

# General practice

## Development and evaluation of a community based, multiagency course for medical students: descriptive survey

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### Abstract

**Objective:** To develop and evaluate an effective, community based, multiagency course (involving doctors, nurses, non-health statutory workers, and voluntary organisations) for all Leicester medical students, in response to the General Medical Council's recommendation of preparing the doctors of tomorrow to handle society's medical problems.

**Design:** Survey evaluating a task oriented, problem solving course, designed by medical students in partnership with the University of Leicester and the local community. The students, staff, and participating agencies and patients all helped in the evaluation of the first course. The students' performance on the course was also individually assessed.

**Setting:** Inner city housing estate with Jarman index 64.1 in Leicester.

**Subjects:** All third year medical students at Leicester University.

**Main outcome measures:** Results of the student assignments and students' responses to a questionnaire. Results of feedback questionnaires distributed to the patients and agency representatives.

**Results:** In a two month period, 168 students completed the first course. 163 students passed the criterion referenced assignment, 50 of whom achieved an "excellent" grade. 166 completed the questionnaire, with 159 wishing to see the course continue in the present format and 149 saying that the course linked theoretical teaching with the practical experiences gained in the community.

**Conclusions:** The University of Leicester has a viable mechanism for providing a community based, multiagency course for all its medical students. Many of the principles applied in the development and implementation of the course could be transferred to other medical schools.

### Introduction

The Department of Health and General Medical Council recommended that medical services and undergraduate medical education should change from being hospital based to being community based.<sup>1,2</sup> We devised a course to enable medical students at the University of Leicester to experience the health needs of society and the community based organisations whose

actions affect people's health, in preparation for working in the multidisciplinary teams of the future.

Published accounts of changing to community orientation in the medical curriculum warn of difficulties.<sup>3</sup> The challenge increases with the integration of non-health statutory and voluntary organisations into the curriculum to reflect policy initiatives that give impetus to multidisciplinary collaboration for health.<sup>4,5</sup> In line with recommendations of the World Federation for Medical Education,<sup>6</sup> we believe that students and community organisations should be involved in developing a community based course (which should be based on sound teaching principles) and that such a course should be supported by the university's faculty of medicine and the local NHS community trust.

We describe the background, development, course structure, course delivery, assignment outcome, and evaluation of the first community oriented, multiagency, problem solving course for third year medical students at Leicester.

### Method

#### Background to development of course

The course operates in the St Matthew's inner city housing estate, Leicester. The estate, with a ward Jarman index of 64.1, has substantial housing problems, social disadvantage, and unemployment, and many residents have unhealthy lifestyles. A multiagency approach to these problems resulted in the establishment of a centre through which statutory and voluntary organisations and residents communicate more effectively. Multiagency teaching experiences for professionals are provided, and this course is one outcome of this collaborative work.

#### Development of course

A proposed structure developed by the authors on problem based principles<sup>7,8</sup> was presented to members of student and staff committees and to 16 of AL's teaching groups from years 1 and 2. The proposal included the outline course, including objectives, teaching method, clinical presentations, agencies involved, timetabling, presentations, assessment, and feedback. The purpose of the course and its place in the curriculum were explained. Students understood that they were to refine the course. Their reactions were gauged with a semistructured questionnaire

**Table 1** Outcome of student involvement in course development

Elements of course	Outlined course	Students' opinions	Actual course
Objectives	See table 2	No change	See table 2
Teaching method	Student directed, task oriented, and problem solving	Agreed, but tutor's role stated and guidance on interviews requested	Briefing of tutors, and workbook produced for guidance
Clinical presentations	Choice offered: live interview, written case, video, or discussion	Live interview	Live interview
Agencies involved	23 community organisations listed for prioritisation	Priorities stated, with social services most requested	Cases matched to prioritised agencies; initially unable to include social services
Timetabling	Timetable of interviews	More time needed	More time for interviews and reflection
Presentations	Choices offered	Short abstracts, with clear views on format	10 minute critique of cases and group discussion
Assessment	Small group assessment based on case management plan	Firmly rejected. Opted for individual plans with help in constructing management plan	Individual management plans with construction guidance in workbook
Feedback	Questionnaires and opportunity for individual discussion	Questionnaire. No spare time for individual feedback	End point questionnaire for all students

incorporating a 5 point Likert scale. Students were also free to add comments.

All 19 students completed the questionnaire, giving 341 qualitative comments. Table 1 shows how the students' input helped us to refine the course.

### Course objectives

The aim of the course was to use the social and behavioural sciences and the humanities to enable students to gain a richer understanding of the individual patient: to show the range and roles of professionals working to meet the health needs of the population; to develop in the students an understanding of the contribution of economic, practical, and environmental factors in the causes and prognosis of illness and in the use of services; and to provide learning experiences and an exposure to diverse common health problems not normally seen in secondary health care.

### Course programme

The medical students took the course in semester five. About a third of their curriculum had been spent studying human behaviour, psychosocial aspects of health, epidemiology, and communication skills. For the course the students worked in groups of three or four, but were part of a larger cohort of 24.

Each group of students conducted a 45 minute interview with their patient, in three cases in the patient's home. They aimed to identify the patient's health problems and the impact of these problems on the physical, psychological, and social aspects of the patient's life and family. The patient's priorities and attitudes, as well as their relationship with the agencies, were explored.

The groups then undertook four 20 minute interviews with the agencies involved in their patient's care. The students discussed points from the patient's history

and the role and links of the agencies in the community. They explored the strengths, weaknesses, accessibility, and priorities of the agencies for their patient, comparing these with those identified by their patient.

Each group had to control its own progress, with experienced health visitor tutors available for facilitation. Each student had a workbook (containing the timetable, reminders on communication skills, the key objectives of the interviews, and how to create a management plan) and a resource pack (containing comprehensive information on primary care, the case histories, and the agencies involved). Each group's set of experiences was unique, the learning potential being maximised by presentations to the whole cohort.

A management assignment formed the basis of the students' individual assessments. The student had to interpret accurately the information gained during the interviews and make management decisions.

The St Matthew's community was involved from the outset through established multiagency networks. Patients and organisations were told about the course structure and their role in the interviews. Patients, particularly those with mental health disorders, were carefully selected to ensure that the course experience would not be detrimental. Where possible, the key agency worker involved with the patient was chosen to participate.

### Patient case mix

Table 2 shows the details of the case mix. Criteria used for selection of case mix were (a) wide age range; (b) a range of patient compliance; (c) a range of diseases (physical and mental); (d) social consequences of illness (poverty, unemployment, single parenthood, and isolation or loss of independence); (e) patients articulating health priorities differing from those of the community

**Table 2** Details of cases and of professionals and agencies involved

Cases	Professionals and agencies involved
<b>Case 1</b> —Aged 72, insulin dependent diabetes mellitus, obese, immobile, isolated, incontinent, very poor compliance, dependent on support from community workers	District nurse, practice nurse, Elders Project,* chiropodist
<b>Case 2</b> —Aged 85, cardiac and respiratory failure, uses home oxygen, isolated, excellent compliance, dependent on support from community workers	District nurse, practice nurse, Elders Project,* pharmacist
<b>Case 3</b> —Aged 29, lone parent, poor lifestyle, children with behavioural problems (chaotic parenting), health issues perceived as low priority	Practice nurse, health visitor, special needs teacher, What Cabin*
<b>Case 4</b> —Aged 53, severe leg ulcer, schizophrenic daughter affecting own health, poor compliance owing to differing health agendas	District nurse, general practitioner, mental health team, specialist ulcer nurse
<b>Case 5</b> —Aged 26, lone parent, agoraphobia, poor access to services for self and children, low self esteem, seeks help too late (leads to complications)	General practitioner, health visitor, mental health team, community dentist
<b>Case 6</b> —Aged 49, chronic drug and alcohol dependence (with consequence for health, employment, and social life), poorly motivated, sense of hopelessness	General practitioner, mental health team, Benefits Agency, Drug and Alcohol Advice†

\*Voluntary sector. †NHS funded.

**Table 3** Responses of 166 students to questionnaire about course

Aspect of course	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	No response
Structure good	96	61	6	1	0	2
Role of tutors good	89	63	10	2	0	2
Role of patients good	114	44	14	1	1	2
Contribution of agencies good	63	83	16	3	0	1
Presentations good	74	76	14	2	0	0
Assessment good	52	82	27	4	1	0
Outcome favourable	95	51	13	4	1	2
Course should continue	141	19	3	1	0	2

services; and (f) patients involved with various community organisations.

### Feedback

A questionnaire requesting feedback was distributed to all participating students at the end of the course. The questionnaire asked about the course structure, teaching method, tutor, suitability of the patients and agencies, and presentations. It also asked students to comment on the future development of the course, its place in the curriculum, and links with theoretical teaching. A 5 point Likert scale was used for responses (only positively phrased questions were asked). Students were invited to add comments throughout the questionnaire.

Feedback questionnaires were also given to the patients and agencies taking part.

## Results

### Assignment outcome

In all, 168 students completed the course within two months. The key components to be considered in management were included in the students' workbook. The assignment was marked against a criterion referenced, three point scale (box). In addition, case

### Components of and grades for student assignments

#### Students should:

- Be aware of the importance of the physical, psychological, and social aspects of their patient's case;
- Be aware of the impact of economic, practical, and environmental factors in accessing organisations;
- Demonstrate a knowledge of the range of organisations involved in their patient's case;
- Be aware of access to and the limitations of services provided by the organisations involved in their case;
- Recognise barriers to communication between their patient and the organisations;
- Recognise interorganisation barriers to communication;
- Appreciate importance of appropriate and effective communication in their patient's management; and
- Be aware of the priorities that need to be addressed in their patient's management plan.

#### Grades

*Excellent*—Demonstrates capability in almost all components to a high standard and a satisfactory standard in all. Correctly prioritises the management plan

*Satisfactory*—Demonstrates capability in most components to a satisfactory standard, with minor omissions in some components, and/or incorrectly prioritises the management plan

*Unsatisfactory*—Demonstrates inadequacies in several components, with significant omissions, and is unable to appreciate the need to prioritise the management plan

specific priorities, judged by the authors, were required to be incorporated into the management plan.

The student assignment, judged by the authors and an external referee, resulted in the following grades: satisfactory, 113 students; excellent, 50; unsatisfactory, 5.

### Evaluation of course

#### Student feedback

Altogether, 166 (99%) students completed the questionnaire. Results are summarised in table 3. The students responded positively to all aspects of the course. In all, 432 written comments were recorded, an average of 2.6 per student.

Of the 106 students who commented on the teaching method and structure of the course, 74 made positive comments; 20 of the 28 negative comments cited a lack of time. No negative comment was made by any student on the role of the tutor, and 45 students chose to compliment the work of the tutors.

Thirty of the 33 students who commented on their patients praised their role. Thirty eight students commented on the role of the agencies; many students (14) highlighted the problem of interviewing agency representatives who were not directly involved in their patient's care. Twenty students commented on the format and educational experience, 15 of whom offered praise. The negative comments applied to the time constraints.

In all, 149 students felt that the course linked their theoretical teaching with the practical experiences gained in the community, at an appropriate time in the medical curriculum. Altogether, 159 students wanted the course to continue in the present format of hands-on practical experience. In all, 154 students commented on this subject: 146 of their comments were positive; 66 students felt too pressurised because of the time restrictions of the course, limiting the potential benefit of their experiences; in contrast, 20 students felt positively challenged.

#### Patient feedback

Patients unanimously supported the course and their involvement in it. All would repeat this experience, describing their interviews as interesting and enjoyable. The agoraphobic patient felt an increased self confidence, describing the course as therapeutic. No patient felt harmed, even though the subject matter was at times distressing and probing in nature.

#### Agency feedback

All the agencies felt adequately prepared for their role in the course, most noting the time constraint of the interview as appropriate, challenging students to be time efficient. All were able to facilitate students to achieve the course objectives and show the impact of interagency communication—positive and negative. Most participants found that the course had an impact on their clinical commitments, but all were willing to participate in future courses.

## Discussion

We have developed a viable mechanism through which to address the recommendation of the General

Medical Council to prepare the doctors of tomorrow to handle society's medical problems.

The students' enthusiastic responses are encouraging. Many described gaining valuable and relevant medical experiences, in particular a greater awareness of psychosocial factors in the causes and management of illness. The students' responses show that they felt that the objectives of the course were achieved and that teaching and learning experiences were successfully delivered. Their success in the course assessment confirms this. Many students asked for the course to be expanded, and this should be possible to do. We believe that the experiences gained by these students will increase their ability to access and use community organisations after qualification.

We accept that all the participants in this study may have performed better than usual ("Hawthorne effect"), and this may have helped in the success of this venture into multiagency medical student training. We believe that the further development of a supporting infrastructure will establish this course, with the Fosse Health (NHS) Community Trust being ideally placed to fulfil this role. The course has subsequently run successfully in an expanded form.

We continue to run the course at Leicester University, and its success depends on many factors. Firstly, medical students and the multiagency network of community organisations in the St Matthew's housing estate were closely involved in the planning of the course; the community organisations also help us to implement the course. Secondly, the course focuses on relevant, high priority, community oriented problems and builds on the students' learning experiences over the first four semesters. The teaching method of problem based learning is ideally suited to this student directed learning experience. Thirdly, the University of Leicester values and supports this development, resolving difficulties in timetabling and ensuring the course is integrated into the curriculum. Fourthly, the Fosse Health (NHS) Community Trust facilitates the implementation of this course, providing the tutors and many of the agency representatives. Fifthly, the participation of non-medically qualified tutors is successful. Our health visitor tutors are knowledgeable about community organisations and have the right combination of professional and teaching skills. Students showed overwhelming support for this facilitation, and it is generally thought that medical students who are "taught" in an interagency environment will integrate more successfully into multidisciplinary teams.<sup>9 10</sup> Sixthly, the course is facilitated by funding from Service Increment for Teaching.<sup>11</sup> Finally, St Matthew's estate is a community within easy reach of the university. Students can therefore experience the medical problems of a society in a small geographical area.

This course has tapped the potential for community based, multiagency education in primary care for medical students in Leicester. The course has been implemented with minimal inconvenience to agencies yet provides a quality experience for all third year students. We hope that our experience will produce a useful model for colleagues in other medical schools who are striving to meet the same objectives.

We thank Professor Frank Harris, dean of the faculty of medicine, University of Leicester, for encouraging and facilitat-

#### Examples of comments given on questionnaire by students

"The practical experience I feel is so important to us, and I shall never forget some of the things we've learnt. The one message I feel is most important to me is realising the differences in patients and agencies' priorities"

"This course has been the only one to highlight properly the interaction between the patient and society"

"In the 20 minute agency interviews I learnt more about the roles of each agency than I did on my two year agency placement course"

"The Elders Project [voluntary sector] was very important and knew the patient more than any other agency involved. This project's value is underestimated, undervalued, and underfunded"

"The course has emphasised that we should look at patients holistically and work as part of a team which interacts"

#### Key messages

- Health policy increasingly emphasises the need for multidisciplinary service provision and training
- A new course for third year medical students provides practical and reproducible multiagency learning in the community
- Medical students and local community organisations participated in the development of the course
- Students received quality experiences with minimum inconvenience to agencies
- The structure of the course could be used in other medical schools

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Contributors: AL was the driving force behind the establishment of Prince Philip House, where the course took place. AL and SP developed the idea for the student attachment. AL undertook the initial consultation work with the students, after which she and SP designed the course in detail. AL coordinated the course delivery, with support from the faculty of medicine provided by SP. AL and SP analysed the student feedback and wrote the paper. Both authors are guarantors for the paper.

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Conflict of interest: None.

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