients is presented. While simulated patients have become established for the education of medical undergraduates, international work suggests that they may also be of value for studying the performance of established general practitioners. A preliminary study is described in which simulated patients were used at practices in Cardiff. Roles were developed which would stimulate a discussion focusing on health risks. No particular practical problems were encountered but concerns were expressed about the validity of the data. Suggestions are made for the further development of the use of simulated patients.*

**Keywords:** *performance review; consultation process; patterns of work; simulated patients; research methodology.*

## Introduction

**S**IMULATED patients are actors or role players who portray the presentation of a patient to a doctor or medical student for teaching or research purposes. Using simulated patients to teach undergraduates was first described in the 1960s in the United States of America<sup>1</sup> and they are now widely used in the United Kingdom for teaching undergraduates,<sup>2,3</sup> and, to a lesser extent, for training and assessing postgraduates.<sup>4,5</sup>

To date the British literature reports on the use of simulated patients only in educational settings.<sup>2-5</sup> There are, however, examples from other countries of simulated patients being used to consult with qualified doctors at work in their own surgeries.<sup>6-11</sup> Used in this way simulated patients have potential for studying the performance of doctors and the way health care is actually delivered.

This paper reviews the use of simulated patients in studies of practising doctors in order to focus on their potential value for continuing medical education and research in British general practice. We draw on both published reports of their use abroad and our own experience in a pilot study.

## Use of simulated patients with qualified doctors

Among the examples of the use of simulated patients for research purposes is a Canadian study to determine whether physicians practising in government health centres behaved differently in terms of prescribing for patients with tension headaches, from physicians working in private clinics.<sup>6</sup> An American project used simulated patients to evaluate whether a programme of continuing medical education changed the way in which family physicians discussed sexual risks with patients requesting contraceptive advice.<sup>10</sup> There are also examples of the use of simulated patients in quality assurance programmes in New Zealand<sup>8</sup> and

the Netherlands:<sup>11</sup> in these studies standards were set by groups of doctors before the consultations and the simulated patients assessed actual levels of performance.

The attraction of using simulated patients in studies of established general practitioners is that they provide a method of gathering information about the actual performance of the doctors.<sup>11,12</sup> Indirect methods such as audit of medical records, simulations using written material,<sup>13,14</sup> photographs<sup>15,16</sup> and computers<sup>17</sup> have all been used with varying degrees of success to assess competence but, in fact, provide limited information about performance, that is what actually goes on between patients and doctors in everyday practice.<sup>7,11,12,18</sup> In contrast, direct observation or audio/videotaping of consultations allows for the collection of data which closely represent actual performance. This has advantages since it has been argued that it is performance rather than competence which should be the principal object of study and assessment.<sup>9,11,12</sup>

## Advantages of simulated patients

There are practical and ethical considerations that favour the use of simulated patients rather than real patients observed directly or videorecorded. The content of simulated consultations is predetermined by the researchers thus providing an efficient method of data collection. With training, simulated patients can be standardized so that each presentation to the doctors is essentially the same.<sup>7,18,19</sup> This is of particular value when assessing doctors or making comparisons between individual doctors.<sup>19</sup> In addition, simulated patients can be used to provide feedback on the consultations to the doctors, a powerful technique for training.<sup>2</sup>

There are also legitimate concerns that patients consulting their general practitioner may prefer not to be observed.<sup>20</sup> The use of simulated patients avoids these ethical difficulties and, since they are people in good or stable health, it is unlikely that involving them in research will cause distress.

## Validity of method

Researchers using simulated patients must consider the validity of this method. In any study involving such patients, the validity of the research is threatened by the fact that research is taking place and doctors are aware that they are being observed, and the fact that doctors may behave differently towards simulated patients. The former is common to much research in general practice, and the latter is the focus here. For valid data collection, it needs to be clearly demonstrated that the actions taken by the physician in dealing with a simulated problem are similar to those taken when dealing with a real patient with the same problem.<sup>21,22</sup> The ultimate test of this is whether doctors are able to pick out the simulated patients in a blind trial; there is already a body of evidence to suggest that simulated patients are successful at passing this test and are presumably treated in the same way as a real patient would have been.<sup>7-9,23</sup>

Simulated patients can thus be used in two ways: overtly when the doctor knows that the patients are simulated<sup>10</sup> or covertly when the doctor is unaware which particular patients in a surgery are simulations.<sup>6-9,11</sup> Overt use is likely to be less threatening to doctors because they are aware of when they are being observed. The drawback is that the observed performance may be felt to be in some way special and not representative of day-to-day practice. The degree to which doctors being on their 'best behaviour'

P Kinnersley, MRCP, lecturer in general practice and R Pill, MSc(Econ), PhD, senior research fellow, Department of General Practice, University of Wales College of Medicine, Cardiff.

Submitted: 22 September 1992; accepted: 21 December 1992.

© *British Journal of General Practice*, 1993, 43, 297-300.

is felt to compromise the research depends on the aim of the project. The usefulness of carrying out research on 'best behaviour' needs to be further explored. Nevertheless, for descriptive research studies concerned with the process and content of the consultation or studies involving formative assessment 'best behaviour' is an appropriate area for research.

Covert use of simulated patients can arouse strong feelings and may be perceived by some as unethical.<sup>24</sup> Kilby reacted to a Dutch report<sup>23</sup> in the following way 'Let us not rely on stool pigeons to maintain the quality of general practice.'<sup>25</sup> In addition, covert use of simulated patients is likely to pose practical problems and be more time consuming than overt methods since considerable pains need to be taken to achieve undetected entry.<sup>6-8</sup> This is likely to be even more of a problem where doctors have fixed patient lists although a recent study from the Netherlands has demonstrated that it is feasible.<sup>23</sup>

The great advantage of covert studies is that if doctors do not detect the simulation they must behave as they would when dealing with a real patient. This makes the validity of the data unquestionable. Hence, this method is likely to be reserved for those studies in which validity is of great importance such as those concerned with monitoring and quality assurance in which day-to-day working performance is assessed.

### British illustration

The University of Wales department of general practice in Cardiff has an established research interest in the way that general practitioners discuss risk with patients, stemming from earlier work on lay beliefs about health risks and health maintenance<sup>26,27</sup> and awareness of the problems faced by health professionals in broaching the modification of lifestyle and preventive behaviour in the consultation.<sup>28,29</sup> Using qualitative methods, one of us (R P) carried out a pilot study to generate concepts and theories about this particular aspect of communication in the consultation. The data required for detailed analysis were transcripts of medical encounters where the topic of risk might be expected to be on the agenda. Recording actual surgeries would have meant that many consultations would have been largely irrelevant for analysis purposes and hence simulated patients seemed an attractive option. The use of simulated patients ensured that appropriate data could be collected more speedily than would otherwise have been possible, and the scenarios put forward could be controlled so that each doctor was presented with the same predetermined stimulus. Comparability is desirable whether one is seeking to apply an existing coding framework to an interaction in order to evaluate performance, or to generate a theory by detailed analysis of empirical data.

The pilot study offered the opportunity to explore the practical problems of using simulated patients with qualified doctors in their own surgeries and to obtain reactions to this methodology.

### Pilot study

Three actors, with experience of acting for educational purposes, were recruited through our personal network and roles were prepared which offered opportunities for discussing risk. Three roles were originally prepared. However, after four sets of consultations it was clear that role three was too similar to role two to be of additional benefit; as a result a fourth role was substituted (Appendix 1).

The actors were told in general terms about the interest in risk, and the roles were allocated to them according to age and sex. Training was deliberately brief and the actors encouraged to draw on their own experiences and family history for background. Five men and three women doctors volunteered to participate in the study. Four were members of the clinical academic staff of the department of general practice, University of Wales,

and the other four were recruited from the local trainers' group. The doctors were informed that they would be taking part in a study using actors as simulated patients but were not informed about the content of the cases or about the particular interest in risk.

Arrangements were made for the actors to consult in succession as a mini-surgery at the doctors' own premises. All the doctors were used to 10 minute appointments and they were told to see the three simulated patients as if they were real patients. An audiotape recorder was placed on the doctors' desks and left running throughout the consultations. After each mini-surgery the doctors were asked to use five-point Likert scales to rate how believable each case was, how similar to their normal surgery was the mini-surgery and how comfortable they felt. As is often the case with small pilot studies, active discussion about the session between the participants and one of the researchers proved most useful. The tape was collected and returned to the department of general practice for analysis.

### Observations on the data collection

This study is in no sense a controlled study. However, we felt that our experience might be useful as a spur to further systematic research on the overt use of simulated patients, and to further debate about the potential of both overt and covert use.

The process of data collection was straightforward with no particular practical problems and was felt to be generally acceptable by the general practitioners. Indeed, the doctors reacted with enthusiasm to the study. However, all the doctors commented that it would be unusual to have three such consultations consecutively in a normal surgery.

The consensus was that the actors were believable as patients, but three out of the eight doctors said that they were not at all like the patients in their own practices. Further discussion revealed that the actors were felt to be more assertive and to ask more questions than typical patients on these doctors' lists. The doctors seemed to be saying that the consultations were different in that they were more challenging and that they felt under pressure to cope with unfamiliar demands. These comments seemed to relate to the social class of the patients in the doctors' practices. Further evidence was provided by a fourth doctor who commented that although the actors were more assertive than patients in her present practice, which was in a working class area, they were similar to patients in a previous practice in which she had worked, which was in a middle class area.

It is possible that the actors, knowing that it was a research project, put more pressure on the doctors than actual patients might do. Again it is difficult to judge the degree to which these comments stem from the performance of the actors or from the doctors' knowledge that their performance was being observed for research purposes. Since the consequence was that the doctors generally felt that they had had to demonstrate their best performance we were satisfied with the data gathered from this pilot study. As a descriptive project concerned with the process and content of the consultation the fact that doctors may have given more information and debated the issues more fully in the mini-surgery did not affect the validity of the analysis. Indeed, the doctors' best behaviour, produced under observation, seems a highly suitable topic for basic research.

### Discussion

No single method is suitable for investigating all aspects of the delivery of care by general practitioners. Simulated patients could offer a useful method with many advantages for researchers and monitors of performance in the UK. The initial caution about the value of simulated patients for teaching<sup>30</sup> has been overcome and they are now widely and enthusiastically

used in medical schools in the UK. The size of the international literature on the use of simulated patients for research and quality control suggests that it can only be a matter of time before such patients achieve wider use here.

Although in this pilot study the interaction between doctors and articulate patients was explored, simulated patients can be trained to represent a wide range of patients, including patients who are less articulate or appear to be uninterested in their further management. Although complicated physical presentations should probably be avoided, the technique is not confined to psychosocial problems. Indeed Barrows' original work concerned the physical presentation of neurological diseases.<sup>1</sup> An alternative approach, if information from a physical examination is needed, is to write details on a card which the patient can show to the doctor at the appropriate stage of the presentation. When selecting patients, the researcher should be aware of any hidden agendas as a result of patients' previous experiences of medical care. These could influence the presentation of the role or the giving of feedback.

It is important that, initially, general practitioners gain experience and confidence in the overt use of simulated patients. These patients offer considerable potential for peer review or more formal audit. Once a small group of general practitioners has identified a particular topic of interest, such as registration of new patients, treatment of emergencies or consultation for a specific problem, simulated patients can be used to visit surgeries and record current practice. Feedback sessions at which the small group discuss the findings should provide the safety required for discussing sensitive material. If the simulated patients attend these sessions, they may be able to enhance the educational content by providing more detailed information and allowing further opportunities for role play. This is analogous to the introduction of videorecording of actual consultations where it soon became clear that ground rules were needed to ensure that the discussion with peers was an educational and formative experience.<sup>31</sup> The crucial point is that the doctors themselves decide the topic to be investigated, give consent for simulated patients to be used and decide on the next steps to be taken. These could include the setting and evaluation of standards of care or the formulation of hypotheses for testing in a more formal way.

The covert use of simulated patients may be seen as more threatening, and a challenge to the validity of the data gathered has been made.<sup>32</sup> However, the research literature reviewed here suggests that doctors are prepared to allow simulated patients to be sent to their surgery covertly within a given period provided they are informed that this is likely to happen and are involved in the feedback. This participatory approach appears to have considerable potential since it avoids the more threatening aspects of covert use by securing the general practitioners' agreement, and also ensures that the data collected are representative of actual practice. By moving the focus of study on to actual performance the content of the research is of greater importance and its impact enhanced.

No judgements can be made on the performance of general practitioners unless adequate evidence is gathered. Performance may vary as a result of many factors and all doctors have their 'bad days'. Studies of undergraduate testing suggest that variation in examinee performance is of great importance and considerable effort is needed to ensure adequate testing.<sup>19</sup> It is likely that at least 10 consultations would be needed for any formal assessment of an individual's behaviour.

## Conclusion

We believe that the profession must take control of this methodology and establish guidelines for its use; failure to do so could lead to others (mis)-using it as a powerful monitoring instrument

to check that doctors are behaving 'correctly'. Academic departments of general practice would seem well placed to take the lead in this task since they have experience of recruiting and training simulated patients for teaching purposes, and an interest in expanding and evaluating their role in research.

## Appendix 1. Roles for simulated patients.

1. Ischaemic heart disease. Presentation: man in mid-30s wanting a cholesterol check. Background: smoker, family history of heart disease, not overweight.
2. Cystic fibrosis. Presentation: woman in early-30s thinking of starting a family. Worried that there may be a family history of cystic fibrosis. Background: uncle died as a child from 'chest trouble'.
3. Down's syndrome/implications of amniocentesis. Presentation: woman in late-30s thinking of starting a family. Background: has heard that amniocentesis may cause a miscarriage.
4. Childhood immunization. Presentation: mother wanting to discuss the advantages and disadvantages of immunization for her newborn, first child.

## References

1. Barrows HS. Simulated patients in medical teaching. *Can Med Assoc J* 1968; **98**: 74-76.
2. Whitehouse C, Morris P, Marks B. The role of actors in teaching communication. *Med Educ* 1984; **18**: 262-268.
3. McAvoy BR. Teaching clinical skills to medical students: the use of simulated patients and video-taping in general practice. *Med Educ* 1988; **22**: 193-199.
4. Hannay DR. Teaching interviewing with simulated patients. *Med Educ* 1980; **14**: 246-248.
5. Jenkins P. The use of actors as simulated patients — 3 years' experience on a day release course for GP trainees. *Postgrad Educ Gen Pract* 1991; **2**: 16-27.
6. Renaud M, Beauchemin J, Lalonde C, et al. Practice settings and prescribing profiles: the simulation of tension headaches to general practitioners working in different practice settings in the Montreal area. *Am J Public Health* 1980; **70**: 1068-1073.
7. Woodward CA, McCovey GA, Neufeld V, et al. Measurement of physician performance by standardised patients; refining techniques for undetected entry into physicians' offices. *Med Care* 1985; **23**: 1019-1027.
8. O'Hagan JJ, Davies LJ, Pears RK. The use of simulated patients in the assessment of actual clinical performance in general practice. *N Z Med J* 1986; **99**: 948-951.
9. Rethans JJE, van Boven CPA. Simulated patients in general practice: a different look at the consultation. *BMJ* 1987; **294**: 809-812.
10. Gonzalez-Willis A, Rafi I, Boekeloo B, et al. Using simulated patients to train physicians in sexual risk assessment and risk reduction. *Acad Med* 1990; **65**: 57-58.
11. Rethans J-J, Sturmans F, Drop R, van der Vleuten C. Assessment of the performance of general practitioners by the use of standardized (simulated) patients. *Br J Gen Pract* 1991; **4**: 97-99.
12. Miller GE. The assessment of clinical skills/competence/performance. *Acad Med* 1990; **65**: S63-67.
13. Taylor TR, Aitchison J, Parker LS, Moore MF. Individual differences in selecting patients for haemodialysis. *BMJ* 1975; **2**: 380-381.
14. Kuyvenhoven MM, Jacobs HM, Touw-Otten FW, Van Es JC. Written simulations of doctor-patient encounters. 1. Research instrument for registration of the performance of general practitioners. *Fam Pract* 1984; **1**: 14-19.
15. Howie JGR. Clinical judgement and antibiotic use in general practice. *BMJ* 1976; **2**: 1061-1064.
16. de Saintonge DMC, Hathaway NR. Antibiotic use in otitis media: patient simulations as an aid to audit. *BMJ* 1981; **283**: 883-884.
17. Brown RL, Carter WB, Gordon MJ. Diagnosis of alcoholism in a simulated patient encounter by primary care physicians. *J Fam Pract* 1987; **25**: 259-264.
18. Norman GR, Neufeld VR, Walsh A, et al. Measuring physicians' performances by using simulated patients. *J Med Educ* 1985; **60**: 925-934.
19. Van der Vleuten CPM, Swanson DB. Assessment of clinical skills with standardised patients: state of the art. *Teach Learn Med* 1990; **2**: 58-76.
20. Servant JB, Matheson JAB. Video recording in general practice: the patients do mind. *J R Coll Gen Pract* 1986; **36**: 555-556.
21. Fisher RWS, Poole AD. Simulated patients and the assessment of medical students' interpersonal skills. *Med Educ* 1980; **14**: 249-253.

22. Norman GR, Tugwell OP, Feightner JW. A comparison of resident performance on real and simulated patients. *J Med Educ* 1982; **57**: 708-715.
23. Rethans J-J, Drop R, Sturmans F, van der Vleuten C. A method for introducing standardized (simulated) patients into general practice consultations. *Br J Gen Pract* 1991; **4**: 94-96.
24. McConaghy N. Pseudopatients and evaluation of medical practice. *Med J Aust* 1974; **2**: 383-385.
25. Kilby JV. Standardized patients in general practice [letter]. *Br J Gen Pract* 1991; **41**: 216.
26. Pill R, Stott NCH. Choice or chance: further evidence on ideas of illness and responsibility for health. *Soc Sci Med* 1985; **21**: 981-991.
27. Stott NCH, Pill R. *Making changes: a study of working-class mothers and the changes made in their health-related behaviour over 5 years*. Cardiff: University of Wales College of Medicine, 1990.
28. Tuckett D, Boulton M, Olson C, Williams AJ. *Meeting between experts. An approach to sharing ideas on medical consultations*. London: Tavistock, 1985.
29. Williams AJ, Boulton M. Thinking prevention: concepts and constructs in general practice. In: Lock M, Gordon D (eds). *Biomedicine examined*. London: Reidel, 1988.
30. Anonymous. Simulated patients [editorial]. *BMJ* 1974; **2**: 399-400.
31. Verby JE, Holden P, Davis RH. Peer review of consultations in primary care: the use of audio-visual recordings. *BMJ* 1979; **1**: 1686-1688.
32. Smith F. Management of childhood diarrhoea [letter]. *BMJ* 1991; **302**: 788.

#### Acknowledgements

We thank the actors and the doctors who participated in this study. Members of the department of general practice, University of Wales made helpful comments on this review and Professor Nigel Stott provided overall guidance and support.

#### Address for correspondence

Dr P Kinnersley, Department of General Practice, Llanedeyrn Health Centre, Maelfa, Llanedeyrn, Cardiff CF3 7PN.

Royal College of Physicians of London

## DIPLOMA IN GERIATRIC MEDICINE

The Diploma in Geriatric Medicine is designed to give recognition of competence in the provision of care for the elderly and is particularly suitable for General Practitioner vocational trainees and Clinical Assistants. It is also suitable for aspiring candidates for any career post in Geriatric Medicine or in allied fields such as the Psychiatry of Old Age, who wish to demonstrate their knowledge of the subject.

The next examination will begin on 12 October 1993. Application forms, together with the necessary documentation, must reach the College by Friday 3 September 1993.

Candidates must have held a post approved for professional training in a department specialising in the care of the elderly, or have had experience over a period of 2 years since Full Registration or equivalent in which the care of the elderly formed a significant part.

Further details and an application form may be obtained from:

**Examinations Office**  
Royal College of Physicians of London  
11 St Andrew's Place  
Regents Park, London NW1 4LE

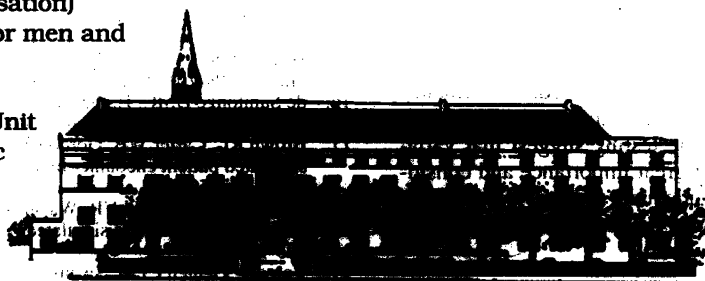


**THE CHURCHILL CLINIC**

One of London's leading  
independent hospitals.  
(Close to Waterloo Station)

For the busy general practitioner the Churchill Clinic offers a wide range of services for rapid diagnosis and treatment of patients, including:

- MRI (Magnetic Resonance Imaging)
- IVF (In Vitro Fertilisation)
- Health Screening for men and women
- Menopause Clinic
- Mother and Baby Unit
- Sports Injury Clinic
- Psychiatric Wing



For full details and charges please contact the Marketing Department on 071-928 5633. Fax 071-928 1702



THE CHURCHILL CLINIC  
80 Lambeth Road  
London SE1 7PW  
Telephone: 071-928 5633  
Fax: 071-928 1702