

DEVELOPMENT AND EVALUATION OF FOUR WEEK ATTACHMENTS  
IN GENERAL PRACTICE AT THE UNIVERSITY OF GLASGOW

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**ABSTRACT**

There is an increasing consensus that a considerable proportion of undergraduate clinical medical education could be shifted into community settings, primarily general practice. This would help to solve many of the difficulties facing hospital teaching of medical students, and enable the aims of the Education Committee of the General Medical Council to be reached more fully. Against this background, it was decided to introduce a compulsory four week attachment in general practice, at the University of Glasgow, for the first time, starting in April 1992, for students undergoing their final clinical rotation.

The aims of this thesis are: firstly, to describe the organisation of the attachments, the tutors and practices involved, the course objectives and tasks, the effect of the attachments on student attitudes, and its effect on patient attitudes; secondly, to examine in detail an experiment in problem based learning and an audit project which were used as teaching methods during the attachment and; finally, to evaluate all aspects of the attachments in order to produce recommendations, to improve the future learning opportunities for students.

The methods used to complete this research were: detailed postal questionnaires applied to the general practitioner tutors, before and after the attachments, and face-to-face discussions with large groups of tutors; detailed questionnaires applied to the students, at the start and at the end of the attachments, and tape recorded interviews with 25% of the class and; simple questionnaires applied to patients three months before the attachments, immediately before a consultation and immediately after a consultation, where a student was present.

111 [90%] of the tutors, who had expressed an interest in the attachments, replied to an initial questionnaire, before the attachment, and

72 [72%] of those, who taught the course, replied to a follow-up questionnaire, after the attachment.

Two hundred students [97.1% of the class] completed an initial student questionnaire, at the start of the attachment, and 190 [92.2%] completed the follow-up questionnaire, at the end. Evaluative questionnaires about the attachment, the problem based learning and the audit project were completed by 89.3%, 65% and 85.6%, respectively, of the students who took part. 25% of the class contributed to semi-structured, tape recorded interviews.

681 patients completed a questionnaire three months before the attachments started. 469 patients completed a questionnaire immediately before a consultation with their general practitioner, where a student would be present, and 759 patients completed a questionnaire immediately after a consultation, where a student was present.

It was found that there is a large pool of enthusiastic tutors willing to teach medical students in the community. However, it is recommended that these tutors receive adequate support to enable high standards of clinical teaching to be maintained.

The objectives for the attachment were found to be appropriate and it was recommended that the possibility of producing common general objectives, for undergraduate teaching in general practice, should be explored by United Kingdom medical schools.

The tasks of the attachment were found to be useful and relevant, and it was possible to produce a profile of the content of an ideal attachment according to student opinion.

The attachment promoted a positive attitude among students, towards general practice, and acted as a positive vocational opportunity. However, it

is recommended that this cohort of students should be followed up to discover if their stated preference for general practice, as a career, is maintained.

Patient opinion was generally favourable towards the presence of medical students in the consulting room. It was therefore recommended that educators in medical schools could be reassured about the case-mix seen in general practice, and general practitioner tutors reassured about the acceptability to patients, of students in the consulting room.

The problem based learning group work was a qualified success, according to student opinion. It was therefore recommended that this method of learning should be refined for further use in this course, and its use promoted in United Kingdom medical schools.

The audit project increased students' self-reported knowledge about audit but it was recommended that, in order to produce a more interesting and useful learning experience, the students should be given more ownership of the project in the future. It is further recommended that teaching about audit should be promoted in the general practice setting, in the United Kingdom.

The advantages and shortcomings of the methods, which were used to assess the students, are discussed and it is recommended that a more objective measure, such as a modified essay question or an observer structured clinical examination, should be included in the future assessment of students undergoing this attachment.

The evaluative information given by the students about their attachment provided evidence that the majority of them enjoyed it very much. They found it useful for learning about general medicine, psychiatry and communication skills, and many of them were impressed by the standard of teaching received. However, they wanted to conduct more personal consultations and practical procedures, and they also suggested improvements to the Department course.

5.

Information from this research can be used to shape a course which is responsive to the requirements of Glasgow medical students, the University of Glasgow and the recommendations of the General Medical Council, and to support the shift of more undergraduate medical education into the setting of general practice, in the United Kingdom.

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All text, statistical analysis, tables and illustrations have been prepared by myself on an Apple MacIntosh SE/30 and Personal LaserWriter using Microsoft Word, DataDesk and Microsoft Chart software.

## DECLARATION

The contents of this thesis are all my own work except where acknowledged on the preceding page.

The following publications have been prepared from material contained in this thesis:

- Audit: teaching medical students in general practice. Morrison J M and Sullivan F M. Medical Education 1993; **27**: 495 - 502.
- An experiment in Problem Based Learning at the University of Glasgow. Morrison J M and Murray T S. Medical Education 1994; **28**: 139 - 145.

The following presentations have been made based on material contained in this thesis:

- Development of four week attachments in general practice - the tutors. Scottish University Departments of General Practice. Annual Scientific Conference, Stonehaven, January 1992.
- Learning about Audit in General Practice in the Undergraduate Curriculum at the University of Glasgow [Poster]. Royal College of General Practitioners' 40th Anniversary Scientific Meeting, London, November 1992.
- Follow-up on attachments in general practice - Problem Based Learning and Career choices of students. Scottish University Departments of General Practice. Annual Scientific Conference, Stonehaven, January 1993.
- Effect of medical students in the consulting room. [Poster]. Association of University Departments of General Practice. Annual Scientific Meeting, Aberdeen, July 1993.
- Teaching audit to undergraduates improves both knowledge and attitudes. Presented by F.M. Sullivan. Association for the Study of Medical Education Annual Meeting, Galway, September 1993.

## CHAPTER 1

### INTRODUCTION

#### 1.1. GENERAL PRACTICE IN THE UNDERGRADUATE CURRICULUM.

In 1980, the Education Committee of the General Medical Council [GMC] strongly recommended a period of attachment to a general practitioner, for undergraduate medical students<sup>1</sup>. This would give the student an opportunity to study types of illness, not normally requiring hospital treatment, and the early and late manifestations of many diseases, seen in hospital only at an acute stage. An attachment would also provide first hand knowledge of available community sources for domiciliary care and the promotion of health, and allow the observation of general practice as a means of providing continuing care for the patient and his family. Finally, the student would be able to observe general practice as a vocational opportunity for himself. The GMC recognised that experience in general practice was facilitated where university departments of general practice, and teaching practices, had been created.

As far back as 1864, the medical officers of North Staffordshire Infirmary urged the use of general practitioners [G.P.'s] for teaching medical students<sup>2</sup>. However, in the early years of the National Health Service [NHS], founded in 1948, general practitioners were without adequate training and facilities for the task of providing comprehensive and primary medical care for all<sup>3</sup>, much less providing teaching for medical students.

In 1953, a working party of the College of General Practitioners recommended that all medical students should be given an insight into general practice<sup>4</sup> and there were repeated calls for the inclusion of undergraduate teaching of general practice as a formal part of the curriculum, at the first world conference on medical education, in the same year<sup>5</sup>.

In Edinburgh, Professor Frank Crewe, of the University's Department of Public Health and Social Medicine, recognised the important loss in education of

medical students, when dispensaries providing charitable medical care were no longer necessary, after the introduction of the NHS. He encouraged Richard Scott, a member of his staff, to develop their speciality of social medicine and they sought to establish a 'laboratory in the community', which could be used for teaching and the longterm research of illness in families. Scott, together with a medical assistant, an almoner, a nurse and a dentist, set up a general medical practice. They created a centre for the local community where health and welfare were promoted, patients treated, medical students taught and research undertaken. This became the Teaching General Practice of The University of Edinburgh, which became the first independent department of general practice in the world, in 1956. In 1963, the daughter of Sir James MacKenzie, an Edinburgh graduate and internationally renowned researcher in general practice, endowed a Chair of Medicine in relation to General Practice, and Richard Scott was appointed the first Professor of General Practice in the world<sup>3</sup>.

A Lancet editorial, in 1964, emphasized that the student must see disease in general practice<sup>6</sup> and a British Medical Students' Association report on medical education, in 1965, noted that there was a general practitioner attachment scheme in all but three medical schools<sup>7</sup>. However, this attachment was only compulsory in three. In that year, a working party of the School of Medicine and Human Biology considered that a general practice attachment for six weeks, in the second clinical year, would be appropriate<sup>8</sup>.

In 1968, the Royal Commission on Medical Education recommended that "every undergraduate medical student should be given an insight into general practice"<sup>9</sup>. However, it felt that "no department in the medical school is ideally fitted to provide the necessary teaching".

From 1973, there was recognition that incorporating community based teaching, into the undergraduate curriculum, would not only address the

increasing awareness of the social role of the clinician, but also relieve pressure on hospital teaching from an economic perspective<sup>10</sup>. This theme of economic necessity has gained increasing importance, up to the present day.

The World Health Organisation adopted the policy, in 1977, that its objective should be the promotion of health care for all individuals, and at Alma-Ata, an international conference in the USSR in 1978, primary health care was confirmed as a strategy for achieving this goal<sup>11</sup>.

The General Medical Council Education Committee stated in its report, in 1980, that :

"The practice of medicine involves the care of men and women, through successive stages of their lives from conception to death - including foetal life, birth, childhood, adolescence, marriage and reproduction, middle age and old age - as individuals, in families and in society, at home and at work, in mental and physical illness of infinite variety and origin".

The Association of University Teachers in General Practice reported, in 1984, that 16 of the 20 GMC recommendations for undergraduate medical education could not be achieved, at any reasonable level by students, without using the educational resources of general practice<sup>9</sup>.

At the Prague conference for the Association for Medical Education in Europe, in September 1983, a working group of 30 people, from 11 countries, reported on the contribution of primary care to basic medical education. They said that this contribution is more concerned with skills and attitudes than with knowledge, and its strengths are primarily in its content. They listed three relevant aspects of content :

(1) those aspects not achievable in in-patient learning environments;

(2) aspects not well done/ difficult to do/ seen as low priority and;

(3) aspects which primary care teachers can reinforce by teaching in other departments<sup>12</sup>.

In 1984, Metcalfe asserted that

"To provide the manpower for a rational health service, experience at the socio-medical interface in basic medical education is essential, not only for intending general practitioners but for those who intend a career in secondary care so that they can understand and co-operate with primary care colleagues"<sup>12</sup>

and, in 1987, a working party of the GMC education committee stated that

"some of the priorities in medical education must change in order to adapt to the changing pattern of disease, a changing population structure and new technology. Departments of community medicine and general practice and teachers of the behavioural sciences can help medicine respond to these challenges"<sup>13</sup>.

By 1989 the financial implications of undergraduate education were subject to increasing scrutiny. A Lancet editorial cited shortage of personnel and finance as possible barriers to commitments to teaching, by general practitioners, and it called for additional resources to provide clinical cover, for teaching time, in general practice. There was an acute need for university funding to be provided for core teaching posts<sup>14</sup>.

However, lack of funding is only one of the problems affecting hospital teaching of undergraduate medical students. In a Lancet editorial in 1989 Oswald described some of the difficulties in hospital. These included the gap between educational objectives and the skills of teachers, availability of patients, and availability of teachers<sup>15</sup>. In hospital students only see a tiny selected fragment of the illnesses which affect people. They also, mainly, see

the rare disorders, or serious manifestations of common disorders, and currently, patients are admitted, investigated and discharged with ever increasing intensity. Among teachers in teaching hospitals, there are competing pressures on time for service and research, in addition to teaching demands, and as a result teaching may suffer<sup>15</sup>. In a subsequent editorial in the British Medical Journal, the same author further dissected the problems in hospital undergraduate teaching<sup>16</sup>. These included: a highly unrepresentative case mix; more specialisation leading to biased cases; pressure on time and enthusiasm caused by 'Achieving a Balance' [a report by the Joint Consultants Committee and Chairmen of Regional Health Authorities on Hospital Medical Staffing]<sup>17</sup> and the necessity to boost income from grants and research; shorter hospital stays, day care surgery, and more community care; and financial insecurity, exacerbated by trust status<sup>16</sup>. The answer, provided by Oswald, would be simultaneous education in Primary and Secondary care<sup>16</sup>. He feels that general practitioners can provide patients, teachers and time, and that they deal with the same illnesses, in the same patients, as hospital doctors. Furthermore, many G.P.'s are trained and approved as trainers for vocational training.

Oswald feels that general practice could make a substantial contribution, as a unifying theme, to the whole of clinical medicine. He suggests a coordinated programme between hospital and general practice, with more interchange. For example students could follow patients from general practice to hospital and back again. He feels this would achieve the GMC objectives more effectively<sup>15</sup>.

This theme was reiterated recently by Illiffe who described a crisis in medical education caused by :

1. outmoded educational methods that are inadequate to the task of producing competent doctors;
2. unsuitable teaching sites and;
3. a change in the relationship between medicine and society<sup>2</sup>.

Illiffe suggested a solution which involves shifting a considerable part of clinical medical education into community settings, primarily general practice. This would allow disease and disability to be studied, in their natural context, and students could appreciate the relationship between organic, psychological and social dimensions of health, and observe sickness and disease more easily. This would encourage more problem solving styles of learning. He also suggested that patients can be followed from primary care, through hospital care and back to primary care. There would be advantages, not only for the students, but also for the general practitioners involved. Undergraduates provide their teachers with stimulation, opportunities for self-reflection and learning, and enjoyment. The students can assist in clinical care, especially of patients with chronic illness, and can assist in clinical audit, through project work<sup>2</sup>.

Illiffe identified the problems with this solution as: shortage of resources and skills in all departments of primary health care; existing teaching may be suboptimal; teachers may be biased towards using only part of the range of their primary care workload, which they think might be appropriate and; the division of resources, for the extra time and preparation, required of the general practitioner tutors, is still to be addressed. He cautioned that this trend, towards basing more undergraduate general practice in the community, should not be allowed to expand too quickly, before tutors are properly prepared and other sources e.g. social work, nursing, public health, voluntary services should not be excluded<sup>2</sup>.

The most recent edition of the Gazetteer of Departments in the British Isles and Republic of Ireland, produced by the Association of the University Teachers of General Practice, was published in 1990<sup>18</sup>. In the 32 medical schools, there were 23 independent departments of general practice with responsibility for undergraduate teaching, four departments with no

involvement in undergraduate education - essentially postgraduate departments - four departments associated with a department of community medicine or public health, and one department associated with a department of social medicine. Only two of the departments stated that they had a separate degree examination in general practice. Nine departments, including Glasgow and the four postgraduate departments, did not have any form of compulsory formal attachment or clerkship<sup>1</sup> in general practice, although they may have been involved to a variable degree in the undergraduate curriculum and have offered an elective attachment. In the remaining 23 departments, attachments were undertaken, at varying stages in the curriculum, for varying lengths of time, [table 1] and five departments had more than one period of attachment.

**TABLE 1. NUMBER OF MEDICAL SCHOOLS IN THE UNITED KINGDOM AND IRELAND WITH AN ATTACHMENT IN GENERAL PRACTICE BY UNDERGRADUATE YEAR AND DURATION OF ATTACHMENT IN 1990.**

<u>DURATION</u>	<u>YEAR IN CURRICULUM</u>				
	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	FIFTH YEAR
ONE WEEK	0	0	0	0	0
TWO WEEKS	0	1	2	4	4
THREE WEEKS	0	0	0	2	1
FOUR WEEKS	0	0	1	5	6
FIVE WEEKS	0	1	0	1	0

## 1.2. THE DEVELOPMENT OF TEACHING GENERAL PRACTICE AT THE UNIVERSITY OF GLASGOW.

The earliest known educational use of the word curriculum occurred during the Reformation, at the University of Glasgow, when this university was

remodelled in 1577, largely to increase the supply of protestant ministers. It became compulsory for the Principal to reside in college, courses were reduced in length, teaching was rigidly planned, examinations were closely monitored and teachers were expected to profess the Protestant faith. The term curriculum began to be used after these changes, providing a collective name for all of these activities. Above all it embodied notions of order, coherence and intellectual discipline<sup>19</sup>. Despite this early example of innovation at Glasgow University, the medical curriculum has evolved along so-called traditional lines. This has been partly due to its long history history, and partly due to practical difficulties encountered in providing teaching for large numbers of students. Thus, the principal mode of learning has involved didactic teaching, using the lecture format, particularly during the first two years of the course which are devoted mainly to preclinical subjects. During the next three, mainly clinical, years formal bedside teaching takes place in several teaching hospitals, spread throughout the City of Glasgow.

In Glasgow, although individual general practitioners have contributed to the hospital teaching over many years, there was no attempt to organise a formal teaching course until 1972. Prior to this, students were able to undertake an attachment to a general practitioner for a one week elective during the summer vacation. This elective was undertaken by: two students in the academic session 1953/54; 13 students in 1954/55; 24 students in 1955/56 and; 100 students in 1957/58. In addition, in 1954/55, three lectures in general practice were introduced during the students' free time and, as this proved to be successful, they became a formal part of the curriculum in 1955/56. In 1960, however, the elective time was moved in the curriculum from the summer break to the three week Easter break, and the number of students undertaking it, on a voluntary basis, dropped to 42. However,

by 1962, this number had increased again to 100 students choosing to do general practice for their elective attachment <sup>7</sup>.

There was a major revision of the medical curriculum in the 1970's which included changing from a six year to a five year course. In addition, general practice became included as a recognised part of the curriculum. This was facilitated by the adoption of four rooms in Woodside Health Centre which opened in 1971, in the North of the City of Glasgow, as the University base for teaching general practice<sup>20</sup>.

A Senior Lectureship in Primary Medical Care, with an honorary consultant contract, was established in 1972. This was initially supported by a grant from the Nuffield Provincial Hospitals Trusts, before becoming a University Grants Committee [U.G.C.] funded post. Dr. J.H. Barber was appointed to this post which was jointly based at the University Department of Medicine, in Glasgow Royal Infirmary, and the Department of Community Medicine. As no actual curriculum time was earmarked for general practice initially, the teaching evolved to suit the requirements of the course.

The first formal teaching course was introduced in October of the session 1972/73, and involved each fifth year student spending six afternoon sessions with a G.P. tutor. The course had four broad objectives:

1. to enable the student to see 'diagnoses' and 'management' in physical, psychological and social terms;
2. to show the student conditions, not frequently seen in hospital, which are responsible for a considerable degree of morbidity;
3. to demonstrate what is involved in the longterm care of chronic illhealth and;
4. to demonstrate the application of team care to ill-health in the community.

These objectives led to the introduction of a syllabus which detailed the types of medical conditions and illness situations which should be included in the course. It was obligatory for the tutors to select patients, who would fulfill the criteria laid down, and allow the teaching syllabus to be completed. It was decided to ask the tutors to ensure sufficient time for discussion of cases seen, to allocate groups of only four or five students to each tutor to develop group discussions, and to attempt to evaluate objectively each teaching venture. In the first year of the course, 26 tutors were involved with the teaching and this number increased to 31, by the second year<sup>21</sup>. The six afternoon sessions were spread out during the first and second terms of fifth year, and lasted for two to three hours during what were otherwise free afternoons. These teaching sessions were therefore evaluated by student attendance, questionnaires and controlled multiple choice questions initially, and then by modified essay questions. The sessions were shown to be attractive to students and apparently had educational value<sup>21</sup>.

At the same time, General Practice was involved in one introductory session in first year. Each year of medical students at the University of Glasgow has traditionally been divided into two for clinical teaching. Half of the year receives clinical tuition, mainly at the Royal Infirmary, and the other half, mainly at the Western Infirmary. In the third year of the Royal Infirmary section, there were two sessions, where patients with common presenting symptoms were seen, and Dr. Barber was also involved in regular, weekly, hospital, teaching sessions. There was also a pilot study of collaborative teaching with the Departments of Psychiatry and Geriatrics.

In the session 1973/74, the fifth year teaching was increased to one afternoon every week in Martinmas or Candlemas terms, giving eight sessions in total. The syllabus for this course followed the pattern shown in table 2.

**TABLE 2. SYLLABUS FOR FIFTH YEAR TEACHING IN GENERAL PRACTICE AT THE UNIVERSITY OF GLASGOW IN THE SESSION 1973/74.**

SESSION 1	Childhood e.g. asthma.
SESSION 2	Early adult life e.g. Dyspepsia
SESSION 3, 4 and 5	Middle adult life e.g. Chronic Bronchitis
SESSION 6, 7 and 8	Elderly e.g. multiple organic complaints

The collaborative teaching and weekly teaching sessions were continued and, in addition, ten fourth year students, during work for their dissertation on self-poisoning, visited a patient at home after their hospital discharge, and also visited the patient's general practitioner to discuss aspects of the case. Students, in the Western Infirmary group, spent two hours sitting in and doing house calls, with general practitioners, for five mornings. Some medical students also visited patients at home, alongwith student health visitors and social workers, to learn about the skills of the others' disciplines<sup>22</sup>. A summary of the extent of involvement of general practice in undergraduate medical education, at this time at Glasgow University, is shown in table 3.

**TABLE 3. SUMMARY OF INVOLVEMENT OF GENERAL PRACTICE IN UNDERGRADUATE TEACHING AT THE UNIVERSITY OF GLASGOW IN THE SESSION 1973/74.**

Objective of teaching - to teach medicine [ used generically ] in the context of General Practice.

<u>YEAR</u>	<u>INVOLVEMENT OF GENERAL PRACTICE</u>
3rd. year [Royal Infirmary]	- Small group teaching - primary undifferentiated symptoms. - Interview technique.
4th year [Western Infirmary]	- The doctor/patient contact - 5 mornings in practice - ratio of two students to one tutor. - Collaborative teaching "self-poisoning".
4th year [Royal Infirmary]	- Collaborative teaching in hospital. - Collaborative teaching with health visitor and social work students.
5th year [all students]	- Course of 8 afternoon sessions -groups of 4 students to one tutor. - Pilot schemes of collaborative teaching with Departments of Psychiatry and Geriatric Medicine. - Elective in Easter vacation - 45% of students.
Intensive year	- Pilot scheme of collaborative teaching with Department of Paediatric Medicine.

In 1974, the Norie-Miller chair in General Practice was established. The source of funding was the General Accident Fire and Life Assurance Corporation. J.H. Barber was the first appointee to this post. One year later, Dr. T.S. Murray was appointed, as a research fellow to the Department, with a grant from the Nuffield Foundation.

In 1975, a pilot study was introduced, in Whitsun term, to investigate the feasibility of demonstrating the acute presentation of illness, in a limited period of time. As this proved successful, all third year students spent four mornings in general practice, starting in the first clinical term of the following session. The teaching concentrated on history taking and examination, for these clinically inexperienced students, but it aimed, in addition, to show :

1. the problems of primary diagnosis;
2. the unstructured and colloquial way in which patients express their symptoms and complaints and;
3. the early presentation of common conditions.

Both tutors and students gave favourable reports about this teaching<sup>23</sup>.

In 1977, an additional senior lecturer post was funded for the Department by General Accident Fire and Life Assurance Corporation and an additional tutor post of 2.5 sessions was funded by U.G.C. By identifying areas in which hospital teaching seemed deficient, by experimentation and eventual implementation, a comprehensive course in general practice gradually evolved. The general practitioner tutors involved became skillful and dedicated teachers and, by 1984, general practice contributed to the teaching from second to final year [table 4].

**TABLE 4. THE CONTRIBUTION OF GENERAL PRACTICE TO UNDERGRADUATE TEACHING AT THE UNIVERSITY OF GLASGOW IN 1984.**

<u>COURSE OR CLASS</u>	<u>YEAR OF CURRICULUM</u>				
	1	2	3	4	5
Environment, Behaviour and Health		▨			
General Practice : acute illness			▨		
General Practice : Geriatric Medicine			▨		
Hospital bedside teaching			▨	▨	
General Practice : Infectious Diseases				▨	
Electives in General Practice			▨	▨	
General Practice : continuing illness				▨	
General Practice Tutorials					▨
General Practice : Child Health					▨

The second year Environment, Behaviour and Health Course was a collaborative venture, organized by the Departments of General Practice, Community Medicine and Psychological Medicine. It was responsible for teaching communication skills to both medical and dental students<sup>20</sup>.

However by this stage, despite the large involvement of General Practice in the curriculum, the lack of a full-time attachment was keenly felt, particularly for final year students, as it might have allowed the strands of a very compartmentalized, undergraduate course to be drawn together<sup>20</sup>. By 1989, the Curriculum Review Committee had decided to include a four week attachment in general practice during the new final rotation, due to begin in the Whitsun term of 1992. Final year would now begin in the Whitsun term of fourth year and end in the Candlemas term of final year. The students would be divided into eight sections and would rotate through the clinical specialities, as shown in Figure 1.

**FIGURE 1. THE FINAL YEAR ROTATION**

[Each square indicates a four week block attachment].

	WHITSUN				MARTINMAS			CANDLEMAS			
1	Gyn <sup>1</sup>	Obs <sup>2</sup>		E	Med <sup>3</sup>	Surg <sup>4</sup>	Child Health	GP <sup>5</sup>	Med	Surg	
2	Gyn	Obs		L	Surg	Med	Child Health	Surg	GP	Med	
3	Med	Surg	Gyn	E	Obs		Surg	GP	Med	Child Health	
4	Surg	Med	Gyn	C	Obs		GP	Surg	Med	Child Health	
5	Child Health		Med	T	Surg	GP	Gyn	Obs		Med	Surg
6	Child Health		GP	I	Med	Surg	Gyn	Obs		Surg	Med
7	Med	GP	Surg	V	Child Health		Surg	Med	Gyn	Obs	
8	GP	Med	Surg	E	Child Health		Med	Surg	Gyn	Obs	

- NOTES:
1. Gynaecology
  2. Obstetrics
  3. Medicine
  4. Surgery
  5. General Practice

Apart from the final year full-time rotation, the Department also continues to have responsibility for teaching in the preceding four years, as shown in table 5.

**TABLE 5. TEACHING INVOLVEMENT APART FROM FINAL YEAR OF THE DEPARTMENT OF GENERAL PRACTICE IN THE UNDERGRADUATE CURRICULUM AT THE UNIVERSITY OF GLASGOW IN 1992.**

<u>YEAR</u>	<u>DESCRIPTION OF TEACHING</u>	<u>ORGANISATION</u>
First	Video seminars - preventive health care. - social issues.	One hour for each session. 10 groups of approximately 22 students. Collaboration with Department of Behavioural Sciences.
SECOND	Ethics and Decision making	Two hour session. 4 groups of approximately 55 students. Collaboration with Department of Moral Philosophy.
	Non-verbal communication.	Two hour session. 4 groups. Collaboration with Behavioural Sciences.
	Verbal Communication	Two hour session. 4 groups. Collaboration with Behavioural Sciences.
	Communication Skills Course.	Seven sessions -Introductory lecture -Three sessions in practice - One session at a hospice - One session in the Dept. of Theatre, film and television studies doing role-play. - Concluding lecture.
THIRD	Introductory lecture Attachments to G. P.	One hour. 10 Morning sessions on 2:1 basis with same tutor.
FOURTH	Public Health Course	One two and a half hour session.
	Pathological Biochemistry Course	One 45 minute session for each of two Groups.

### 1.3 AIMS OF RESEARCH

I was appointed as a full-time lecturer in general practice, in October 1990, initially funded by General Accident. It was decided, in December 1990, by the Department, that my main area of responsibility, in terms of teaching and administration, would be the four week attachments in general practice, including their initial development and organisation. I believed that I had an exciting opportunity to develop a new course, at a time when teaching in general practice was being widely promoted and, in order to take full advantage of this opportunity, I decided to make this my main area of research.

It is only possible to determine the success of any course, in terms of its value in contributing to the education of students, by evaluation. I therefore decided to try to evaluate the attachments as fully as possible. The aims of this research are therefore as follows.

1. To describe the development of the four week attachment in terms of:
  - a. its organisation;
  - b. the tutors and practices providing the attachments;
  - c. the course objectives;
  - d. the tasks students are expected to complete during the attachment;
  - e. the effect of the attachments on aspects of the students' attitudes towards general practice as a discipline and a vocational opportunity and;
  - f. the effect of the attachments on the attitudes of patients, towards students, in the consulting room.
2. To examine in more detail two methods used in teaching the students, during the department based part of the attachment i.e. problem based learning and the audit project.
3. To evaluate all aspects of the attachments, in order to produce recommendations for their future organisation which will maximise the learning opportunity for the students.

## CHAPTER 2

### THE TUTORS

#### 2.1. ORGANISATION AND RECRUITMENT OF TUTORS

In common with many other departments of general practice, although the department in Glasgow is not large, there are a large number of local general practitioners involved with the department, who help with its teaching commitments<sup>16</sup>. The first priority, in organising the attachments, was to ensure that a sufficient number of these tutors would be prepared to be involved in helping with this new course, to enable students to be attached, ideally, on a one to one basis.

A list of the general practitioner tutors in Glasgow and the surrounding area, who had previously taught students, was available. 166 of these tutors were sent a letter informing them about the proposed four week attachments and asking them to intimate whether they would be interested in assisting with them [letter is appendix 1]. 123 tutors responded positively to this request and these interested tutors were invited to attend a meeting, to discuss the proposals further. The first meeting was held on the ninth of November 1991 and 56 tutors attended. In an attempt to obtain the views of as many of the tutors as possible, a further two meetings were arranged. Another 28 tutors attended the meeting on the 21st of January 1992 and 24 attended the one on the 23rd of January 1992. The 15 interested tutors, who were unable to attend any of the three meetings, were sent some notes prepared after the meetings to give them some details of the discussions which took place [notes are appendix 2].

Immediately after the last meeting, a letter was sent to each tutor, accompanied by a form for them to complete and return. The form requested details of how many student attachments they would be able to take during the

next academic year and when they would ideally like to take them [form in appendix 3].

These forms were returned by 100 tutors working in 96 individual practices i.e. there were four pairs of tutors who worked in the same practice. The 206 students who would be entering the final rotation were allocated to these participating practices. The number of attachments taken by the tutors are shown in table 6.

**TABLE 6. NUMBER OF ATTACHMENTS TAKEN BY TUTORS IN 1992/1993**

<u>NUMBER OF ATTACHMENTS</u>	<u>NUMBER OF TUTORS</u>
1	40
2	39
3	11
4	4
5	1
6	2
7	3

As far as possible, the students were allocated to practices within a reasonable distance of their term time address, although none were allocated to their own home practice area. There were 45 tutors within the City of Glasgow, a further 15 tutors worked outside the City of Glasgow, but within Greater Glasgow Health Board Area, and 40 tutors were outside Greater Glasgow but within the West of Scotland Region. The geographical distribution of the tutors outside Greater Glasgow, but within the West of Scotland Region, is given in table 7.

**TABLE 7. LOCATION OF TUTORS OUTSIDE GREATER GLASGOW BUT WITHIN THE WEST OF SCOTLAND REGION.**

<u>COUNTY AND TOWN</u>	<u>NUMBER OF TUTORS</u>
AYRSHIRE	
DALRY	1
KILWINNING	1
DUMBARTONSHIRE	
ALEXANDRIA	1
DUMBARTON	1
HELENSBURGH	2
OLD KILPATRICK	1
LANARKSHIRE	
AIRDRIE	3
BLANTYRE	2
BOTHWELL	1
COATBRIDGE	2
EAST KILBRIDE	2
HAMILTON	2
MOTHERWELL	2
UDDINGSTON	1
WISHAW	2
RENFREWSHIRE	
BARRHEAD	1
BRIDGE OF WEIR	2
GREENOCK	4
JOHNSTONE	2
PAISLEY	7

As soon as the student allocations were completed, the tutors were informed of the name[s] of the student[s] they would be teaching and the dates on which they would be attending, by letter [appendix 4]. With this letter they also received a register of attendance to complete for each student [appendix 5], a copy of the log diary [appendix 6] and an evaluation form to complete, for

each student, at the end of the attachment [appendix 7]. The tutors were asked to return the attendance register at the end of each attachment, in order that a letter of verification could be forwarded to the Health Board, along with the register, to facilitate payment to the tutors. The tutors also had to complete form G.P./U.M.S. and forward this to the appropriate Health Board. During this year they were eligible for a payment of £10.95 per session per student taught. The log diary was simply included for the tutor's information and to ensure that they were clear about the requirements of the student during the attachment.

Finally, lists of the attachments were lodged in the office of the Faculty of Medicine, and on its notice board, for the students to find out where they would be going for their attachment, approximately six weeks before the first one was due to start. Students were informed that they could swap attachments between themselves, as long as both students agreed and they informed the Department of any proposed swap, at least one month before the attachment. The information about the attachments had been given previously to the students at one of their lectures, approximately two months before the attachments were due to start.

Near the end of the first year of the attachments, on four dates in February 1993, the tutors were invited to discuss their experiences of the attachments. A summary of the organisation for the attachments is shown in table 8.

**TABLE 8. SUMMARY OF THE ORGANISATIONAL FRAMEWORK FOR THE ATTACHMENTS WITH TIMESCALE.**

	<u>DATE</u>
DECISION TO INCLUDE A FOUR WEEK ATTACHMENT IN GENERAL PRACTICE BY THE FACULTY OF MEDICINE	1989
J.M. BECOMES RESPONSIBLE FOR ORGANISING ATTACHMENTS.	4/12/90
FIRST LETTER OF INFORMATION TO TUTORS	3/5/91
FIRST MEETING WITH TUTORS TO DISCUSS THE ATTACHMENTS.	9/11/91
SECOND MEETING	21/1/92
THIRD MEETING	23/1/92
FORM TO TUTORS ASKING FOR AN INDICATION OF THE NUMBER OF STUDENT ATTACHMENTS THEY WOULD BE PREPARED TO TAKE AND THE DATES ON WHICH THEY WOULD PREFER TO TAKE THEM.	24/1/92
STUDENTS INFORMED OF THE ARRANGEMENTS AT PUBLIC HEALTH LECTURE.	10/2/92
LISTS OF ATTACHMENTS LODGED AT MEDICAL FACULTY OFFICE.	28/2/92
LETTER TO TUTORS WITH DETAILS OF STUDENTS THEY WOULD BE TAKING.	1/3/92
DATE OF FIRST DAY OF FIRST ATTACHMENT.	6/4/92
FOLLOW-UP MEETINGS WITH TUTORS TO DISCUSS EXPERIENCE OF FIRST YEAR OF ATTACHMENTS.	2/2/93, 4/2/93 9/2/93, 11/2/93

## 2.2. DESCRIPTION OF GENERAL PRACTITIONER TUTORS AND THEIR PRACTICES

### 2.2.1. INTRODUCTION

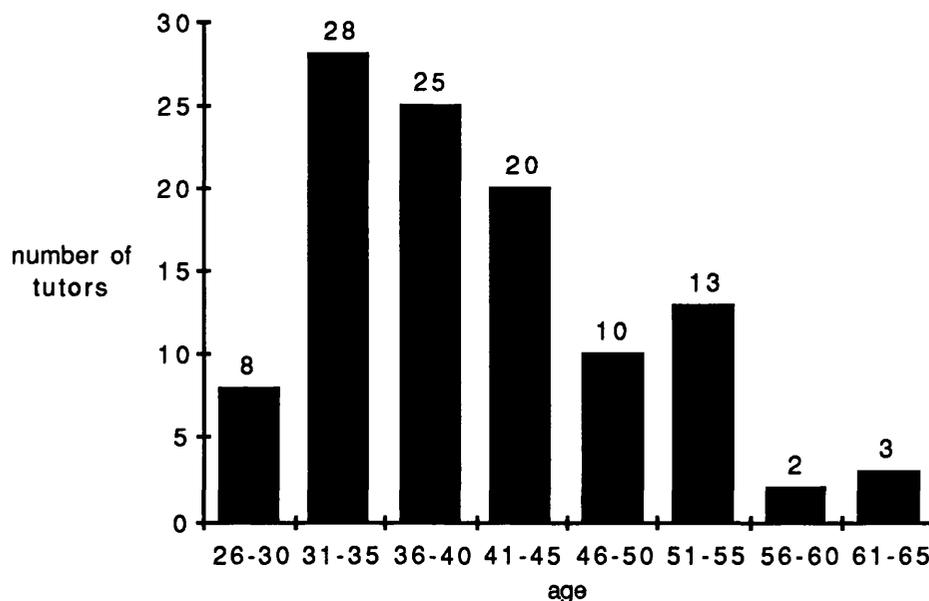
It was important to obtain some descriptive information about the tutors, who would be helping with the attachments, to find out if there was a standard profile of a teaching general practitioner and a teaching practice. This information could then be used to enable a minimum set of requirements to be produced, for general practitioners wishing to become eligible for teaching.

### 2.2.2. METHOD

In order to obtain further information about the general practitioner tutors, those 123 tutors, who had expressed an interest in participating in the course, were sent a postal questionnaire [appendix 8]. The first part of the questionnaire requested information regarding some personal characteristics of the tutors and their practices. The tutors were then asked to give their main reasons for being interested in undergraduate teaching. If no reply to the questionnaire was received, within two weeks, a reminder was sent.

## RESULTS

111 [90%] of the tutors replied to the questionnaire. There were 87 male [78%] and 24 female [22%] tutors and the age range of the tutors is shown in figure 2.

**FIGURE 2. AGE-RANGE OF THE GENERAL PRACTITIONER TUTORS.**

Ninety-two [ 82.9% ] of the tutors graduated from Glasgow University, 11 from elsewhere in Scotland, 6 from elsewhere in the United Kingdom and 2 from abroad.

Prior to joining general practice the tutors had had a range of 2-8 hospital jobs [ median 5, mean 5.3 ] and they had spent between one and 34 years in general practice [ median 11, mean 11.7 ]. They gave a total of 59 special interests and table 9 shows the six most popular special interests given.

**TABLE 9. THE SIX MOST POPULAR SPECIAL INTERESTS GIVEN BY THE TUTORS.**

<u>INTEREST</u>	<u>NUMBER OF TUTORS</u>
Paediatrics/ Child assessment	32
Asthma	16
Obstetrics	13
Teaching	13
Diabetes	13
Gynaecology	12

A summary of the information obtained about the tutors' practices is shown in table 10.

**TABLE 10. SUMMARY OF FEATURES OF TUTORS' PRACTICES.**

<u>FEATURE</u>	[ N = 111 ]				
<u>Number of partners</u>	Range 0-8	Median 4	Mean 3.8		
<u>Type of practice</u>	<u>urban</u> 87	<u>suburban</u> 10	<u>semi-rural</u> 5	<u>rural</u> 2	<u>mixed</u> 6
<u>Type of premises</u>	<u>health centre</u> 50	<u>purpose built</u> 28	<u>converted</u> 43	<u>more than one</u> 12	
<u>Training practice</u>	<u>yes</u> 70	<u>no</u> 41			
<u>Deprivation payment received</u>	<u>yes</u> 85	<u>no</u> 26			
<u>Appointment system</u>	<u>yes</u> 109	<u>no</u> 2			

A total of 16 different types of practice employed staff, and 16 different practice attached staff, were listed by the tutors. These personnel, with the number of tutors who noted them, are shown in table 11.

**TABLE 11. PRACTICE EMPLOYED AND PRACTICE ATTACHED STAFF IN THE TUTOR PRACTICES.**

[N=111 tutors]

<u>PRACTICE EMPLOYED STAFF</u>		<u>PRACTICE ATTACHED STAFF</u>	
<u>STAFF</u>	<u>NUMBER</u>	<u>STAFF</u>	<u>NUMBER</u>
Receptionist	99	Health visitor	100
Practice Nurse	86	District nurse	94
Practice Manager	70	Geriatric health visitor	16
Secretary/ Typist	54	Social worker	16
Computer operator	18	Treatment room nurse	12
Telephonist	8	Midwife	11
Filing staff	7	Community psychiatric nurse	8
Cleaner	3	Auxiliary nurse	4
Dietician	2	Receptionist	2
Book-keeper	2	Occupational therapist	2
Chiropodist	1	Chiropodist	2
Night porter	1	Bathing nurse	2
Medical assistant	1	Physiotherapist	1
ECG technician	1	X-ray technician	1
Counsellor	1	Homemaker	1
Clerkess	1	Clinical Psychologist	1

A total of 49 different clinics were offered by the tutors' practices and the top ten clinics are shown in table 12.

**TABLE 12. THE TOP TEN CLINICS OFFERED IN THE TUTOR PRACTICES**

[N=111 tutors]

<u>CLINIC</u>	<u>NUMBER</u>	<u>CLINIC</u>	<u>NUMBER</u>
1.Asthma	62	6.Hypertension	32
2.Well-woman	61	7.Heart disease	29
3.Diabetic	55	8.Antenatal	27
4.Obesity/diet	46	9.Well-man	25
5.Well-person	44	10.Paediatric surveillance	24

There were also 16 other services offered by the practices. The main other services mentioned were minor surgery [73 practices] and child health surveillance [69 practices].

There were many, varied reasons given for being interested in undergraduate teaching, as this was an open question. However, the main reasons given are grouped in table 13.

**TABLE 13. MAIN REASONS GIVEN BY THE TUTORS FOR INTEREST IN UNDERGRADUATE TEACHING.**  
[N=111 tutors]

<u>REASONS</u>	<u>NUMBER</u>
Enjoy teaching	50
Find teaching stimulating	30
To keep up to date	27
To promote general practice	25
To illustrate different from hospital practice	11
Sense of duty	5
To pass on knowledge	5
Had poor teaching when students themselves	4

### 2.2.3. DISCUSSION

There have been few reports about the characteristics of general practitioner tutors, but one study from Dundee described 18 tutors, who were involved in teaching their students<sup>24</sup>. In the Dundee study, all of the tutors were male and, in our group of tutors, female general practitioners were poorly represented. However, in the West of Scotland region as a whole, women only comprise about 27% of general practitioners<sup>25</sup>. In the Dundee study, the ages of the tutors ranged from 34 - 63 [mean age 49], and so our tutors were comparatively younger [mean age 41], than the Dundee tutors. They are also younger than general practitioners in the West of Scotland region [mean age 43.5]<sup>25</sup>. This was felt to be an important factor for the future planning of the course. Although the presence of older general practitioners among the tutors was important for the wealth of experience of general practice they would bring to teaching the medical students, the relative youth of most of the tutors would encourage continuity of tutors as the course developed in the future. Younger

tutors are also more likely to be vocationally trained and this might compensate, in some measure, for their relative lack of experience. Associated with the wide age-range, there was a wide range in the number of years spent in general practice, by the tutors.

Unlike the Dundee study and also a study describing general practice preceptors at the University of New South Wales in Australia<sup>26</sup>, the vast majority of tutors in Glasgow were graduates of Glasgow University. This finding suggests that medical graduates from Glasgow tend to maintain close links with their 'Alma Mater' and this may be an important factor in their enthusiasm for involvement in undergraduate teaching. It was not unexpected that the general practitioner tutors had a relatively wide experience of hospital medicine. This was expected because vocationally trained general practitioners have experience of a mean of 1 - 10 post registration hospital posts<sup>27</sup>. It would be interesting to compare this with the number of hospital consultants who have had experience of general practice.

The majority of the teaching practices were also training practices [63%]. This compares with a figure of 25% for the West of Scotland Region, as a whole, and so these practices may not be typical of practices in the region. Caution has been urged before transferring a substantial volume of undergraduate medical education into the community, as the standard of teaching may not be assured and tutors may not be properly prepared<sup>2</sup>. However, if the majority of tutors are already involved in training general practitioners, they will be well prepared in appropriate teaching methods, and the standard of care, demonstrated in these practices, will also be high. General practitioners, who are approved as trainers, have accepted standards, have met them and have been seen to meet them and, in this respect, general practice is ahead of hospital specialties in the training it gives to its teachers, and its

knowledge of their capabilities<sup>15</sup>. Many of the Glasgow tutors, who are not presently trainers, are anxious to become so, and may see teaching medical students as one step in preparing themselves to become trainers.

It was reassuring that teaching medical students was ranked in the first four special interests of the tutors, and it is likely that many more of the tutors would have recorded this as a special interest, if prompted. The wide range of interests given reflects the diversity of general practice, and the difficulty of standardising the experiences received by students, attached to different practices.

The characteristics of the practices were relatively similar to practices in the region as a whole, although the tutors' practices tended to be rather larger [3.8 partners versus 3.2 partners in the region]. It may be that larger practices are more interested in teaching as they would be able to spread the burden over more personnel. There was also a larger percentage of urban practices [61% in the region]. However, this is due to the previous selection process for recruiting practices closer to the University, to ease travelling for the students. Therefore practices tended to be in or near the City of Glasgow. Associated with this mainly urban location, the majority of practices were in receipt of a deprivation payment. The preponderance of health centre premises reflects the size and, again, the urban location of practices involved in teaching.

All but two of the practices operated appointment systems. This would suggest either, that the open access type of arrangement for seeing patients is disappearing in this urban setting or, that these practices wished to have more control over their working arrangements, to allow them time to schedule other activities, such as teaching medical students.

It is interesting to note the different members of the practice team, available in the practices, whether employed by the practices or attached to

them, as it was felt that it would be appropriate for the students to spend some time learning about the roles of other members of the primary care team during their attachment.

The practices interested in teaching had responded to the 1990 General Practice Contract<sup>28</sup> by offering a large range of special clinics and this might add to the learning opportunities of the students attached to these practices, by concentrating experience in the conditions seen during clinics.

The reasons given by the tutors for their interest in teaching students were, on the whole, very positive. Illiffe stated that undergraduates provide their teachers with stimulation, opportunities for self-reflection and learning, and enjoyment<sup>2</sup>. It was of note that none of the tutors mentioned financial reimbursement, as an incentive for teaching, and this is in accord with the findings of the work from Dundee, where all the tutors involved stated that teaching was undertaken for nonmonetary reasons<sup>24</sup>. The small sum offered to the tutors for the work of teaching the students reflects the concept that teaching occurs at little or no extra cost in time or preparation. However, in order to maintain enthusiasm for, and increase the quality of, teaching for the large number of Glasgow students who may have to be accommodated in the community, in the future, financial incentives may become more important for tutors.

There were no compulsory standard requirements imposed by the Department on practices wishing to be involved with the attachments, other than a stated interest in teaching medical students by them, and personal knowledge of their practice by at least one senior member of the Department who had visited all new recruits. However, in order to ensure a minimum quality of teaching in the future, additional requirements might be imposed on the tutors. For example, in the University of Limburg, Maastricht, prospective G.P. teachers should have worked in their practices for a minimum of two

years<sup>29</sup>. In Maastricht, adequate provisions are also required for the student [room, instruments etc.], as well as a good system of records, a sufficient number of patients for the student to see and the G.P. has to make enough time available for discussions with the student. In addition, the tutors must receive training before they are assigned a student for the general practice clerkship, including a two day introductory workshop and a compulsory follow-up training of half a day, one year after the initial training. In addition to this, there are non-compulsory activities<sup>29</sup>. If the Department of General Practice in Glasgow was to adopt such a system, it would require much more emphasis on teaching the teachers by the Department. This would ultimately ensure a uniformly high level of teaching in all participating practices.

## CHAPTER 3.

### DEVELOPMENT AND EVALUATION OF OBJECTIVES FOR THE ATTACHMENT

#### 3.1. INTRODUCTION

It is widely accepted that the syllabus for any course should be constructed in the light of broadly defined objectives<sup>13</sup>. After the definition of these wide statements of functions, more precise and measurable statements of tasks should be derived<sup>30</sup>. This chapter describes the development, and evaluation of their appropriateness, of learning objectives for the general practice attachment. The following chapter continues on from it to describe the development and evaluation of the tasks for the attachment.

It has been stated that the objectives of attachments are likely to be best achieved when opinions about their relevance are shared by the student, general practitioner and academic department<sup>31</sup>. If agreement cannot be reached about their relevance, objectives may need modification. The process of developing the objectives for this attachment involved participation by members of the Department of General Practice and the general practitioner tutors. The evaluation also involved the students and, as any evaluation can lead to modification, the students are thus involved in the further development of the objectives.

#### 3.2. METHOD

As an initial step, a review of the literature was undertaken to facilitate the development of initial core objectives for the attachment. The General Medical Council's Recommendations on Basic Medical Education provided the main framework for the objectives<sup>1</sup>. The influence of the following extracts from this document can be seen in the list of objectives included in appendix 8. The numbers of the objectives influenced are given, in brackets, in these extracts:

[ The student should ] "acquire knowledge and understanding of:-"

14.1.[c]. "The aetiology, natural history and prognosis of the common

mental and physical ailments. Students must have experience of emergencies and a good knowledge of the commoner disabling diseases, and of ageing processes" [ objectives 5 and 13 ];

14.1.[e] "The principles of prevention and of therapy, including health education" [ objective 9 ];

14.1.[f] "Human relationships, both personal and communal, and the interaction between man and his physical, biological and social environment" [ objective 8 ];

14.1.[g]. "The organisation and provision of health care in the community and in hospital, the identification of the need for it, and the economic, ethical and practical constraints within which it operates" [ objectives 3 and 11 ].

14.1.[h]. "The ethical standards and legal responsibilities of the medical profession" [ objective 4 ];

"To develop the professional skills necessary:-"

14.2.[d]. "To communicate effectively and sensitively with patients and their relatives" [ objective 2 ];

14.2.[e]. "To communicate clinical information accurately and concisely, both by word of mouth and in writing, to other professionals involved in the care of the patient" [ objective 2 ]

"To develop appropriate attitudes to the practice of medicine which include :-"

14.3.[c]. "The ability to assess the reliability of evidence and the relevance of scientific knowledge, to reach conclusions by logical deduction or by experiment, and to evaluate critically methods and standards of medical practice" [ objective 14 ];

14.3.[d]. "A continuing concern for the interests and dignity of his patients" [ objective 13 ] and ;

14.3.[f]. "The achievement of good working relationships with members of the other health care professions" [ objective 10 ].

A number of other sources, many of which discussed the learning objectives of other department's attachments and courses in general practice, were consulted and those statements, which complimented the ideas of this Department of General Practice, were incorporated<sup>31,32,33,34,35</sup>.

After all these sources were taken into account, 15 core objectives were formulated. These were presented to the other members of the Department of General Practice and discussed. Only very minor changes to the wording of the objectives were incorporated, after discussion.

The tutors were then asked to comment, by means of the questionnaire [appendix 8] posted to the 123 who had agreed to help with the attachments, on the importance of the objectives, on a five point scale from very important to very unimportant. It had been decided, before sending out the questionnaire, that a two-thirds majority would have to agree that a stated objective was important or very important, before it would be incorporated into the final list of objectives.

After obtaining the results of the initial questionnaire study, the tutors were invited to discuss the findings of this study and the final list of objectives, at one of the three meetings arranged before the attachments began. A revised list of 12 objectives was produced and this was included in the students' log diaries, so that they would know about the stated objectives of the course, from the start of the attachment.

At the end of the attachment, half of the students - in sections H, E, A and B - were asked to rate how well the attachment enabled them to reach its stated objectives, on a five point scale from very well to very poorly, in an evaluation sheet, distributed at the end of the final session of the attachment. The other half of the class - sections G, F, D and C - were mailed a separate

questionnaire about the objectives, at an interval of three months after the end of their attachment, and asked to return it to the Department, in the stamped, addressed envelope provided. This questionnaire is contained in appendix 9.

Finally, at the end of the first year of the attachments, the tutors who actually helped with the attachments [ 100 tutors ], were asked to reconsider the 12 objectives, and rerate their importance on the same scale, described earlier, on a further postal questionnaire [ appendix 10 ].

### 3.3. RESULTS

#### 3.3.1. QUESTIONNAIRE STUDY ONE.

Of the 123 tutors who initially agreed to help with the attachments and who were mailed a questionnaire, 111 responded [90.2%] and 107 completed the section on objectives. The responses of each tutor, to each of the objectives, were scored according to the following system: very important scored 5; important 4; no preference 3; not important 2 and; very unimportant 1. The scores for each objective were then totalled and divided by 107, to give a mean score for each objective. The theoretical maximum score was 5 and the theoretical minimum was 1. The scores obtained for the 15 original objectives are shown in table 14. The percentage of tutors giving the objective a score of very important or important is also shown in this table.

**TABLE 14. MEAN SCORE FOR IMPORTANCE AND PERCENTAGE OF TUTORS CONSIDERING THE 15 OBJECTIVES TO BE VERY IMPORTANT OR IMPORTANT.**

<b>OBJECTIVE</b>	<b>SCORE</b>	<b>PERCENTAGE</b>
1. Understand the importance of the doctor-patient relationship.	4.68	99.1%
2. Understand the importance of good communication in the delivery of primary health care.	4.72	99.1%
3. Understand the role of the general practitioner as decision maker and gatekeeper for the providers of health care.	4.22	87.9%
4. Understand the importance of ethical considerations.	4.09	82.2%
5. Recognise which illnesses present commonly in general practice and their epidemiology.	4.19	88.8%
6. Appreciate how the health of a patient can affect his/her role as part of a family.	4.24	89.7%
7. Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.	4.44	95.3%
8. Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.	4.42	93.5%
9. Understand the place of health promotion and prevention of problems	3.70	66.4%
10. Appreciate the importance of effective collaboration between general practitioners and other health professionals who deliver primary health care such as district nurses etc.	4.21	91.5%
11. Understand the interface between general practice and hospital practice including referral procedures and problems.	3.86	73.8%
12. Understand the importance of systems and procedures for delivering health care including computerised systems.	3.49	51.4%
13. Understand the difficulties of providing continuing care for patients with chronic illhealth in the community.	4.25	92.5%
14. Recognise the potential of general practice as a resource for research and audit.	3.35	45.8%
15. Understand that on one level general practice is a business.	3.55	54.2%

As has been stated, it had been previously decided that if an objective was not thought to be important by a two-thirds majority of the tutors, then it would be excluded from the list of objectives. Therefore objectives 12, 14 and 15 were excluded. Objective number 9 [about health promotion] gained the support of 66.4% of the tutors and so was very close to the cut off point. There was, therefore, a great deal of discussion about this objective, at the meetings held with the tutors, and it was finally agreed to retain it, as an objective, mainly on the basis that it was felt to be important by the GMC [see note 14.1.[f]].

A total of 48 comments were made, in the space left on the questionnaire for the tutors to give suggestions for other objectives. 22 of the suggestions were very similar to the stated objectives, given in the questionnaire, and were simply worded differently e.g. one suggestion given was "ability to communicate with patients and co-workers", which is essentially similar to objective 2. Five tutors suggested that the attachment should show students that general practice could be good fun. Four suggested that the attachment should promote general practice as an alternative to hospital medicine and four that it should show the stress and commitment of general practice. Three tutors suggested that, by the end of the attachments, the students should understand the use of time in patient management, two that it should enable the students to tolerate uncertainty, and two that it should enable them to understand their own strengths and weaknesses, and the part their own personality plays, in patient care. One each of the tutors suggested that, by the end of the attachment, the student should understand: clinical decision making; the problem of deprived areas; terminal illness and bereavement; the importance of early diagnosis; that medicine is only partly a science and; the relevance of the New [ 1990 ] Contract<sup>28</sup>.

These suggestions for additional objectives were discussed, with the tutors, at the meetings, and although it was felt that they were reasonable objectives for individual tutors to have, in addition to the stated course objectives, they were not endorsed by a large enough proportion of the tutors to be incorporated into the formal course objectives.

### 3.3.2. QUESTIONNAIRE STUDY 2

There were 101 students in sections H, E, A and B and 92 of these students [91.1%] completed the evaluation questionnaire, which contained a section for them to evaluate the objectives, at the final session of the attachment. There were 105 students in sections G, F, D and C. Eight of the questionnaires sent to these students at the home address given by Medical Faculty Office, were returned, by the Post Office, marked "not known at this address". 82 out of the remaining 97 questionnaires were returned [84.5%]. No reminder was sent. The responses of the two groups of students i.e. group one, who completed the questionnaire immediately after the attachment and group two, who completed the questionnaire three months after the end of the attachment, were analysed separately. The scores, given by the students, for how well they thought the attachment enabled them to reach the 12 course objectives, are shown in table 15, for the two groups. Although there were no statistically significant differences in the responses to the questionnaire between the two groups, there was a trend for the students in group 2 to give slightly lower scores for some of the objectives.

**TABLE 15. MEAN SCORE FOR THE ATTACHMENT ENABLING THE STUDENTS TO REACH EACH OF THE 12 STATED COURSE OBJECTIVES.**

	<u>SCORE</u> <u>GROUP 1</u>	<u>SCORE</u> <u>GROUP 2</u>
1. Understand the importance of the doctor-patient relationship.	4.51	4.35
2. Understand the importance of good communication in the delivery of primary health care.	4.59	4.48
3. Understand the role of the general practitioner as decision maker and gatekeeper for the providers of health care.	4.41	4.37
4. Understand the importance of ethical considerations.	3.84	3.60
5. Recognise which illnesses present commonly in general practice and their epidemiology.	4.23	4.10
6. Appreciate how the health of a patient can affect his/her role as part of a family.	4.27	4.17
7. Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.	4.28	4.30
8. Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.	4.50	4.50
9. Understand the place of health promotion and prevention of problems	3.95	3.84
10. Appreciate the importance of effective collaboration between general practitioners and other health professionals who deliver primary health care such as district nurses etc.	4.17	4.29
11. Understand the interface between general practice and hospital practice including referral procedures and problems.	3.83	3.83
12. Understand the difficulties of providing continuing care for patients with chronic illhealth in the community.	4.18	4.12

Although there was no request or space given on this questionnaire for the students to comment on the objectives for the course, seven students took the opportunity to make a total of nine comments. Seven of these comments were about the course in general but two students commented on the course objectives. These were "I felt that the practice I was allocated to was particularly informative concerning the course objectives" and "I think the objectives will vary very much from practice to practice depending on their catchment area e.g problems of poverty, unemployment etc."

### 3.3.3. QUESTIONNAIRE STUDY 3

72, out of 100 questionnaires sent, were returned after a single mailing [72%]. The scores, given by these tutors, for the objectives after the attachments, and the percentage of tutors scoring them as very important or important, are shown in table 16.

**TABLE 16. MEAN SCORE FOR IMPORTANCE AND PERCENTAGE OF TUTORS CONSIDERING THE OBJECTIVE TO BE VERY IMPORTANT FOR THE 12 COURSE OBJECTIVES AFTER THE ATTACHMENT.**

	<u>SCORE</u>	<u>PERCENTAGE GIVING IMPORTANT OR VERY IMPORTANT</u>
1. Understand the importance of the doctor-patient relationship.	4.64	98.6%
2. Understand the importance of good communication in the delivery of primary health care.	4.61	98.6%
3. Understand the role of the general practitioner as decision maker and gatekeeper for the providers of health care.	4.29	90.2%
4. Understand the importance of ethical considerations.	3.94	75%
5. Recognise which illnesses present commonly in general practice and their epidemiology.	4.18	86.1%
6. Appreciate how the health of a patient can affect his/her role as part of a family.	4.26	93.1%
7. Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.	4.46	94.4%
8. Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.	4.35	91.7%
9. Understand the place of health promotion and prevention of problems	3.67	54.2%
10. Appreciate the importance of effective collaboration between general practitioners and other health professionals who deliver primary health care such as district nurses etc.	4.14	84.7%
11. Understand the interface between general practice and hospital practice including referral procedures and problems.	3.96	75%
12. Understand the difficulties of providing continuing care for patients with chronic illhealth in the community.	4.21	87.5%

The tutors were asked for their comments about the objectives, in light of their experience of the attachments. Thirteen of the tutors gave comments. Five of them stated their agreement with the course objectives. Three felt that the attachment was not long enough to enable the students to attain all of the objectives. Two tutors commented that objective 5 may not be attainable because in any given four week attachment "common things don't necessarily occur at all". One tutor commented that health promotion should be a "national function i.e. tax on tobacco", and another that students should be shown the "desirability of patients taking some responsibility for minor complaints e.g the common cold" [ objective 9 ]. Finally, one tutor commented that it can take a long time to develop "background knowledge" about a patient [ objectives 6 and 8 ].

#### 3.4. DISCUSSION

The use of learning objectives is an important part of the educational process, enabling learners to be quite clear about the goal they are aiming to achieve<sup>36</sup>. It almost goes without saying that, unless the same objectives are shared by the teachers, the chances of the students reaching these objectives must be substantially diminished. It was therefore felt important, in forming the objectives for this attachment in general practice, that the views of the tutors, who would be doing the bulk of the day to day teaching, should be carefully considered.

The method used to include the tutors in the formulation of the objectives is not without criticism, as the list, which was presented to the tutors would have appeared to many of them as a 'fait accompli' and difficult for them to disagree with. However, with the numbers of tutors involved, it would have been very difficult to gain and incorporate all their individual views. The initial list of objectives seemed a reasonable one to the members of the

Department of General Practice, and many of the objectives were suggested by established sources. In particular, the Recommendations on Basic Medical Education, prepared by the Education Committee of the General Medical Council, clearly set out the necessary components of knowledge and skills required by a competent pre-registration house officer<sup>1</sup>. A working party of the same committee reported, in 1987, that many objectives were common to courses in all medical schools, including: teaching about communication skills; the doctor-patient relationship; the impact of illhealth upon individuals and families; health education; preventive medicine; the need to balance the expectations of the individual against the requirements and resources of the community and; the treatment of chronic illness<sup>13</sup>. It is, therefore, not surprising that most of the objectives, prepared for this attachment in general practice, were similar to those of other medical schools. Those objectives, which were originally on this list, were included in an attempt to reflect some of the up to date thinking in General Practice, and their lower popularity among the tutors, perhaps indicates the more traditional viewpoint which prevails. The objectives, included in the original list and not directly supported by the literature, were objectives 7, 12 and 15. However, objective 7, concerning the consultation, is clearly related to objectives concerning communication skills and the doctor-patient relationship, and so it was not a controversial inclusion. This was reflected by this objective being awarded a high score, both by the tutors, before and after the attachment, and by the students.

Objective 12, concerning systems and procedures for delivering health care including computerised systems, did not score well in the study. This may be partly because this objective was poorly expressed. However, the explanation may well lie in the difficulty, for many general practitioners, in

teaching students about a concept, that they are still striving to incorporate into their daily work.

The inclusion of objective 15, concerning General Practice as a business, was prompted by the common complaint, from many G.P. trainees, that this aspect is poorly covered during their training<sup>37</sup>. It was considered that this was an important aspect of General Practice, by the members of the Department, and that its inclusion in the list of objectives, for the undergraduate teaching, might improve knowledge about general practice business, among trainees. However, this view was not shared by a large majority of the tutors, who perhaps felt that it was inappropriate to teach students about general practice business, at their stage of training. Given that objectives 12 and 15 were not well established in other medical schools, it is perhaps not surprising that they were not supported well enough by the general practice tutors to be included in the final list of objectives, according to the predetermined criteria for inclusion. However, the findings of Stanley and Al-Shehri in Liverpool were in broad support of the initial inclusion of these two objectives<sup>38</sup>. In their study of students' self-set learning objectives [ published two years after the initial list of 15 objectives was given to the tutors at Glasgow University ], a substantial number of students wished to learn about the "structure/organization/finance of practice" and "computing: role in practice, experience of".

The lack of support for objective 14 is perhaps explained by different factors. Firstly, preparation of these objectives closely followed the introduction of the New [ 1990 ] Contract in General Practice, in which audit was introduced as a contractual obligation<sup>28</sup>. This has been a controversial issue. Secondly, the majority of general practitioners have traditionally had little time, or incentive, to carry out original research in their practices. General practitioner tutors, although more academically inclined, are likely to

have even less time available to spend on research because of their teaching commitments. In light of these factors and, despite the fact that the concept behind this objective was supported by the GMC, it is not surprising that objective 14 was felt to be important by fewer than half of the tutors.

Although Stanley and Al-Shehri reported the advantages of personal learning objectives in general practice, they did point out that students entering a new subject area, within a complex curriculum, require the sort of orientation which departmental objectives provide<sup>38</sup>. Students at Glasgow University had only received limited exposure to General Practice previously in their undergraduate medical course. Combined with the fact that the attachment was a new inclusion in the course and the teachers would initially be exploring its full potential, it was felt that, although personal learning objectives have much to recommend them, an established method of providing set objectives would be more suitable to begin with. However, it was considered very important to obtain the opinions of the students about whether the attachment allowed them to reach the set objectives and, therefore, whether the objectives were appropriate.

It was of interest that the scores given for some of the objectives, by the two separate groups of students, showed a slight trend towards a decline with time. This may well simply be due to the loss of memory about any experience which occurs with time.

The students gave objective 4 [about ethics] the lowest score which suggests that the attachment enabled the students to reach this objective least well. In addition, the largest reduction in score for any objective in the two studies on the tutors' opinions, before and after the attachment, was for objective 4. This, perhaps, suggests that some tutors found it more difficult to provide teaching in this aspect than they expected. Some additional formal

teaching in Ethics in the Department of General Practice would, therefore, be of benefit.

Although objective 9 [about health promotion] was rated lowest in importance by the tutors, the students were still able to reach the objective and this, perhaps, supports the continued inclusion of this objective on the list.

It is notable that objective 9 still obtained the lowest score in the follow-up questionnaire study of the tutors' opinions. In addition, after the attachment, a smaller proportion [54.2% compared with 66.4% before the attachment] thought it was very important or important. The increasing unpopularity of this objective may well be due to controversy over health promotion issues since the 1990 Contract. Perhaps rephrasing the objective to remove the politically sensitive phrase "health promotion", and concentration on prevention and health education, may render it more acceptable to the tutors.

Apart from the two exceptions of objectives 4 and 9 discussed above, the scores obtained by the objectives after the attachments were very similar to those obtained before it. This suggests that the objectives are appropriate in the opinion of the vast majority of the tutors. In addition, the scores given by the students suggest that the attachments enabled the majority to reach these objectives to a satisfactory degree. This suggests that the objectives are relevant to the attachments. It would therefore be reasonable to continue to use this list of learning objectives, as a basis for the teaching during the attachment .

## CHAPTER 4

### DEVELOPMENT AND EVALUATION OF TASKS FOR THE ATTACHMENT.

#### 4.1. INTRODUCTION

Specific learning objectives, and the tasks derived from them, should be relevant, unequivocal and feasible i.e. it must be ensured that what the student is required to do, can actually be done, within the time allowed, and with the facilities to hand<sup>30</sup>. This chapter describes the development of the tasks the students were expected to carry out during their attachment, demonstrates the basic content of the attachment, with reference to the tasks, and reports on their evaluation, for feasibility and usefulness, by the tutors, and their evaluation, for interest and relevance, by the students.

#### 4.2. METHOD

A list of tasks was prepared, based mainly on the assumption that the students would be spending approximately half of their time 'shadowing' the general practitioner tutor or one of their partners, and the remainder of the time with other members of the primary care team, carrying out project and case work, and in private study. The list of activities where the student would shadow the G.P. reflected the usual working pattern found in general practice. Thus, the student would be expected to spend time observing the G.P. tutor, or one of the partners in the practice, during consultations, on home visits, in special clinics and performing practical procedures. They would be expected to spend some time with both the practice employed staff e.g. practice nurse, and practice attached staff e.g. health visitor. Finally, they would be expected to spend some time conducting consultations personally and reporting back to the tutors, following up short and long cases, following a patient from home to hospital and back again, keeping a log diary, doing a simple research and audit project, and performing some practical procedures.

The first stage, in assessing the feasibility of these tasks, was to find out if the tutors thought that they were feasible during the attachment, as they were the best individuals to determine if their practices could provide the facilities, necessary for the students to carry out the tasks. The 123 tutors, who had agreed to help with the attachments, were therefore asked to state if each of the tasks was feasible in their practice, on the same initial questionnaire which was sent to them before the attachments [appendix 8]. They were also asked to include any other tasks which they felt should be incorporated into the list.

The responses of the tutors, about the feasibility of these tasks, were discussed at the three meetings and, as a result of the questionnaire responses and discussions, a final list of tasks was prepared. The tutors were given this final list before the the attachments started and the students received it at the start of the attachment, incorporated in their log diary [appendix 6].

At the end of the first year of the attachments, the tutors, who had participated in the teaching and had completed the initial questionnaire, were asked to reconsider the set tasks, in the light of their experience of the attachments. In this follow-up questionnaire, they were asked to assess, not only if the task was feasible, but also if they thought it was useful. They were also asked for any comments they might have about the set tasks [appendix 10].

At the end of each attachment, the students were asked to complete a section of the evaluation questionnaire about the tasks [appendix 9]. In this section, they were asked to estimate the number of hours they spent on each of the tasks and whether they felt that this time spent was too long, too short or about right. They were also asked to rate each task on two five point scales - one for interest, where 5 was very interesting and 1 was very boring, and one for relevance, where 5 was very relevant and 1 was poorly relevant. They were also asked to suggest any changes to the set tasks which might improve them.

### 4.3. RESULTS

#### 4.3.1. STUDY ONE WITH TUTORS - FEASIBILITY OF TASKS

As previously reported, 111 tutors out of 123 [90.2%] returned the initial questionnaire. The number, who thought each task was feasible in their practice, is shown in table 17. Although there was no designated space on the questionnaire for putting possibly feasible as a response, many of the tutors included this alternative in their responses and so this option is included in the table.

**TABLE 17. OPINION OF THE TUTORS ABOUT THE FEASIBILITY OF EACH OF THE TASKS IN THEIR PRACTICE.**

[The percentage of the number answering is given in brackets].

<u>TASK</u>	<u>FEASIBILITY</u>			
	<u>FEASIBLE</u>	<u>POSSIBLY FEASIBLE</u>	<u>NOT FEASIBLE</u>	<u>UNANSWERED</u>
Observed at least 1 hour of surgery per day with the tutor or another partner.	105 [99.1%]	0	1 [0.9%]	1
Conducted at least 10 consultations in the surgery personally and reported back to the tutor.	80 [75.5%]	14 [13.2%]	12 [11.3%]	1
Attended at least 15 home visits.	100 [94.3%]	0	6 [5.7%]	1
Attended at least three emergency consultations either at home or in the surgery.	92 [87.6%]	6 [5.7%]	7 [6.7%]	2
Obtained experience of out of hours visits for at least two sessions.	85 [81.0%]	7 [6.7%]	13 [12.4%]	2
Spent at least one session with other members of the practice staff to gain some insight into their purpose and function as members of the primary care team.	104 [98.1%]	0	2 [1.9%]	1
Spent at least one session with members of the practice attached staff e.g. district nurse, to gain some insight into their purpose and function.	105 [99.1%]	1 [0.9%]	0	1

[continued over]

<u>TABLE 17 [ CONTINUED ]</u>	<u>FEASIBLE</u>	<u>POSSIBLY FEASIBLE</u>	<u>NOT FEASIBLE</u>	<u>UNANSWERED</u>
Spent at least two sessions at other clinics held in the practice e.g. health promotion, antenatal etc.	103 [97.2%]	1 [0.9%]	2 [1.9%]	1
Followed and written up at least five short cases seen in surgery.	105 [99.1%]	1 [0.9%]	0	1
Followed and written up at least one chronic case in each of three age groups:				
- Child	97 [92.4%]	7 [6.7%]	1 [0.9%]	2
- Adult	104 [98.1%]	2 [1.9%]	0	1
- Elderly	105 [99.1%]	1 [0.9%]	0	1
Followed at least one patient from home or surgery to hospital and back and written it up.	83 [82.2%]	10 [9.9%]	8 [7.9%]	6
Kept a log diary of experience obtained.	101 [99%]	0	1 [1.0%]	5
Developed, completed and written up a simple research and audit project.	64 [62.7%]	11 [10.8%]	27 [26.5%]	5
Performed the following practical procedures:				
- Sphygmomanometry	103 [100%]	0	0	4
- Otoscopy	103 [100%]	0	0	4
- Ophthalmoscopy	100 [97.1%]	1 [1.0%]	2 [1.9%]	4
- Venepuncture	98 [95.1%]	1 [1.0%]	4 [3.9%]	4
- Cervical cytology	74 [73.3%]	10 [9.9%]	17 [16.8%]	6
Observed or assisted with three of the following practical procedures:				
- Suturing of lacerations	44 [44%]	7 [7%]	49 [49%]	7
- Proctoscopy	31 [31.3%]	3 [3.0%]	65 [65.7%]	8
- Minor surgical procedures	74 [73.3%]	3 [3.0%]	24 [23.8%]	6
- Child assessment	90 [90.4%]	0	9 [9.1%]	8
- Electrocardiography	61 [60.4%]	0	40 [39.4%]	6
- Immunisation	100 [98%]	0	2 [2.0%]	4

Twelve tutors used the space available to make 17 comments and suggestions. Three tutors thought that there were already too many listed tasks for the time available in the attachments. Two tutors suggested that the students should attend the practice meetings. Other suggestions, each made by only one tutor, were: include involvement with a terminally ill patient; learn some idea of the time spent on business administration in the practice; learn inhaler techniques; learn how to do peak flow measurement; learn about G-Pass at a basic level; take part in G.P. trainee work e.g tutorials; write up a psychiatric chronic case; observe or act as a receptionist for about an hour; attend activities outwith the practice e.g. factory session and; attend one postgraduate meeting. Other comments made were that: it is important to have a structure to the attachment and; students need more than two out of hours sessions to gain sufficient experience.

Prior to receiving the results, it had been decided that at least a two-thirds majority of the tutors would have to consider that a task was feasible, before it would be included in the set list of tasks. This condition was easily met for all of the tasks, apart from 'Developed, completed and written up a simple research and audit project', which was only thought to be feasible by 62.7% of the tutors. In addition, several of the practical procedures - suturing lacerations, proctoscopy and electrocardiography - did not meet the agreed criteria for inclusion. After discussion at the meetings, it was decided that a simple research project and audit would be provided by the Department for the students to undertake. It was also decided that the prescriptive lists of procedures would be excluded and replaced, by more generalised tasks of observing and performing practical procedures, without specifying what these should be.

## 4.3.2. STUDY TWO WITH TUTORS - FOLLOW-UP STUDY

As previously stated 72 out of the 100 tutors [72%] replied to the follow-up questionnaire, after the completion of the attachments. The numbers who thought each task was feasible and useful, in the light of their experience of the attachments is shown in table 18.

**TABLE 18. TUTORS' OPINIONS ABOUT THE FEASIBILITY AND USEFULNESS OF THE TASKS AFTER THE ATTACHMENTS**

[The percentage of the number answering is given in brackets].

<u>TASK</u>	<u>TUTORS' OPINIONS ABOUT TASKS</u>			
	<u>FEASIBLE AND USEFUL</u>	<u>FEASIBLE NOT USEFUL</u>	<u>USEFUL NOT FEASIBLE</u>	<u>NEITHER FEASIBLE OR USEFUL</u>
Observed at least one hour of surgery consultations per day with the tutor or another partner.	64 [88.9%]	4 [5.6%]	3 [4.2%]	1 [1.4%]
Conducted at least 10 consultations in the surgery personally and reported back to the tutor.	59 [81.9%]	3 [4.2%]	4 [5.6%]	6 [8.3%]
Attended at least 5 home visits.	68 [94.4%]	3 [4.2%]	1 [1.4%]	0
Attended at least three emergency consultations either at home or in the surgery.	57 [79.2%]	2 [2.8%]	11 [15.3%]	2 [2.8%]
Obtained experience of out of hours visits.	30 [41.7%]	14 [19.4%]	11 [15.3%]	17 [23.6%]
Spent at least one session with other members of the practice staff to gain some insight into their purpose and function as members of the primary care team.	65 [90.3%]	4 [5.6%]	2 [2.8%]	1 [1.4%]
Spent at least one session with members of the practice attached staff e.g. district nurse, to gain some insight into their purpose and function.	65 [90.3%]	5 [6.9%]	2 [2.8%]	0
Spent at least two sessions at other clinics held in the practice e.g. health promotion, antenatal etc.	62 [86.1%]	9 [12.5%]	1 [1.4%]	0

[Table continued over]

TABLE 18. [ CONTINUED ].

	<u>FEASIBLE AND USEFUL</u>	<u>FEASIBLE NOT USEFUL</u>	<u>USEFUL NOT FEASIBLE</u>	<u>NEITHER FEASIBLE OR USEFUL</u>
Written up at least five short cases seen in surgery.	57 [79.2%]	13 [18.1%]	2 [2.8%]	0
Followed and written up at least one chronic case in each of the following age groups:				
- Child	56 [77.8%]	10 [13.9%]	3 [4.2%]	3 [4.2%]
- Adult	59 [81.9%]	11 [15.3%]	1 [1.4%]	1 [1.4%]
- Elderly	59 [81.9%]	11 [15.3%]	1 [1.4%]	1 [1.4%]
Followed a patient from home or surgery to hospital and written it up.	34 [47.2%]	4 [5.6%]	15 [20.8%]	19 [26.4%]
Kept a log diary of experience obtained.	57 [79.2%]	12 [16.7%]	1 [1.4%]	2 [2.8%]
Taken part in a simple research or audit project.	37 [51.4%]	13 [18.1%]	6 [8.3%]	16 [22.2%]
Observed or performed various practical procedures:	53 [73.6%]	13 [18.1%]	4 [5.6%]	2 [2.8%]

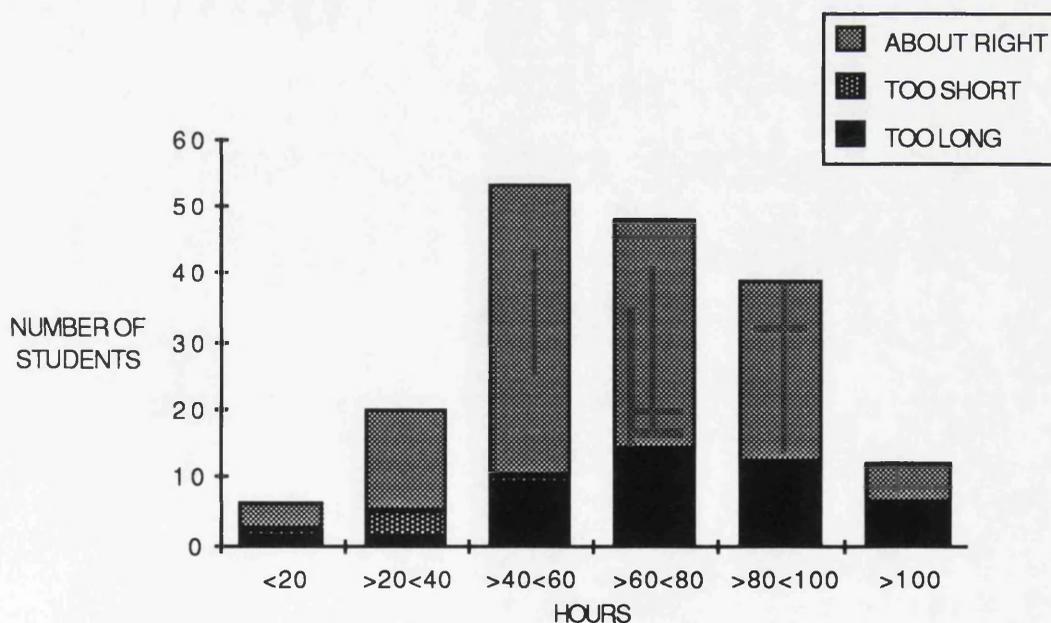
Fifteen tutors made 21 comments about the tasks in the space provided on this questionnaire. Five tutors commented on the difficulty of providing the student with the opportunity of following a patient to hospital. Four commented on the difficulty of arranging, and the doubtful value of, out of hours experience. Three tutors commented that arranging personal consultations for the students was a difficult, although valuable, experience. Two tutors suggested practice based research or audit projects should be included, but were concerned about the preparation time required for this. Other comments each made by one tutor only were: "too many tasks for time available"; "one of the cases should be a terminally ill patient"; "sitting in on a large number of consultations is of

doubtful value"; "all tasks are made easier by the enthusiasm of the student"; "chronic child case difficult to obtain"; "not sure of value of research project" and ; "introduction of audit concept laudable - good habits for the future".

### STUDY THREE - STUDENTS' EVALUATION OF THE TASKS

191 students completed the part of the evaluation questionnaire about the tasks, although not all of these students completed every part of the questionnaire. The data received from the students evaluation questionnaire, on the amount of time spent on each of the tasks, and whether they felt that this time spent was too long, too short or about right, is rather complex, but valuable. Therefore the findings for each task are illustrated separately in figures 3 - 19.

**FIGURE 3.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - OBSERVED AT LEAST ONE HOUR OF SURGERY CONSULTATIONS PER DAY WITH THE TUTOR OR ANOTHER PARTNER - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT. [ Number of students answering the question = 178 ].

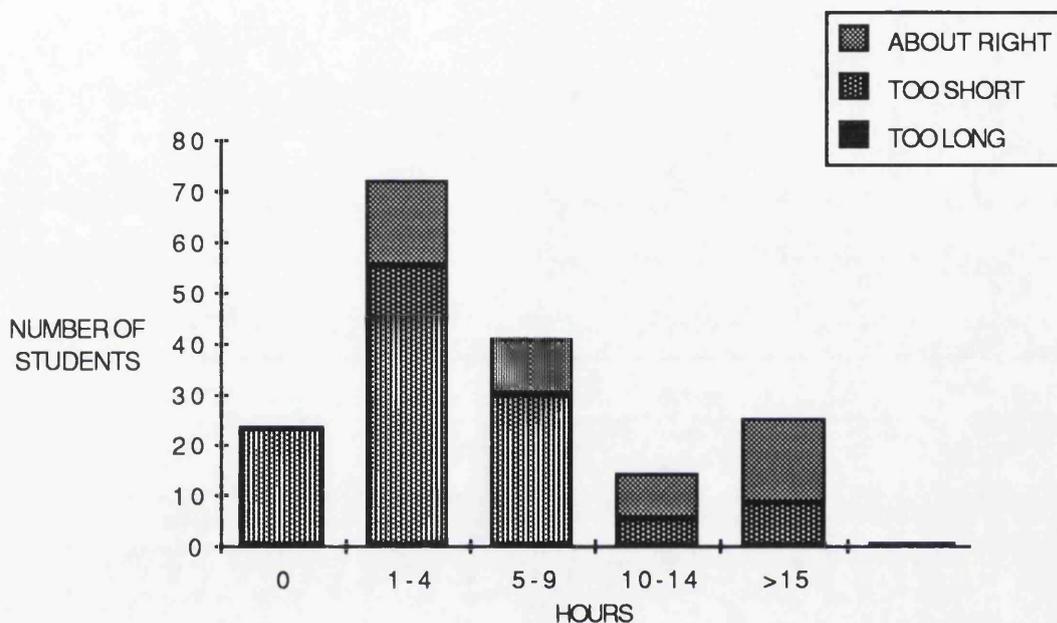


The largest number of students [53] estimated that they spent between 40 and 60 hours on this task. This group also contained the greatest proportion of

students [43/53, or 81.1%] who thought the time spent on the task was about right.

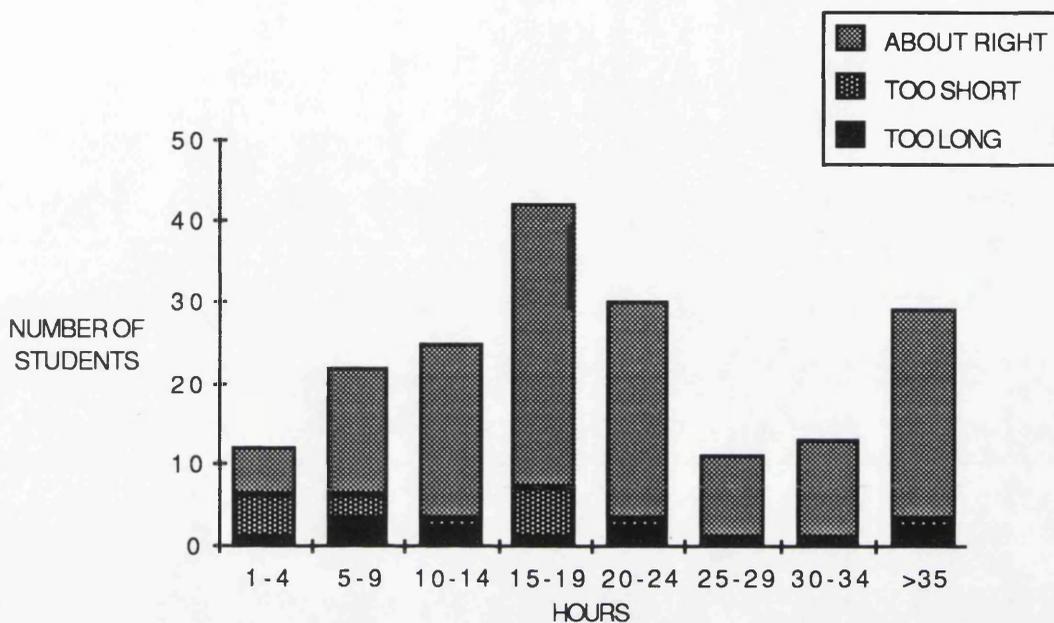
**FIGURE 4.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - CONDUCTED CONSULTATIONS PERSONALLY AND REPORTED BACK TO TUTOR - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THAT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

[ Number of students answering the question = 175 ].



121 out of 175 thought that the time they spent on this task was too short. It was only when students had spent 10 or more hours on this task that the number of students, who thought that the time spent was about right, was greater than those who thought it was too short.

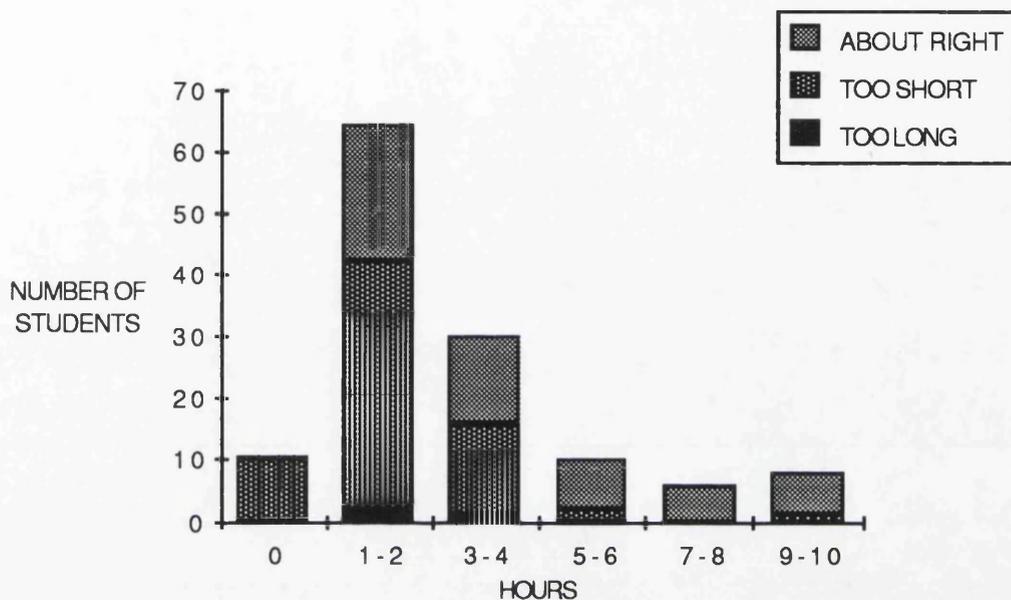
**FIGURE 5. ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - ATTENDED HOME VISITS - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.**  
 [ Number of students answering this question = 184 ].



The largest number of students [42] estimated that they had spent 15-19 hours on this task. The greatest proportion of students, in all time groups, thought the time spent on this task was about right and this proportion increased, with increasing time spent, until the 30-34 hour time band, when 12 out of 13 students thought that the time spent was about right.

**FIGURE 6. ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - ATTENDED EMERGENCY CONSULTATIONS - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.**

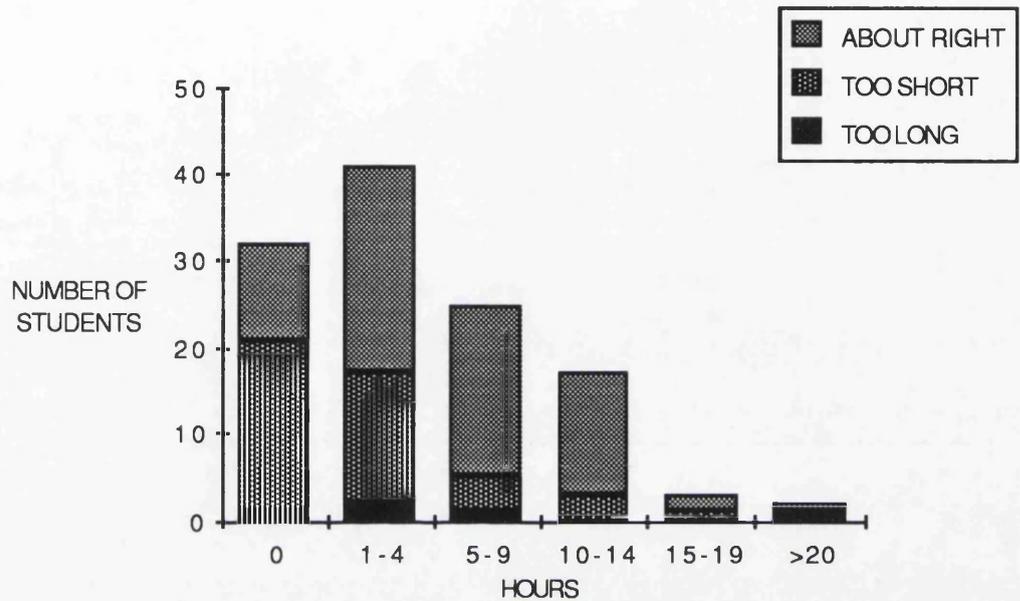
[Number of students answering this question = 148 ].



It is of note that only 148 students completed this question suggesting that up to 43 students, in addition to the 10 students noted in the figure, did not have any experience in this task. Again the proportion of students, who thought that the time spent on this task was about right, increased with estimated time spent, until 6 out of 6 at 7-8 hours, and 7 out of 8 at 9-10 hours, thought the time spent was about right.

**FIGURE 7. ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - OBTAINED EXPERIENCE OF OUT OF HOURS VISITS - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.**

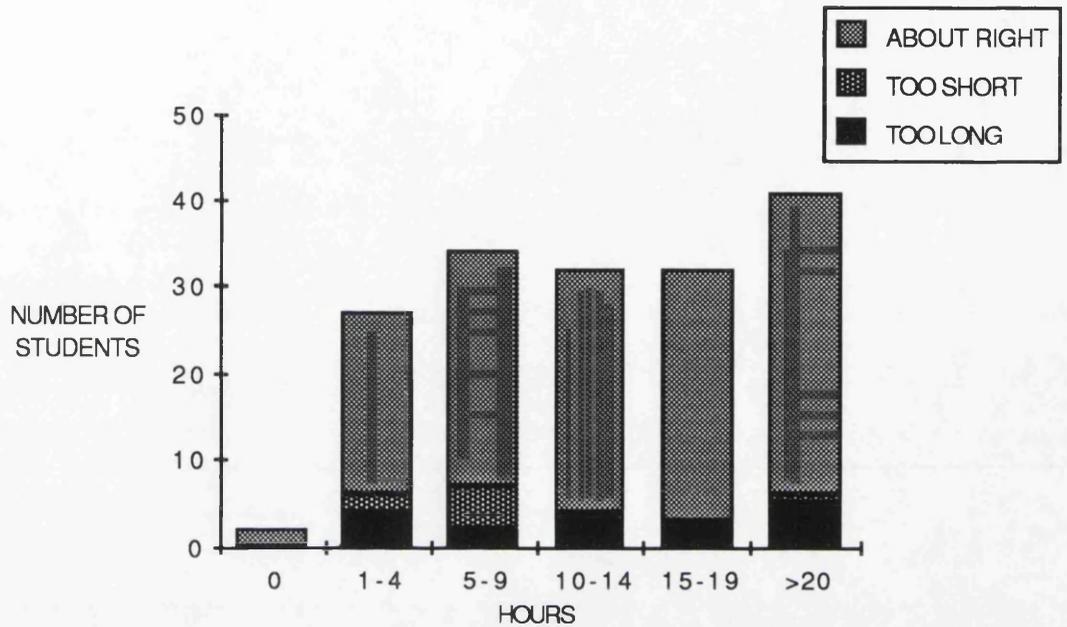
[ Number of students answering this question = 120 ].



Again it is of note that only 120 students completed this section, suggesting that up to 71 other students did not obtain experience out of hours, in addition to the 32 students who noted this. Of these 32 students, 20 indicated that they thought that this was inadequate. However, 11 students thought this was about right, suggesting that they did not perceive out of hours work to be an important experience. The largest proportion of students, 14 out of 17, thought that 10-14 hours experience of out of hours work was about right. This would correspond to about one night on call during the attachment.

**FIGURE 8.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - SPENT TIME WITH OTHER MEMBERS OF THE PRACTICE STAFF - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

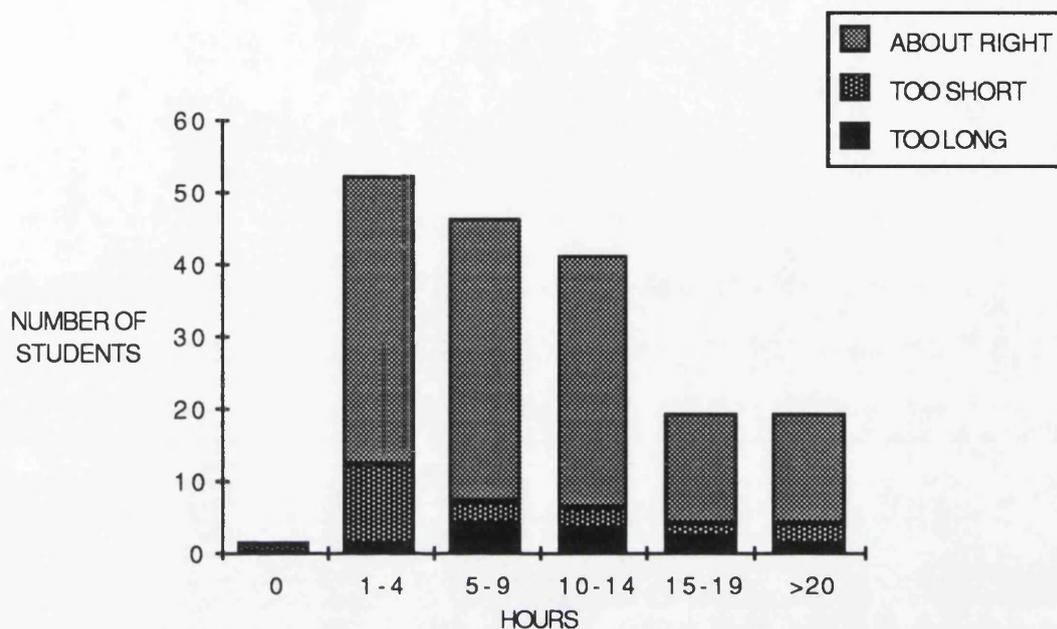
[ Number of students answering this question = 168 ].



The largest proportion of students [29 out of 32] thought that 15-19 hours spent, with other members of the practice staff, was about right although the majority of students in all time categories thought that the time they spent on this task was about right.

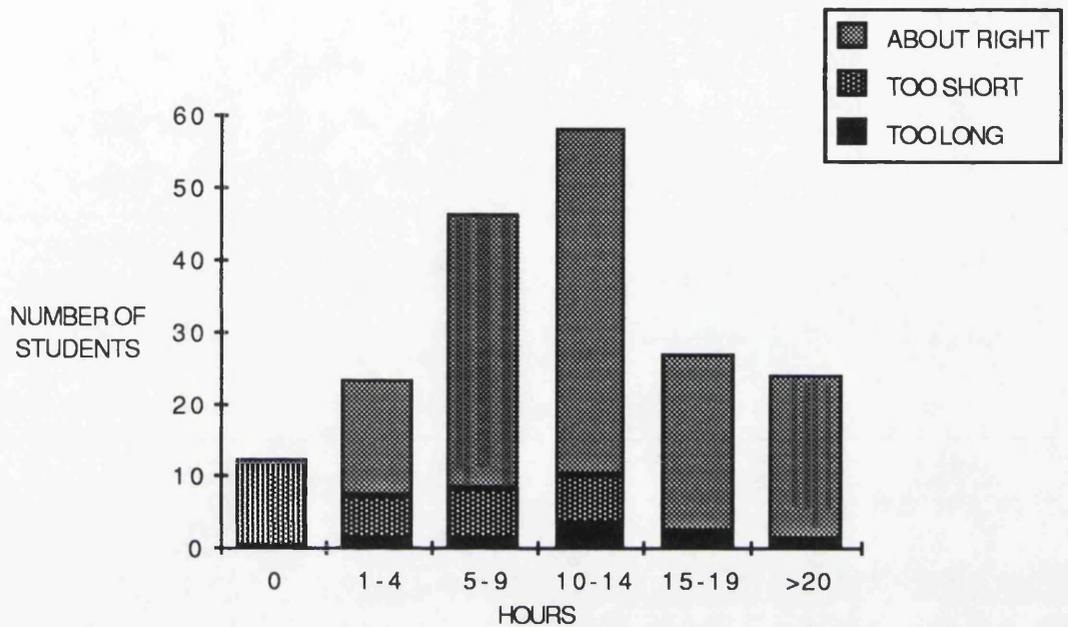
**FIGURE 9.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - SPENT TIME WITH MEMBERS OF PRACTICE ATTACHED STAFF E.G. DISTRICT NURSE - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

[ Number of students answering this question = 178 ].



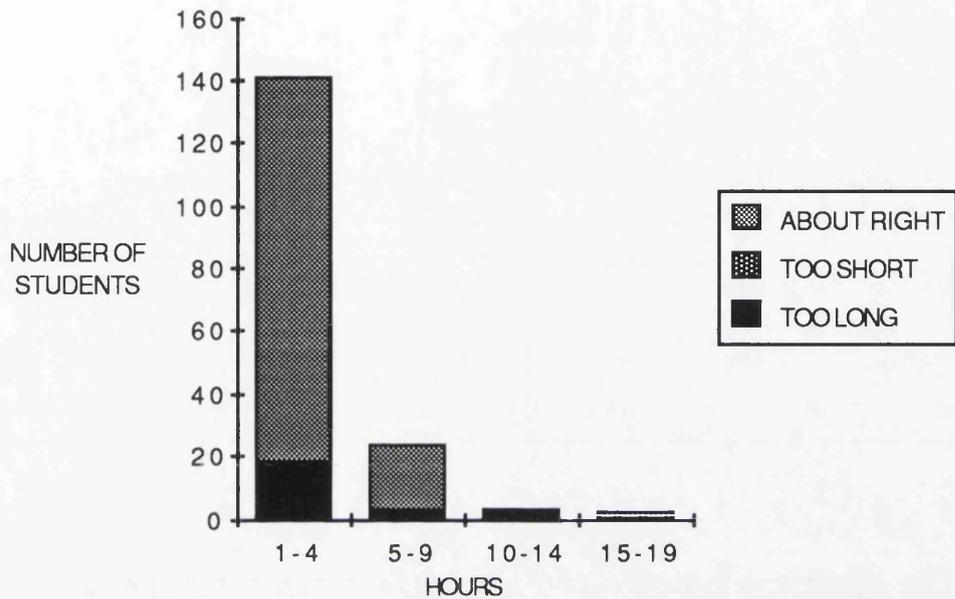
The largest proportion of students [35/41] thought that 10-14 hours spent, with members of the practice attached staff during the attachment, was about right, although again the majority of students in all time categories thought the time they spent on this task was about right.

**FIGURE 10.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - ATTENDED OTHER CLINICS HELD IN THE PRACTICE E.G. HEALTH PROMOTION, ANTENATAL ETC. - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT. [ Number of students answering this question = 178 ].



The largest proportion [23 out of 24] thought that over 20 hours spent, in other clinics throughout the attachment, was about right, although again the majority of students, in each time category, thought the time they spent on this task was about right.

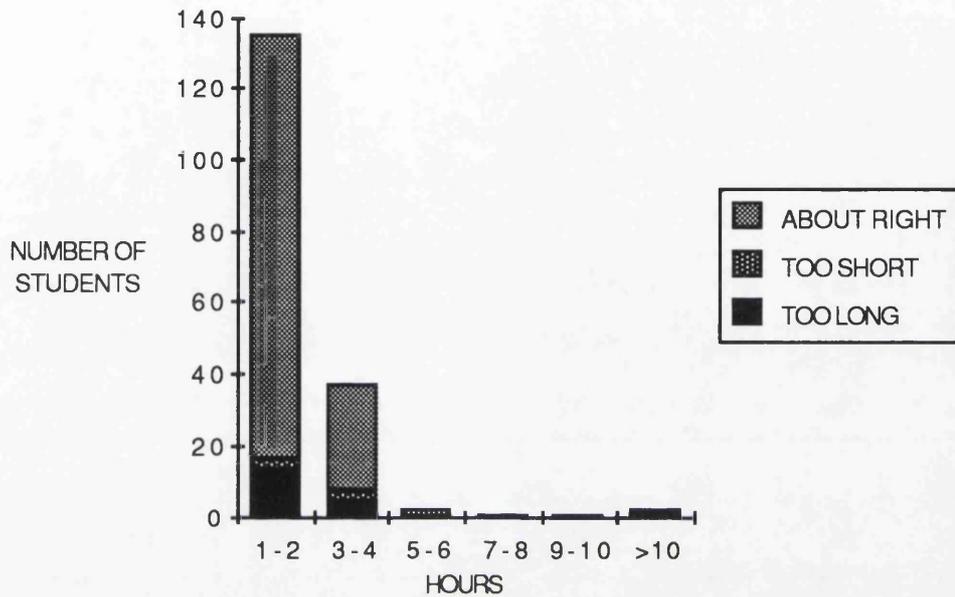
**FIGURE 11.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - WRITTEN UP 5 SHORT CASES - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT. [ Number of students answering this question = 170 ].



The vast majority only spent a few hours on this task and most of them felt that this time spent was about right. However, a sizeable minority felt that even this time spent was too long.

**FIGURE 12.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - FOLLOWED AND WRITTEN UP CHRONIC CHILD CASE - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

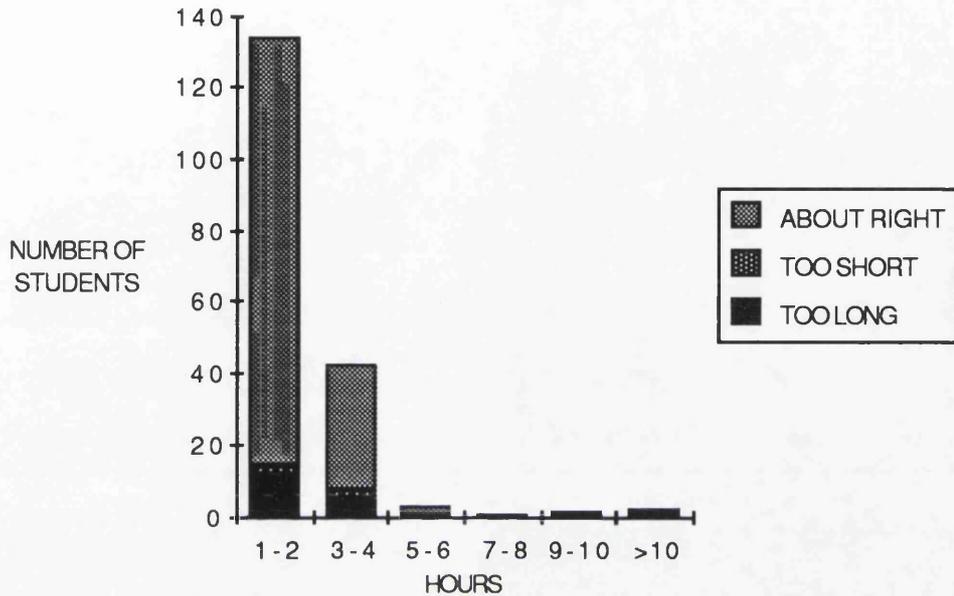
[ Number of students answering this question = 175 ].



Most of the students spent only one to two hours on this task and the majority thought that this was about right.

**FIGURE 13.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - FOLLOWED AND WRITTEN UP CHRONIC ADULT CASE - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

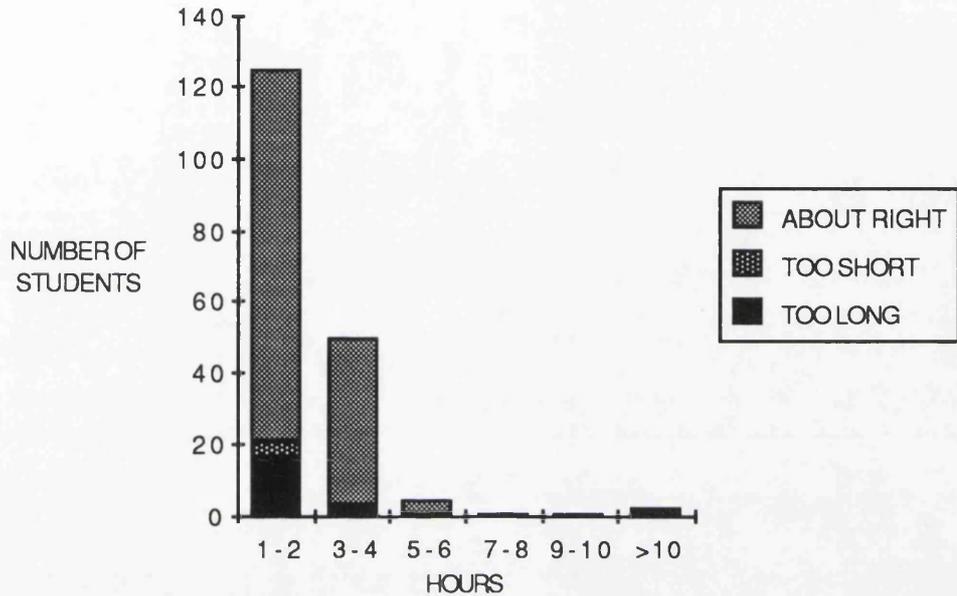
[ Number of students answering this question = 181 ].



Again as expected, only a few hours were spent on this task and most of the students thought that this time spent was about right.

**FIGURE 14.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - FOLLOWED AND WRITTEN UP CHRONIC ELDERLY CASE - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

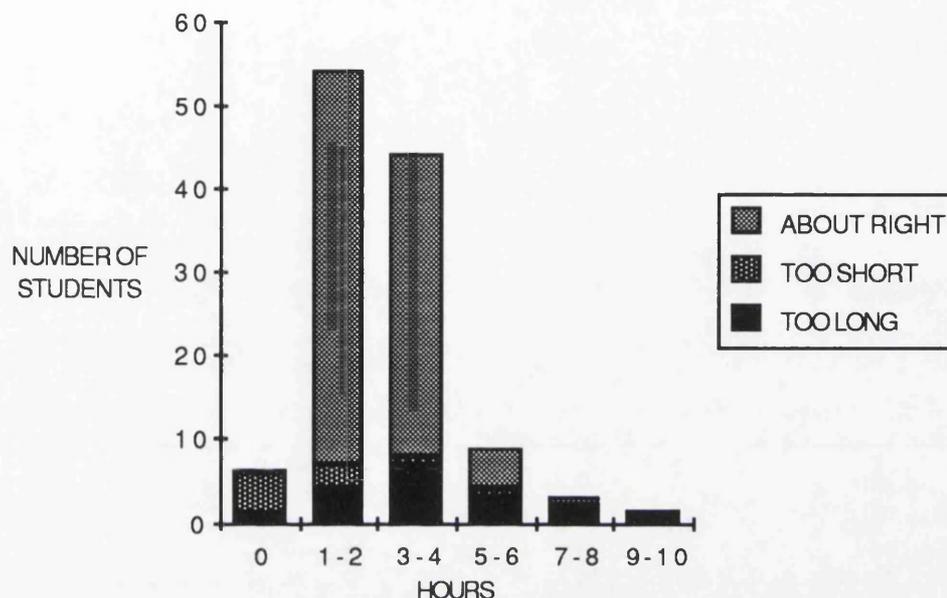
[ Number of students answering this question = 180 ].



The findings about this task were again similar to the last two, although rather more students spent slightly longer - three to four hours - on it.

**FIGURE 15.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - FOLLOWED A PATIENT FROM HOME OR SURGERY TO HOSPITAL - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

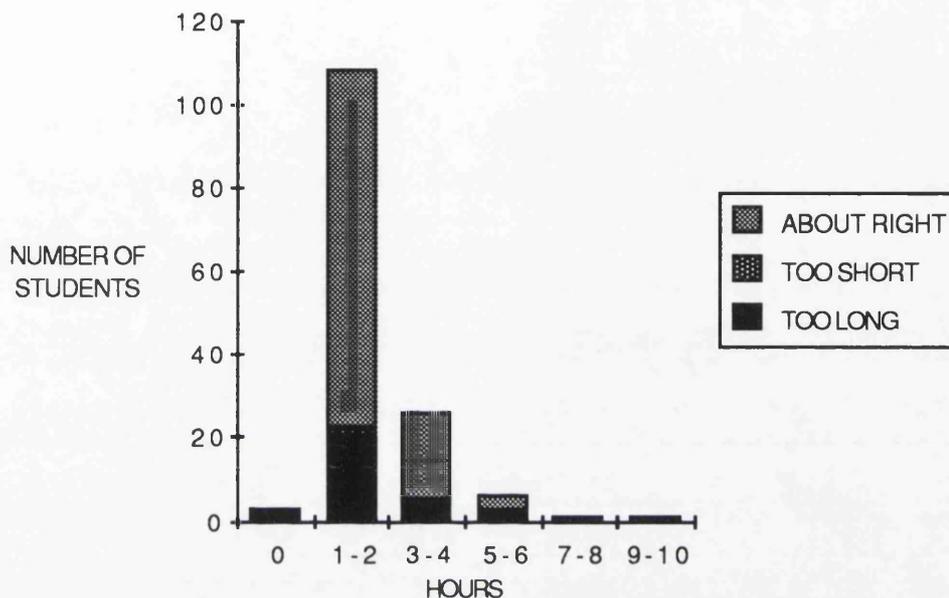
[ Number of students answering this question = 117 ].



It is of note that only 117 students completed this question, suggesting that a significant proportion of the students did not complete this task, in addition to the six students who noted this on the questionnaire. This was confirmed by a review of the student log diaries, in which only 131 out of 206 students described a patient, whom they followed to hospital. The largest proportion of those, who completed this question [47 out of 54], thought that one to two hours was about the right time to spend on it.

**FIGURE 16.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - KEPT A LOG DIARY OF EXPERIENCE OBTAINED - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

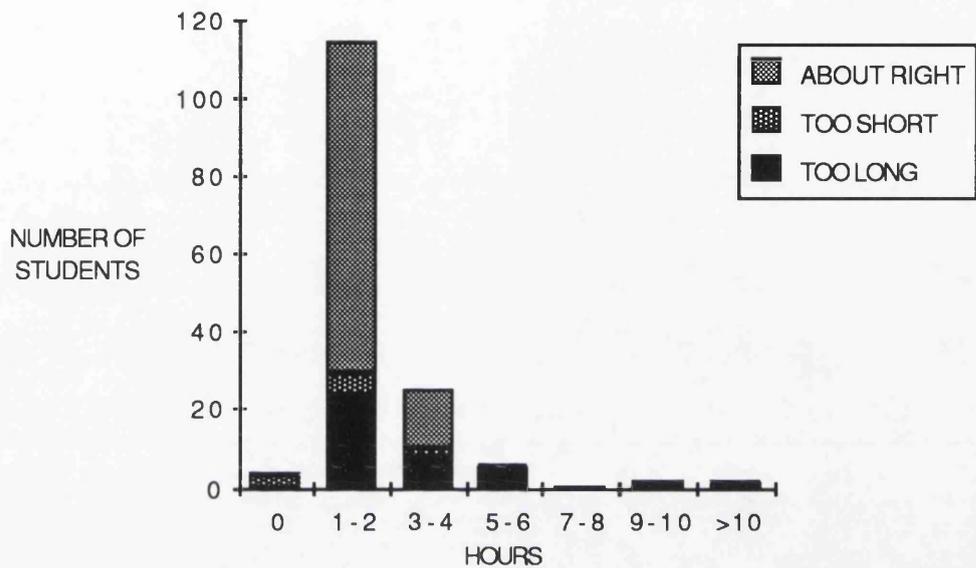
[ Number of students answering this question = 144 ].



Although only 144 students completed this question and two students stated that they had spent no time on it, a log diary was received for all 206 students and in all cases it was completed to a greater or lesser extent. It is therefore not clear why the response to this question was not better. The vast majority estimated that they only spent one to two hours on this task and most [ 86 out of 108] thought that this was about the right time to spend on it.

**FIGURE 17.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - TAKEN PART IN THE RESEARCH PROJECT - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

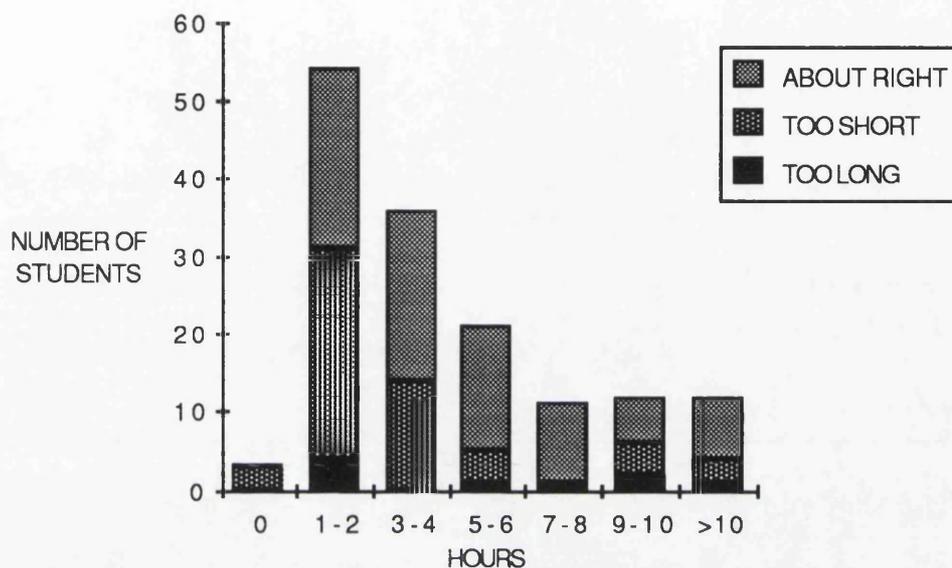
[ Number of students answering this question = 152 ].



Again the majority estimated they only spent one to two hours on this task and most [85 out of 114] thought that this was about the right time to spent on it.

**FIGURE 18.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - OBSERVED PRACTICAL PROCEDURES - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

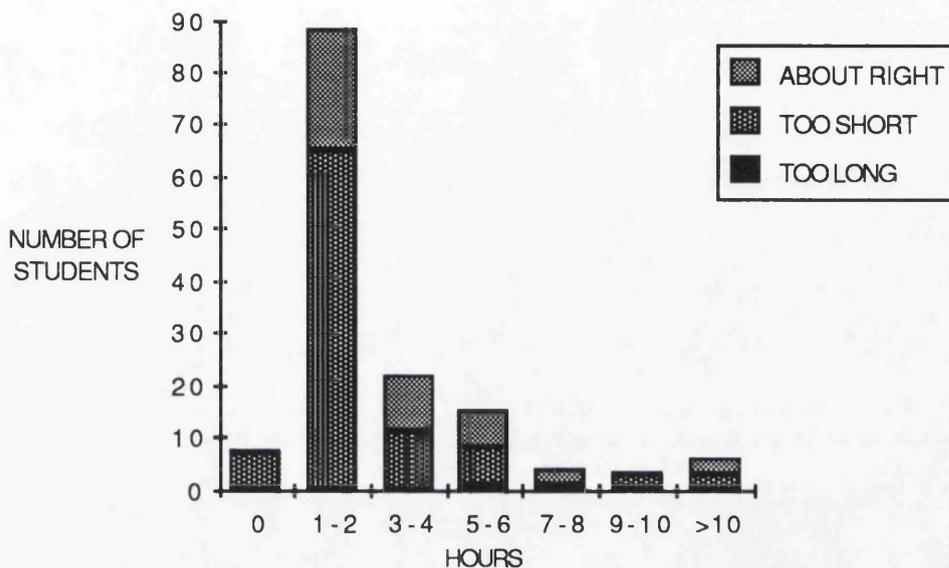
[ Number of students answering this question = 149 ].



The majority of students estimated that they spent relatively little time on this task and this was clearly unsatisfactory for a substantial proportion, who thought that the time spent was too short.

**FIGURE 19.** ESTIMATION BY STUDENTS ABOUT THE TIME THEY SPENT ON TASK - PERFORMED PRACTICAL PROCEDURES - DURING THE ATTACHMENT AND WHETHER THEY THOUGHT THE TIME SPENT WAS TOO LONG, TOO SHORT OR ABOUT RIGHT.

[ Number of students answering this question = 145 ].



97 out of 145 of those completing this question thought that the time they spent on this task was too short. Only among the four students who spent 7-8 hours on it was there a majority [of three], who thought that this time was about right. This is therefore clearly a task on which the majority of students would have liked to spend more time.

The student's mean scores for interest and relevance, for each of the 17 tasks are shown, with the number of students who completed each of the questions, in table 19.

**TABLE 19. MEAN SCORES FOR INTEREST AND RELEVANCE GIVEN BY THE STUDENTS FOR EACH TASK.**

<u>TASK</u>	<u>INTEREST SCORE</u>	<u>RELEVANCE SCORE</u>
1. Observed consultations with the tutor or another partner.	4.11 N=189	4.34 N=189
2. Conducted consultations personally and reported back to tutor.	4.58 N=163	4.66 N=164
3. Attended home visits.	4.26 N=188	4.37 N=188
4. Attended emergency consultations.	4.40 N=149	4.45 N=153
5. Obtained experience of out of hours visits.	3.91 N=105	3.90 N=112
6. Spent time with other members of the practice staff.	4.03 N=180	3.98 N=181
7. Spent time with other members of the practice attached staff e.g. district nurse.	4.0 N=181	3.98 N=181
8. Attended other clinics held in the practice e.g. health promotion, antenatal etc.	4.09 N=184	4.21 N=185
9. Written up five short cases.	3.55 N=188	3.54 N=188
10. Followed and written up chronic cases of		
- child	4.09 N=185	4.04 N=185
- adult	4.07 N=190	3.98 N=189
- elderly	4.05 N=189	4.03 N=188
11. Followed a patient from home or surgery to hospital.	4.11 N=117	3.98 N=118
12. Kept a log diary of experience obtained.	2.21 N=182	2.06 N=180
13. Taken part in a research project.	3.05 N=167	3.17 N=167
[continued over ]		

<u>TABLE 19 [ CONTINUED ]</u>	<u>INTEREST SCORE</u>	<u>RELEVANCE SCORE</u>
14. Observed practical procedures.	3.96 N=178	4.0 N=178
15. Performed practical procedures.	4.34 N=170	4.36 N=169

117 of the students gave a total of 157 suggestions, on the space provided in this part of the questionnaire, for improving the attachments. The suggestions made by more than one student are shown in table 20.

**TABLE 20. SUGGESTIONS GIVEN BY MORE THAN ONE STUDENT FOR IMPROVING THE ATTACHMENTS.**

<u>SUGGESTION</u>	<u>NUMBER OF STUDENTS MAKING THIS SUGGESTION</u>
More experience of conducting consultations personally.	56
More experience of performing practical procedures.	26
More "doing" instead of watching.	8
More timetabling/organisation of day.	6
More formal teaching from tutors.	6
More free time.	5
More time with other members of team.	5
Tutors more aware of aims of attachment.	5
Less time spent travelling.	4
Omit log diary.	4
Less time with other members of the team.	3
More emergency visits.	3
Reduce writing up of cases.	3
Treat students as adults.	2
More out of hours work.	2
Experience in different areas of the city.	2

The suggestions made by only one student were: omit following patient to hospital; omit research project; more on research project; increase emphasis on role of primary care in the community; reduce formality; place attachment in third year; reduce long unoccupied lunch break; increase time with the same partner; reduce duration of attachment to two weeks; increase time in practice; make cases less complicated; omit practical procedures; students do a report on the tutors; increase time to read case notes; increase home visits; use generic names for drugs and; more space in practice.

#### 4.4. DISCUSSION

Allowing the tutors to look at the proposed list of tasks, in advance of the start of the attachments, was a useful exercise. Although the majority of the set tasks were thought to be feasible by the tutors, those which were not thought to be feasible by the majority were altered in advance of the attachment. The meetings also allowed discussion and clarification of what was required of the students, tutors and practices.

A significant minority of the tutors felt that it would not be possible for the students to develop, complete and write up a project in the time available although this has been achieved elsewhere<sup>39</sup>. These tutors felt that they would not have enough time to give the students the help, they would require with this exercise. It was therefore decided that a simple research project and an audit would be prepared for the students, which would require minimal involvement by the tutors.

Several of the practical procedures, namely suturing of lacerations, proctoscopy and electrocardiography, were not thought to be feasible, either for the students to observe or perform. In the cases of suturing and electrocardiography, this was mainly because a large proportion of the general practices involved did not offer this service often enough, because they were adjacent or very close to a hospital, where their patients could be referred for

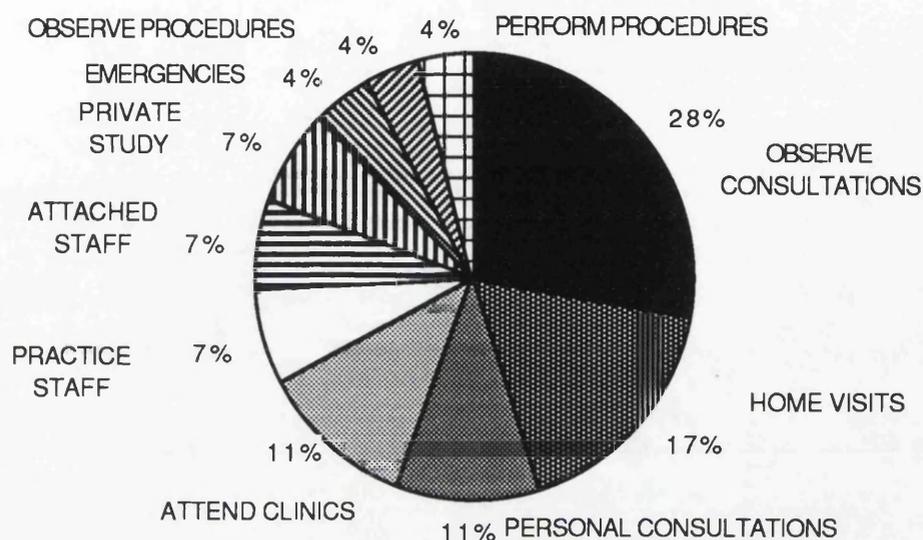
this. In the case of proctoscopy, it was felt that this procedure was performed too infrequently in practice for the tutors to be able to show it to students. Thus, after discussion, it was decided to simplify these tasks by requesting that students should observe and perform practical procedures, without specifying what these should be.

The suggestions made by the tutors, in the space provided, were all thought to be reasonable tasks for individual tutors to require of their students. However, it was felt that to make any of these suggestions actual requirements, for the entire class, would make an already long list of tasks formidable.

When the tutors were asked to comment on the feasibility and usefulness of each of the attachment tasks, after they had gained experience of the attachments, several differences emerged. Out of hours experience was only thought to be feasible and useful by 41.7%, and feasible, but not useful, by a further 19.4%, compared with 81%, who thought it was feasible before the attachment. Similarly, only 47.2% thought that following a patient to hospital was feasible and useful, and a further 5.6% thought it was feasible, but not useful, compared with 82.2%, who thought it was feasible before the attachment. Finally, despite the simplification of the research and audit projects, 22.2% of the tutors felt they were neither feasible or useful and only 51.4% felt they were feasible and useful. The additional comments, made by the tutors, supported the suggestion that they had encountered difficulty, in enabling the students to carry out these particular tasks, during the attachment.

Analysis of the figures for the amount of time spent on each task and whether this was thought to be too long, too short or about right, allows a picture to be created of the components of an ideal general practice attachment, according to the opinions of the students- figure 20.

**FIGURE 20.** COMPONENTS OF A THEORETICAL IDEAL PRACTICE ATTACHMENT ACCORDING TO THE OPINION OF THE MAJORITY OF THE STUDENTS.



The ideal would consist of two to three hours per day of observing surgery consultations, one hour per day of consulting personally, one and a half hours per day of home visits, two hours per week of emergency consultations, one night per attachment on out of hours experience, one session a week with other members of the practice staff and just less than one session per week with other members of the practice attached staff. Finally, at least five hours per week should be spent at other clinics held in the practice. Looking at the tasks which involve individual work, probably between two and four hours per week should be left available for writing up cases, on research and audit etc. About two hours per week should be spent on observing practical procedures and two hours performing them. This would provide the student with a working week of between 40 and 47 hours. This framework, therefore, provides a model to give current, and any new tutors, guidance about the sort of experience they could offer students, during the attachment.

Examining the individual components of the attachment, it can be seen that conducting consultations personally, and reporting back to the tutor, obtained the highest scores for interest and for relevance. In a study of general practice attachments in London, personal histories and examination were highly rated for usefulness and stimulation<sup>40</sup>. The London study suggested that students spend most of their time passively observing consultations, which they find boring. It was reported that they enjoyed more active participation and that the attachment could be improved, by allowing the students a more active role in examining and interviewing patients. The students in Glasgow made it very clear that they feel the same way about this aspect of the attachments. Only 54 out of 175 thought that they spent about the right amount of time personally consulting, with 121 out of 175 reporting that the time spent was too short. This sentiment was echoed, in the additional written comments made by the students, with the largest number requesting more experience of consulting personally. Although watching teachers interviewing is rated highly by students - "if one really wants to learn how to do something, a good way to learn is to watch an 'expert' in action", - students who play an active part in their learning gain more and retain what they learn for longer<sup>41</sup>. Teachers should repeatedly provoke and challenge the students, to prevent them becoming bored during observation of consultations. Many students were not given the opportunity to consult personally and, for the majority, very little time was spent on this activity. The reasons for this might have been: lack of a separate room for the students to consult in; lack of time; concern about what the patient might think and; medicolegal worries. In order to give the student this opportunity, the practices have to give thought to organising space and time, and the question of how the patients feel about having medical students present, during the consultation, is discussed fully in chapter 6.

In another London attachment, most students conduct a consultation with a patient, within an hour of starting their attachment, and are working in a room of their own, before the end of their first day. The student listens to the patient, questions, examines as indicated and writes up the notes. He then comes to a decision about the nature of the problem and its management, and may write a prescription [without signing], if indicated. The tutor is then called in, goes over the problem and agrees what should be done<sup>42</sup>. A key characteristic of the programme in the University of Limburg, Maastricht, is autonomous examination by students, of at least 15 patients per week.

The tasks, which scored next highest for interest and relevance, were attending emergency consultations and performing practical procedures. Both of these activities depend very much on availability of suitable patients during the attachment. It is possible that there will be very few emergencies during any four week period and, similarly, there may be few patients requiring practical procedures e.g. minor surgery in that period. However, the tutor and any other partners should endeavour, to remember to involve the student, if any opportunities for these activities arise.

Other activities in the practice were rated well, including spending time with other members of the primary care team, both as part of the practice and attached to it. It is of interest that this activity was not rated well in the London attachments described earlier<sup>40</sup>.

More than half of the students would appear not to have had experience of out of hours work, during their attachment. This is probably due to practical difficulties, of providing accommodation and transport for them, and the use of deputising services by many of the practices. Although those students who fulfilled this task found it both interesting and relevant, it should therefore be excluded from the set list of tasks. However the tutors should aim to provide this opportunity for the students whenever possible.

It was not surprising that much of the work set by the Department, for assessment of the students, during the attachment, was not well rated. Writing up the log diary received very low scores for interest and relevance. As this was mainly a research tool and of limited usefulness in the assessment of the student, it could easily be omitted from future attachments. Similarly, the short cases and the research project should be omitted, as their use is also limited. The long cases were valuable in helping to assess the students. They were also considered interesting and relevant and so they should be retained. Finally, the task of following the patient to hospital should be removed from the set list of tasks because it was obviously difficult for a large proportion of practices to provide this learning opportunity. However, tutors should be advised to encourage students to complete this task when the opportunity arises, as it was found to be both interesting and relevant by those students, who fulfilled it.

This exercise has allowed a list of 9 core tasks for the attachment to be developed, which are thought to be useful and feasible by the tutors and interesting and relevant by the students - table 21.

**TABLE 21, FINAL LIST OF ATTACHMENT TASKS.**

By the end of the attachment the students should have :

1. Observed at least 1 hour of surgery per day with the tutor or another partner.
2. Conducted at least 10 consultations in the surgery personally and reported back to the tutor.
3. Attended at least 15 home visits.
4. Attended at least three emergency visits either at home or in the surgery.
5. Spent at least one session with other members of the practice staff to gain some insight into their purpose and function as members of the primary care team.
6. Spent at least one session with other members of the practice attached staff e.g. district nurse, to gain some insight into their purpose and function.
7. Spent at least two sessions at other clinics held in the practice e.g. health promotion, antenatal etc.
8. Followed and written up at least one chronic case in each of child, adult and elderly age groups.
9. Observed and performed a variety of practical procedures.

## CHAPTER 5.

### THE STUDENTS

This chapter reports on two questionnaire studies, used to determine: certain characteristics of the students who completed the attachments; their subject and career preferences and; their attitudes towards general practice, before and after the attachments. It is subdivided into three sections for ease of interpretation.

#### 5.1. DESCRIPTION OF THE STUDENTS

##### 5.1.1. INTRODUCTION

Just as it was considered important to describe the group of general practitioner tutors, who would be teaching the medical students undergoing the four week attachment, it was felt to be important to attempt to describe some characteristics of the students. Students are not a homogeneous group and so the learning experience provided, by a course, and its evaluation, by students, are both likely to be influenced by individual characteristics of the students.

##### 5.1.2. DESCRIPTION OF STUDENTS. METHOD.

Each student was invited to complete one questionnaire, at the start of the morning of the first day of the attachment, and to complete a second questionnaire, at the end of the afternoon of the final day of the attachment. The questionnaires form appendices 11 and 12.

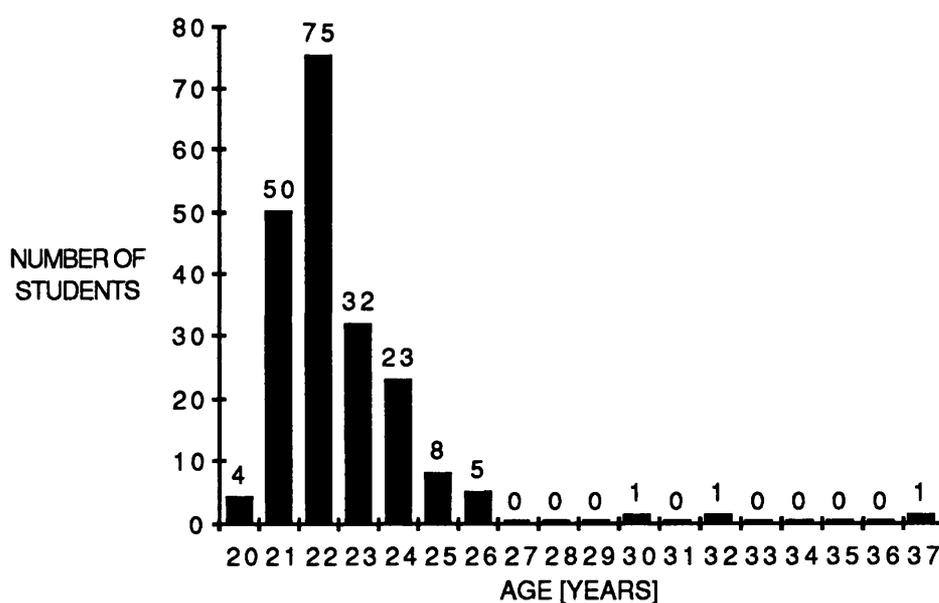
The first questionnaire comprised four sections. The first section requested the following demographic information : sex; age; country of birth; number and relationship of any medical relatives; possession of a previous or intercalated degree; number of prizes or distinctions and; number of resits; in the course so far.

##### 5.1.3. DESCRIPTION OF STUDENTS. RESULTS

There were 208 students, in the original list of students received from Medical Faculty Office, for this year. However, two students did not enter the year and

so 206 students completed the attachment. 102 of these students were male and 104 were female. Two hundred students completed the first questionnaire, distributed at the start of the four weeks, and 190 students completed the second questionnaire. Among those who completed the first questionnaire, there were 96 male students [48%] and 104 female students [52%]. The mean age of the students, at the start of the attachment, was 22.5 years [median 22 years, range 20 - 37]. The age distribution is shown in figure 21.

**FIGURE 21.** THE AGE DISTRIBUTION OF THE 200 STUDENTS WHO COMPLETED THE INITIAL STUDENT QUESTIONNAIRE.



162 [81%] of these students were born in the United Kingdom and 38 [19%] were born abroad. The students who were born abroad were significantly older than those born in the U. K. [< 22 years 115 U.K., 14 abroad, >23 years 47 U.K., 24 abroad. Chi-square 15.639 with 1 d.f.,  $p < 0.001$ ].

65 [32.5%] of the students had at least one relative in medicine. Thirty students had one medical relative, 20 had two and 15 had more than two medical relatives. The relationships to the subjects are shown in table 22.

**TABLE 22. RELATIONSHIPS OF MEDICAL RELATIVES TO 65 STUDENTS. [ More than one relative is possible therefore numbers exceed 65].**

<u>RELATIONSHIP</u>	<u>NUMBER OF STUDENTS</u>
FATHER	31
MOTHER	13
BROTHER/SISTER	10
UNCLE /AUNT	30
GRANDPARENT	4
COUSIN	16
OTHER	4

Both the father and mother of eight students were doctors. Having a relative in medicine was not associated with age or sex, but students from abroad were significantly more likely to have a medical relative [birthplace abroad 18 had a medical relative and 20 did not, birthplace in U.K. 47 had a medical relative and 115 did not. Chi-square 4.728 with 1d.f.,  $p < 0.05$ ].

Thirteen [6.5%] had a previous University degree and 31 [15.6%] had an intercalated degree. Male students were significantly more likely to have taken a previous degree or an intercalated degree, than female students [previous/ intercalated degree - male 29, female 15, no previous/ intercalated degree - male 66, female 89 [1 unanswered]. Chi-square 7.486 with 1d.f.,  $p < 0.01$ ]. As expected, those students who had taken a previous or intercalated degree were significantly older [previous/ intercalated degree-< 22 years 3, > 23 years 41, no previous/intercalated degree - < 22 years 125, > 23 years 30. Chi-square 78.998 with 1 d.f.,  $p < 0.001$ ]. There was no association between having a previous or intercalated degree and birthplace or having a medical relative.

54 of the students had gained prizes or distinctions previously in the course. The numbers of prizes or distinctions won by these students is shown in table 23.

**TABLE 23. NUMBERS OF PRIZES OR DISTINCTIONS WON BY STUDENTS PRIOR TO THE ATTACHMENTS.**

<u>NUMBER OF PRIZES/ DISTINCTIONS</u>	<u>NUMBER OF STUDENTS</u>
0	146
1	26
2	12
3	6
4	3
5	2
6	2
7	2
8	1
13	1

Older students were significantly more likely to have won a prize or gained a distinction [age <22 gained prize or distinction 23, age >23 gained a prize or distinction 30, age <22 no prize or distinction 106, age >23 no prize or distinction 40 [one unanswered]. Chi-square 14.667 with 1 d.f.,  $p < 0.001$ ]. There was no association between sex, place of birth or medical relatives and gaining a prize or distinction.

73 [ 36.5% ] of the students had had one or more resits previously. The numbers of resits are shown in table 24.

**TABLE 24. NUMBERS OF RESITS TAKEN BY THE STUDENTS PRIOR TO THE ATTACHMENTS.**

<u>NUMBER OF RESITS</u>	<u>NUMBER OF STUDENTS</u>
0	127
1	24
2	19
3	14
4	9
5	4
6	1
7	2

Having taken a resit was not associated with age, sex, place of birth or having a medical relative.

#### 5.1.4. DISCUSSION

A very high proportion of the entire class of students completed the questionnaires - 97.6% completed the first one and 92.7% the second - and so it is believed that the findings here can safely be extrapolated to apply to the entire class.

The class was composed of slightly more female than male students and this reflects a steady increase in the proportion of female students nationally over the last two decades, from 27% females in 1974, to 40% in 1983, and approximately equal proportions now<sup>43-46</sup>.

19% of the students in this class were born outside the United Kingdom and again this figure reflects an increasing proportion of students from abroad being admitted to U.K. medical schools. In national surveys, 11.1% of respondents were born abroad in 1980, rising to 14.7% in 1983<sup>43-46</sup>. Students born abroad were older on average than home students, reflecting the early age of completion of secondary education for many Scottish students.

Almost one-third of students had at least one relative in medicine and, in 27% of cases, this was a first degree relative. In one study, 13% of first degree relatives, aged over 18, had attended medical school and it was stated that going to medical school remains highly familial<sup>47</sup>. However, that study found that the relatives most likely to attend medical school were siblings [whereas here the most common medical relatives were parents]. It has been found that going to medical school is bound up with a more general familial tendency of going to University. Social class has little bearing on acceptance but qualifications and early application are important. It is thought that clustering of medical doctors and students, within families, is a product of within-family environmental influences. The main influence is "modelling" i.e. emulation of the behaviour of an admired and respected figure e.g. parent or older sibling<sup>47</sup>.

The finding that 6.5% of the students had a previous degree, reflects the national figure of 5-7% graduate or mature entrants to medical school. The reason given for including this group of entrants in medical schools, is to produce "medical scientists". However, there has been a noticeable trend, among this group, towards General Practice<sup>48</sup>.

The reason for including questions about prizes, distinctions and resits is that in the past General Practice has been seen as academically weak<sup>49</sup>. Gaining prizes or distinctions was used as a proxy measure for those students, who were academically strong, and resits as a proxy for those who were academically weak. The finding that prize and distinction winners tended to be older, supports the inclusion of these entrants into medical school, as they tend to do well once they are there.

## 5.2 SUBJECT AND CAREER PREFERENCES OF THE STUDENTS BEFORE AND AFTER THE ATTACHMENTS.

### 5.2.1. INTRODUCTION

Although the popularity of any undergraduate course among students does not directly equate with success in educating students about that speciality, it may be expected that, if students enjoy a course, they are likely to learn more from it. Therefore, it was felt reasonable to obtain information about how much the students enjoyed the course, in comparison with previous courses in the curriculum.

Providing a vocational opportunity for the students to learn about general practice was not a primary objective of the attachments, but it was considered that this was an appropriate secondary objective. It was, therefore, decided to obtain information about the effect of the attachment on the career preferences of the students.

### 5.2.2. METHOD

The second section of the questionnaire asked the student to list the three subjects, they had enjoyed most. and the three, they had enjoyed least, in the medical curriculum and to give their first three career choices. In addition, in this section, they were asked to assess the likelihood of them choosing general practice, as a career, on a five point scale from very likely to very unlikely.

### 5.2.3. RESULTS

The three subjects which the students chose as having enjoyed most, in the questionnaire completed at the start of the attachment, are shown in order in table 25.

**TABLE 25. THE THREE SUBJECTS WHICH THE STUDENTS STATED THEY ENJOYED MOST BEFORE THE ATTACHMENTS.**

[Percentages in parentheses]

<u>SUBJECT</u>	<u>CHOICES</u>		
	<u>FIRST</u> [Number of respondents] [N=199]	<u>SECOND</u> [N=198]	<u>THIRD</u> [N=187]
MEDICINE	31[15.6]	23[11.6]	16[8.6]
PSYCHIATRY	25[12.6]	21[10.6]	19[10.2]
SURGERY	23[11.6]	28[14.1]	17[9.1]
PAEDIATRICS	19[9.6]	14[7.1]	16[8.6]
OBSTETRICS AND GYNAECOLOGY	18[9.0]	17[8.6]	12[6.4]
OPHTHALMOLOGY	15[7.5]	22[11.1]	17[9.1]
ORTHOPAEDICS	13[6.5]	7[3.5]	7[3.7]
ANATOMY	10[5.0]	5[2.5]	8[4.3]
DERMATOLOGY	7[3.5]	13[6.6]	8[4.3]
PHYSIOLOGY	6[3.0]	2[1.0]	5[2.7]
EAR,NOSE AND THROAT SURGERY	5[2.5]	8[4.0]	5[2.7]
GERIATRICS	5[2.5]	6[3.0]	6[3.2]
PATHOLOGY	5[2.5]	5[2.5]	5[2.7]
INFECTIOUS DISEASES	3[1.5]	-	3[1.6]
JURISPRUDENCE	2[1.0]	9[4.5]	17[8.6]
PHARMACOLOGY	2[1.0]	4[2.0]	6[3.2]
PUBLIC HEALTH	2[1.0]	3[1.5]	7[3.7]
GENERAL PRACTICE	2[1.0]	2[1.0]	4[2.1]
BIOCHEMISTRY	2[1.0]	2[1.0]	2[1.1]
ANAESTHETICS	-	2[1.0]	-
ENVIRONMENT,BEHAVIOUR+HEALTH	1[0.5]	2[1.1]	-
OTHER*	4[2.0]	4[2.0]	5[2.7]

\*Other includes: Biology, Chemistry, Clinical Physics, Elective, Laboratory Medicine, Neurology, Palliative medicine and Rheumatology - mentioned once only in any column.

The three subjects, which the students chose as having enjoyed least, in the questionnaire at the start of the attachment, are shown in order in table 26.

**TABLE 26. THE THREE SUBJECTS WHICH THE STUDENTS STATED THEY ENJOYED LEAST BEFORE THE ATTACHMENT.**

[Percentages in parentheses]

<u>SUBJECT</u>	<u>CHOICES</u>		
	<u>FIRST</u> [Number of respondents] [N=200]	<u>SECOND</u> [N=195]	<u>THIRD</u> [N=164]
PUBLIC HEALTH	56[28]	19[9.7]	17[10.4]
PHYSIOLOGY	24[12]	13[6.7]	13[7.9]
ANATOMY	21[10.5]	10[5.1]	7[4.3]
EAR, NOSE AND THROAT SURGERY.	14[7]	9[4.6]	12[7.3]
PHARMACOLOGY	11[5.5]	15[7.7]	9[5.5]
PSYCHIATRY	9[4.5]	17[8.7]	12[7.3]
BIOCHEMISTRY	8[4]	13[6.7]	10[6.1]
PATHOLOGY	8[4.0]	8[4.1]	4[2.4]
GERIATRICS	7[3.5]	19[9.7]	14[8.5]
CHEMISTRY	5[2.5]	8[4.1]	5[3.1]
OPHTHALMOLOGY	5[2.5]	5[2.6]	5[3.1]
DERMATOLOGY	4[2]	7[3.6]	10[6.1]
CLINICAL PHYSICS	3[1.5]	9[4.6]	6[3.7]
LAB MEDICINE	3[1.5]	6[3.1]	1[0.6]
SURGERY	3[1.5]	3[1.5]	5[3.1]
MEDICINE	3[1.5]	2[1.0]	4[2.4]
ENVIRONMENT,BEHAVIOUR+HEALTH	2[1]	14[7.2]	7[4.3]
OBSTETRICS AND GYNAECOLOGY	2[1]	5[2.6]	4[2.4]
GENERAL PRACTICE	2[1]	3[1.5]	-
CLINICAL PHARMACOLOGY	2[1]	2[1]	1[0.6]
ORTHOPAEDICS	2[1]	1[0.5]	4[2.4]
PRECLINICAL SUBJECTS	2[1]	-	-
BACTERIOLOGY	1[0.5]	3[1.5]	4[2.4]
PARASITOLOGY	-	2[1]	-
STATISTICS	-	-	4[2.4]
TOPIC TEACHING	-	-	2[1.2]
OTHER*	3[1.5]	2[1]	4[2.4]

Other\* includes: Biology, Genetics, Jurisprudence, Statistics, Virology.

The three subjects, which the students gave as having enjoyed most, in the questionnaire completed at the end of the attachment, are shown in table 27.

**TABLE 27. THE THREE SUBJECTS WHICH THE STUDENTS STATED THEY ENJOYED MOST AFTER THE ATTACHMENT.**

[Percentages in parentheses]

<u>SUBJECT</u>	<u>CHOICES</u>		
	<u>FIRST</u> [Number of respondents] [N=189]	<u>SECOND</u> [N=187]	<u>THIRD</u> [N=182]
GENERAL PRACTICE	36[19.0]	22[11.8]	31[17.0]
MEDICINE	30[15.9]	24[12.8]	22[12.1]
SURGERY	23[12.2]	21[11.2]	18[9.9]
PAEDIATRICS	20[10.6]	13[6.9]	9[5.0]
OBSTETRICS AND GYNAECOLOGY	17[9.0]	13[6.9]	7[3.8]
PSYCHIATRY	16[8.5]	19[10.2]	15[8.2]
OPHTHALMOLOGY	13[6.9]	15[8.0]	13[7.1]
ORTHOPAEDICS	6[3.2]	11[5.9]	4[2.2]
DERMATOLOGY	5[2.6]	13[6.9]	10[5.5]
JURISPRUDENCE	4[2.1]	7[3.7]	6[3.3]
ANATOMY	4[2.1]	3[1.6]	7[3.8]
EAR, NOSE AND THROAT SURGERY	2[1.1]	6[3.2]	5[2.8]
GERIATRICS	2[1.1]	3[1.6]	7[3.8]
PUBLIC HEALTH	2[1.1]	3[1.6]	3[1.6]
INFECTIOUS DISEASES	2[1.1]	2[1.1]	3[1.6]
PHARMACOLOGY	2[1.1]	2[1.1]	2[1.1]
PATHOLOGY	-	5[2.7]	6[3.3]
PHYSIOLOGY	-	1[0.5]	7[3.8]
BIOCHEMISTRY	-	-	2[1.1]
ELECTIVE	-	-	2[1.1]
OTHER*	5[2.6]	4[2.1]	3[1.6]

Other\* includes: Anaesthetics, Biology, Chemistry, Lab Medicine, Neurology, Oncology, Palliative Medicine and Parasitology.

The three subjects, which the students gave as having enjoyed least, in the questionnaire at the end of the attachment, are shown in table 28.

**TABLE 28. THE THREE SUBJECTS WHICH THE STUDENTS STATED THEY ENJOYED LEAST AFTER THE ATTACHMENT**

[Percentages in parentheses]

<u>SUBJECT</u>	<u>CHOICES</u>		
	<u>FIRST</u> [Number of respondents] [N=195]	<u>SECOND</u> [N=185]	<u>THIRD</u> [N=155]
PUBLIC HEALTH	47[21.7]	30[16.2]	15[9.7]
ANATOMY	18[9.5]	9[4.9]	10[6.5]
PSYCHIATRY	17[9.0]	19[10.3]	9[5.8]
PHYSIOLOGY	14[7.4]	20[10.8]	10[6.4]
DERMATOLOGY	10[5.3]	10[5.4]	5[3.2]
PHARMACOLOGY	10[5.3]	9[4.9]	5[3.2]
EAR,NOSE AND THROAT SURGERY	9[4.8]	15[8.1]	13[8.4]
GERIATRICS	8[4.2]	13[7.0]	16[10.3]
BIOCHEMISTRY	8[4.2]	5[2.7]	8[5.2]
PATHOLOGY	6[3.2]	4[2.1]	5[3.2]
SURGERY	6[3.2]	2[1.1]	6[3.9]
OBSTETRICS AND GYNAECOLOGY	5[2.6]	2[1.1]	5[3.2]
CHEMISTRY	4[2.1]	7[3.8]	4[2.6]
CLINICAL PHYSICS	4[2.1]	3[1.6]	8[5.2]
LAB MEDICINE	4[2.1]	1[0.5]	1[0.6]
OPHTHALMOLOGY	4[2.1]	5[2.7]	3[1.9]
ORTHOPAEDICS	4[2.1]	4[2.1]	4[2.6]
CLINICAL PHARMACOLOGY	3[1.6]	-	-
MEDICINE	3[1.6]	6[3.2]	4[2.6]
ENVIRONMENT,BEHAVIOUR +HEALTH	2[1.1]	7[3.8]	9[5.8]
GENERAL PRACTICE	2[1.1]	1[0.5]	2[1.3]
BACTERIOLOGY	1[0.5]	4[2.2]	6[3.9]
STATISTICS	1[0.5]	3[1.6]	3[1.9]
VIROLOGY	-	2[1.1]	1[0.6]
OTHER*	5[2.6]	4[2.2]	3[1.9]

Other\* includes: Cardiology, Jurisprudence, Lectures, Materia Medica, Parasitology, Preclinical subjects, Topic Teaching.

The first three career choices, given by the students, in the questionnaire completed at the start of the attachment, are shown in table 29.

**TABLE 29. THE FIRST THREE CAREER CHOICES GIVEN BY THE STUDENTS BEFORE THE ATTACHMENTS.**

[ Percentages in parentheses ]

<u>SPECIALITY</u>	<u>CHOICE</u>		
	<u>FIRST</u> [Number responding] [N=197]	<u>SECOND</u> [N=185]	<u>THIRD</u> [N=152]
MEDICINE			
GENERAL MEDICINE	38[19.8]	31[16.8]	17[11.2]
MEDICAL SPECIALITIES*	12[6.2]	22[11.9]	18[11.8]
SURGERY			
GENERAL SURGERY	30[15.6]	14[7.6]	6[3.9]
SURGICAL SPECIALITIES**	20[10.4]	23[12.4]	14[9.2]
GENERAL PRACTICE	37[19.3]	32[17.3]	44[28.9]
PAEDIATRICS	18[9.4]	16[8.8]	11[7.2]
OBSTETRICS AND GYNAECOLOGY	13[6.8]	10[5.4]	6[3.9]
PSYCHIATRY	10[5.2]	15[8.1]	14[9.2]
ANAESTHETICS AND ITU	7[3.6]	4[2.2]	6[3.9]
ONCOLOGY	4[2.1]	2[1.1]	-
FORENSIC MEDICINE	3[1.6]	3[1.6]	1[0.7]
RADIOLOGY	2[1.0]	3[1.6]	1[0.7]
PATHOLOGY AND LAB MEDICINE***	2[1.0]	3[1.6]	4[2.6]
VOLUNTARY OVERSEAS	1[0.5]	2[1.1]	2[1.3]
COMMUNITY MEDICINE	-	1[0.5]	3[2.0]
OTHER [MEDICAL]	-	3[1.6]	1[0.7]
OTHER [NONMEDICAL]	-	1[0.5]	4[2.6]

\*Medical specialities include: Dermatology, Geriatrics, Haematology, Infectious Diseases and Tropical Medicine, Neurology and Rheumatology.

\*\*Surgical specialities include: Accident and Emergency, Ear, Nose and Throat Surgery, Ophthalmology, Orthopaedics, Maxillofacial Surgery, Cardiothoracic Surgery, Vascular Surgery and Urology.

\*\*\*Lab Medicine includes: Clinical Biochemistry, Bacteriology, Virology and Parasitology.

Other [Medical] includes: Genetics, Sports Medicine, Family Planning, Homeopathy and Anatomy.

Other [NonMedical] includes: Politics, Writing, Research, Science and Navy.

Students were significantly more likely to put General Practice as one of their first three career choices if: they were born in the U.K. [born in the U.K., 101 chose general practice and 60 did not choose general practice, born elsewhere, 12 chose general practice and 26 did not choose general practice. Chi-square 10.743,  $P < 0.01$ ] and; if they did not have a previous/ intercalated degree

[previous/intercalated degree, 17 chose general practice and 27 did not choose general practice, did not have a previous/intercalated degree, 96 chose general practice and 60 did not choose general practice. Chi-square 5.826,  $P < 0.02$ ].

Choice of General Practice, as one of first three career preferences, was not associated with age, sex, having a medical relative, gaining a prize or distinction, or having a resit.

The first three career choices, given by the students, in the questionnaire, completed at the end of the attachment, are shown in table 30

**TABLE 30. THE FIRST THREE CAREER CHOICES GIVEN BY THE STUDENTS AFTER THE ATTACHMENTS.**

[ Percentages in parentheses ]

<u>SPECIALITY</u>	<u>CHOICES</u>		
	<u>FIRST</u>	<u>SECOND</u>	<u>THIRD</u>
	[Number responding]		
	N=181	N=170	N=147
GENERAL PRACTICE	45[24.9]	39[22.9]	43[29.3]
MEDICINE			
GENERAL MEDICINE	35[19.3]	23[13.5]	20[13.6]
MEDICAL SPECIALITIES*	9[3.6]	15[8.8]	14[9.5]
SURGERY			
GENERAL SURGERY	24[13.3]	11[6.5]	7[4.8]
SURGICAL SPECIALITIES**	17[9.4]	15[8.8]	18[12.2]
PAEDIATRICS	18[9.9]	14[8.2]	17[11.6]
OBSTETRICS AND GYNAECOLOGY	12[6.6]	12[7.1]	3[2.0]
PSYCHIATRY	5[2.8]	18[10.6]	8[5.4]
ONCOLOGY	4[2.2]	2[1.2]	-
ANAESTHETICS AND ITU	2[1.1]	4[2.4]	5[3.4]
FORENSIC MEDICINE	1[0.6]	4[2.4]	-
RADIOLOGY	2[1.1]	-	1[0.7]
PATHOLOGY AND LAB MEDICINE***	2[1.1]	3[1.8]	2[1.4]
VOLUNTARY OVERSEAS	3[1.7]	-	1[0.7]
PALLIATIVE MEDICINE	-	3[1.8]	-
COMMUNITY MEDICINE	-	2[1.2]	3[2.0]
OTHER [MEDICAL]	2[1.1]	3[1.8]	1[0.7]
OTHER [NONMEDICAL]	-	2[1.2]	4[2.7]

\*Medical specialities include: Dermatology, Geriatrics, Haematology, Infectious Diseases and Tropical Medicine, Neurology and Rheumatology.

\*\*Surgical specialities include: Accident and Emergency, Ear, Nose and Throat Surgery, Ophthalmology, Orthopaedics, Maxillofacial Surgery, Cardiothoracic Surgery, Vascular Surgery and Urology.

\*\*\*Lab Medicine includes: Clinical Biochemistry, Bacteriology, Virology and Parasitology.

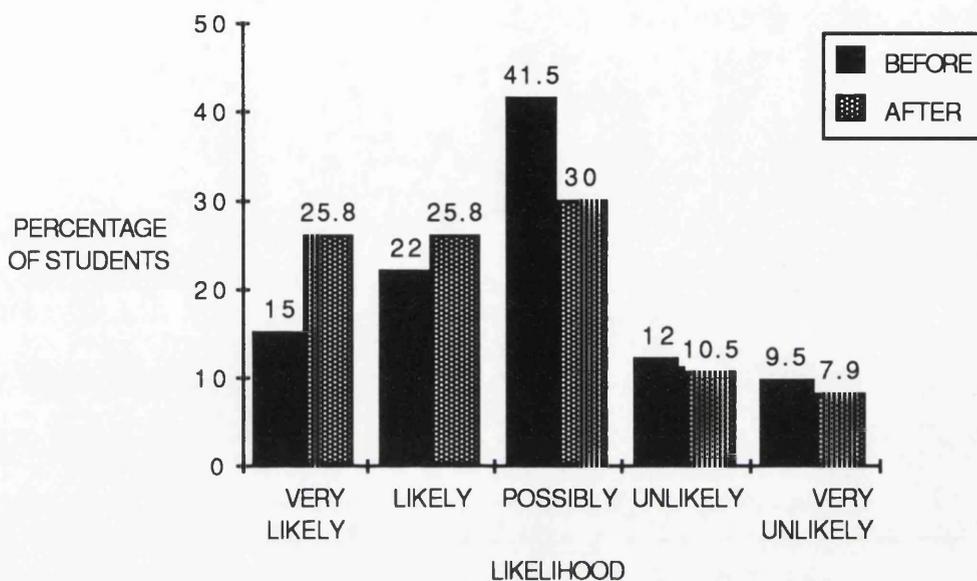
Other [Medical] includes: Genetics, Sports Medicine, Family Planning, Homeopathy, Anatomy and Physiology.

Other [NonMedical] includes: Politics, Writing, Research, Science and Navy.

When the career choices and the subjects most enjoyed, after the attachment were compared, there was a very highly significant association between putting General Practice, as one of their three career choices, and one of the subjects enjoyed most. [If one of most enjoyed subjects, General Practice career choice 76, not a career choice 11. If not one of most enjoyed subjects, General Practice career choice 50, not a career choice 46. Chi-square 26.16 with 1 d.f.,  $p < 0.001$ ]. As so few students had put General Practice as one of their most enjoyed subjects before the attachment [8 students], it was not worthwhile comparing this association, before and after the attachment. However, it is worth pointing out that 7 out of the eight students, who put General Practice as one of their most enjoyed subjects before the attachments, also put it as one of their three career choices.

The results of the question on how likely the students would be to choose general practice, as a career, before and after the attachment are shown in figure 22. In this figure, the number of students putting each level of agreement is expressed as a percentage, of the total number of students, completing each of the two questionnaires, in order to provide a comparison.

**FIGURE 22. COMPARISON OF AGREEMENT BY STUDENTS ON LIKELIHOOD OF CHOOSING GENERAL PRACTICE AS A CAREER BEFORE AND AFTER THE ATTACHMENT.**



#### 5.2.4. DISCUSSION

The major clinical specialities i.e. Medicine, Surgery, Paediatrics, Obstetrics and Gynaecology and Psychiatry, were well represented in the table of subjects most enjoyed by the students, before the attachment. Similarly, preclinical subjects, such as Physiology, Anatomy, Pharmacology and Biochemistry, were widely chosen as ones least enjoyed. This is not a surprising result, as the majority of medical students would be expected to enjoy clinical subjects more than science subjects, as they usually wish to become clinicians rather than scientists. The finding that Public Health was easily the least popular subject is of particular interest, as it may be considered to be related to General Practice. The explanation for the lack of popularity of Public Health is not completely clear but it may be partly due to the difficulty of providing practical experience, in this speciality.

It is of note that General Practice figured rarely in the choices of subjects enjoyed most and least, before the attachment. However, this situation altered

dramatically after the attachment. General Practice leapfrogged many places up the list of most enjoyed subjects to become the speciality most often chosen. The subject which lost most votes to General Practice after the attachment was Psychiatry. Perhaps students who had a tendency towards enjoying Psychiatry were able to see it being applied in a practical way in General Practice. This massive improvement in the popularity of General Practice, as an undergraduate subject, tends to suggest that the attachment was a success, at least in terms of consumer satisfaction, with the consumers being the students. The corresponding lack of any rise in General Practice, as one of the least popular subjects after the attachment, tends to support this suggestion.

Despite its lack of popularity as an undergraduate subject before the attachment, General Practice was still the third most popular career choice, after Medicine and Surgery and before Paediatrics and Obstetrics and Gynaecology. In the national studies conducted by Parkhouse and colleagues in the late 1970's and early 1980's, there was the same order of speciality preference, except that General Practice was consistently the most popular choice<sup>43-46</sup>. However, the respondents in these studies completed the questionnaires towards the end of their pre-registration house officer year and their extra year's experience in hospital medicine may have influenced their career preferences away from Medicine and Surgery. In addition, until the introduction of this attachment, students at Glasgow University had little experience in general practice, to assist them in making an informed choice, about its suitability as a future career.

Students not born in the U.K. were significantly less likely to put General Practice as one of their first three career choices and this may reflect a lack of prestige attributed to General Practice in other parts of the world, particularly the Middle and Far East, where many of the overseas students were born.

Those students who had a previous or intercalated degree were also less likely to put General Practice as a career choice. This suggests that at this stage these students did see themselves as medical scientists or working in the more "academic" specialities.

There was no positive or negative association between choosing General Practice as a career and winning a prize or distinction or having a resit. This tends to suggest that General Practice attracts all kinds of students, including the academically strong and weak, as well as the average student. This refutes the previous suggestion that General Practice tends to attract the academically weak<sup>49</sup>.

After the attachment, General Practice overtook Medicine and Surgery to become the most popular career choice and the list of career preferences more closely resembled the findings of Parkhouse and colleagues<sup>42-46</sup>. The finding of an association between enjoying General Practice as an undergraduate subject and preferring it as a future career is not surprising. One study found that students tended to become more positive towards Psychiatry once they were exposed to a course in the subject<sup>49</sup>. However, these effects were transient, rather than lasting, and there was no evidence that attitudes to any of the medical specialities had any influence on ultimate career choice. There has recently been a decline in applications for general practice rotational training schemes in the West of Scotland [personal communication, Regional Advisor]. Potential trainees may have been influenced by reports of increased stress, felt by general practitioners, since the introduction of the 1990 contract<sup>28</sup>, and the increased administrative burden it has imposed. Therefore, in order to test whether choice of General Practice, as a career for this group, is longlasting or decays with time, and if the four week attachment affects the trend towards fewer applicants for general practice training schemes in the West of Scotland,

it is proposed to follow-up this cohort of students in June 1994 just before they complete their Junior House Officer year to find out if their career preferences are maintained.

### 5.3. ATTITUDES OF THE STUDENTS TOWARDS GENERAL PRACTICE BEFORE AND AFTER THE ATTACHMENTS

#### 5.3.1. INTRODUCTION

The ratio of the amount of hospital based teaching to general practice based teaching, experienced by these students, prior to this attachment, was enormously biased in favour of hospital teaching. Therefore, it is possible that the attitudes of these students could have been influenced by some of the negative attitudes held about general practice, by hospital specialists<sup>49</sup>. It was therefore of interest to find out if the students' experience of the attachments influenced their attitudes towards general practice.

#### 5.3.2. METHOD

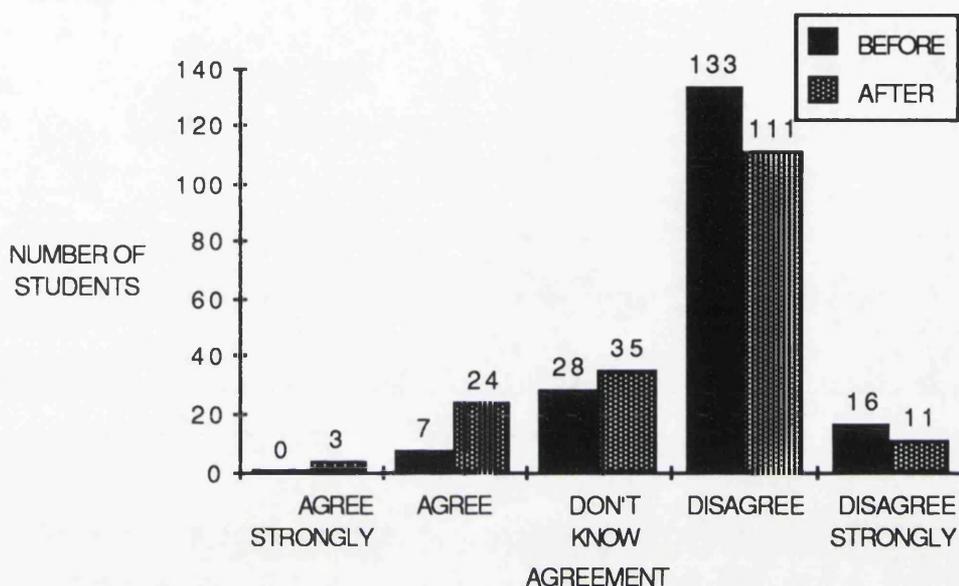
The third section of the questionnaire gave twelve statements, including six attitude statements about general practitioners, and asked the students to assess their agreement with the statements, on a five point scale from agree strongly to disagree strongly. The attitude statements were developed with regard to the literature on the subject. For example, one study found that medical students believed that: general practice was a low status speciality; general practitioners tended to treat the whole person and; general practitioners were seen as having good and close relationships with their patients<sup>49</sup>. Therefore, for example, Statement three was "Doctors choose general practice as a career because they want to treat the whole person".

#### 5.3.3. RESULTS

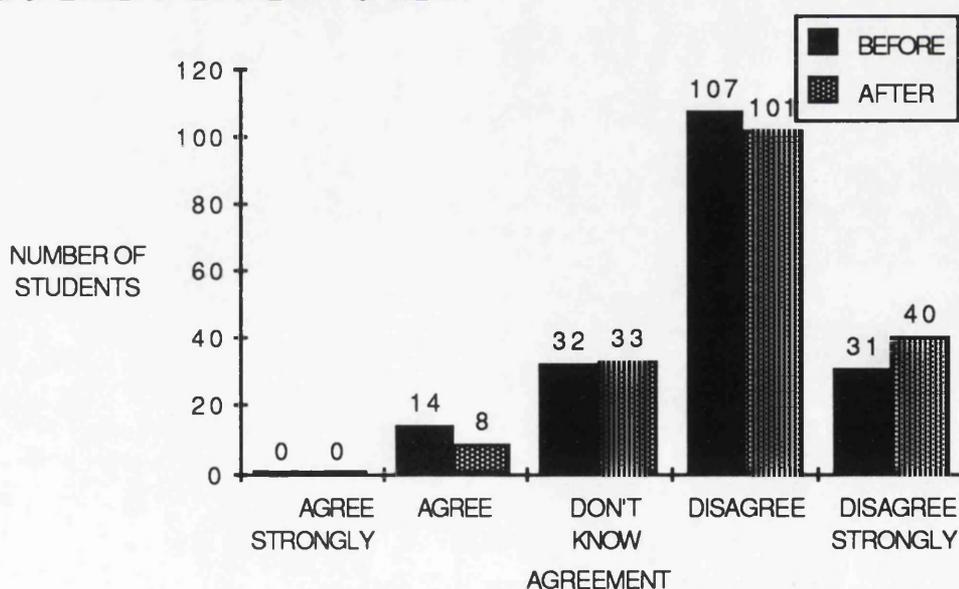
In order to compare the attitudes of the students before and after the attachments, the results are given only for the 184 students, who completed

both questionnaires, at the start and end of the attachments. Figures 23 to 28 illustrate this comparison of attitudes.

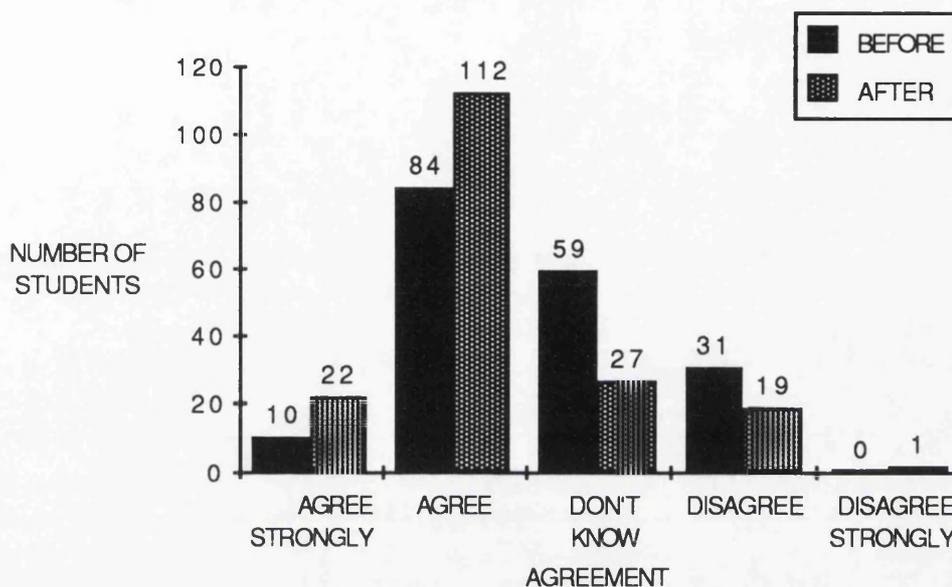
**FIGURE 23.** COMPARISON OF AGREEMENT BY THE STUDENTS WITH THE ATTITUDE STATEMENT "GENERAL PRACTITIONERS ENJOY A HIGH STATUS AMONG PEERS IN OTHER MEDICAL SPECIALITIES" BEFORE AND AFTER THE ATTACHMENT.



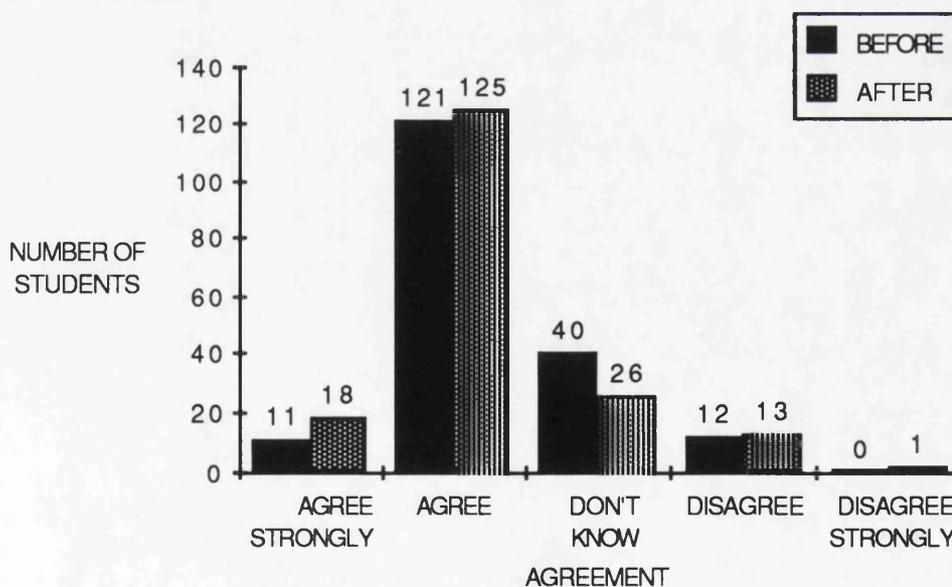
**FIGURE 24.** COMPARISON OF AGREEMENT BY THE STUDENTS WITH THE ATTITUDE STATEMENT "DOCTORS USUALLY ENTER GENERAL PRACTICE BECAUSE THEY HAVE BEEN UNABLE TO SUCCEED IN OTHER SPECIALITIES" BEFORE AND AFTER THE ATTACHMENT.



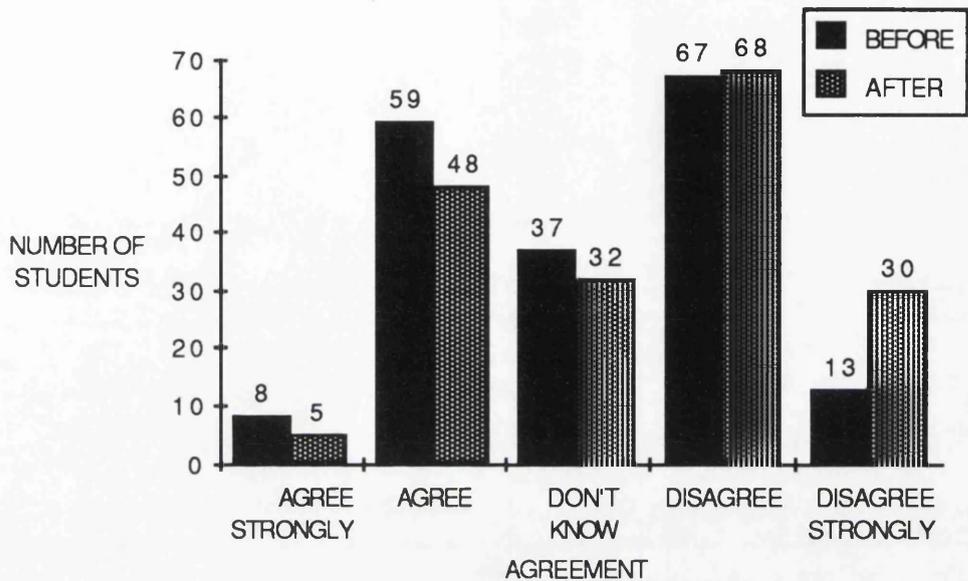
**FIGURE 25.** COMPARISON OF AGREEMENT BY THE STUDENTS WITH THE ATTITUDE STATEMENT "DOCTORS CHOOSE GENERAL PRACTICE AS A CAREER BECAUSE THEY WANT TO TREAT THE WHOLE PERSON" BEFORE AND AFTER THE ATTACHMENT.



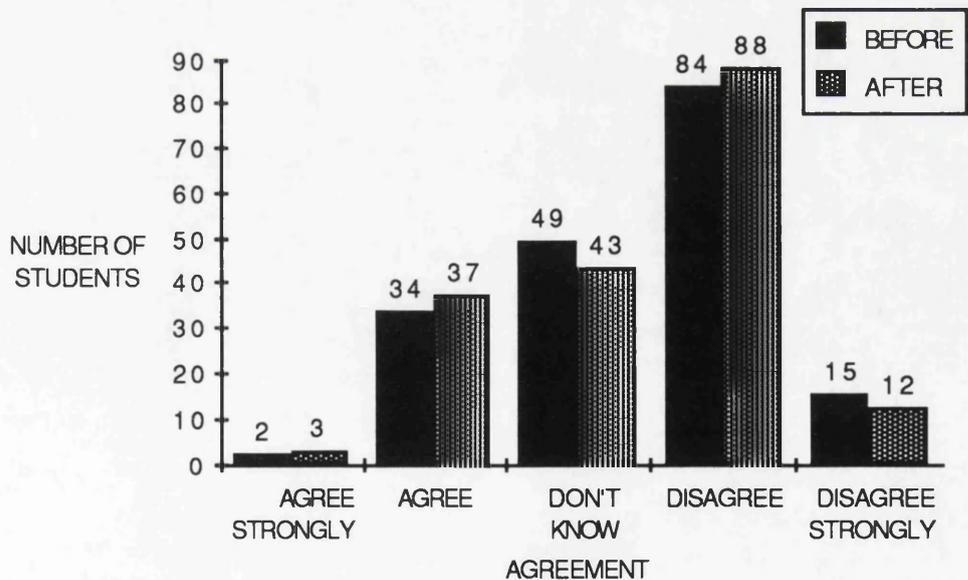
**FIGURE 26.** COMPARISON OF AGREEMENT BY THE STUDENTS WITH THE ATTITUDE STATEMENT "DOCTORS CHOOSE GENERAL PRACTICE AS A CAREER BECAUSE THEY WANT TO PRACTICE FAMILY MEDICINE" BEFORE AND AFTER THE ATTACHMENT.



**FIGURE 27.** COMPARISON OF AGREEMENT BY THE STUDENTS WITH THE ATTITUDE STATEMENT "DOCTORS CHOOSE GENERAL PRACTICE AS A CAREER BECAUSE THEY WANT TO HAVE AN EASY LIFE" BEFORE AND AFTER THE ATTACHMENT.



**FIGURE 28.** COMPARISON OF AGREEMENT BY THE STUDENTS WITH THE ATTITUDE STATEMENT "DOCTORS CHOOSE GENERAL PRACTICE AS A CAREER BECAUSE THEY WANT TO EARN A GREAT DEAL OF MONEY" BEFORE AND AFTER THE ATTACHMENT.



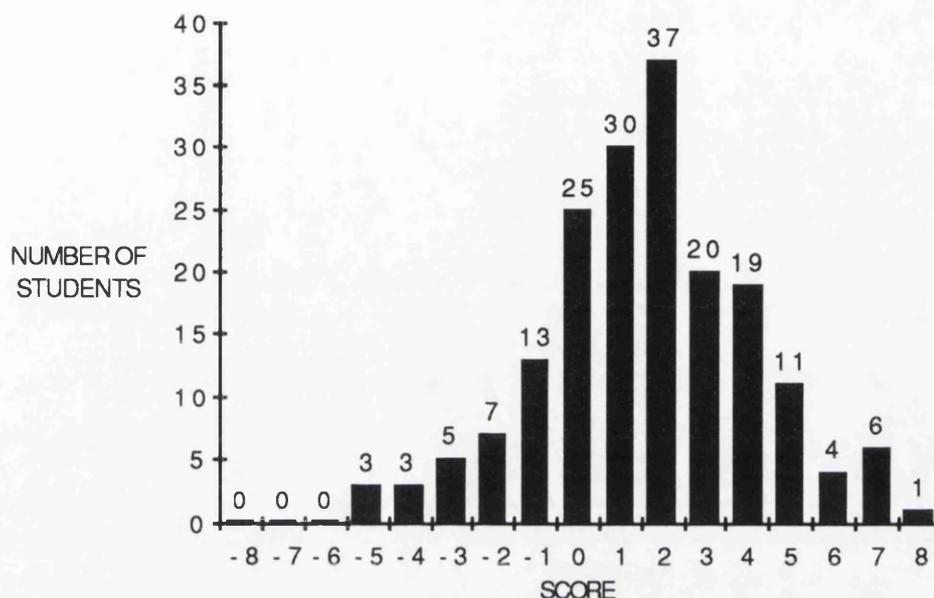
Each student was assigned an attitude score on the basis of their responses to the 6 attitude statements. The scores were calculated according to the marks in table 31.

**TABLE 31. SCORING SYSTEM FOR THE ATTITUDE STATEMENTS**

	<u>AGREE</u> <u>STRONGLY</u>	<u>AGREE</u>	<u>DONT</u> <u>KNOW</u>	<u>DISAGREE</u>	<u>DISAGREE</u> <u>STRONGLY</u>
STATEMENTS 1,3,4	2	1	0	- 1	- 2
STATEMENTS 2,5,6	- 2	- 1	0	1	2

For each statement the student was given a score, which varied from -2 to +2, and these scores were then totalled to give the attitude score. Students could theoretically obtain a score ranging from -12 to +12, with negative scores indicating a predominantly negative attitude to general practice, 0 indicating a neutral attitude and positive scores indicating a predominantly positive attitude. The scores obtained by the students, at the start of the attachment, are plotted in figure 29.

**FIGURE 29.** OVERALL SCORES FOR THE ATTITUDE STATEMENTS BEFORE THE ATTACHMENTS.

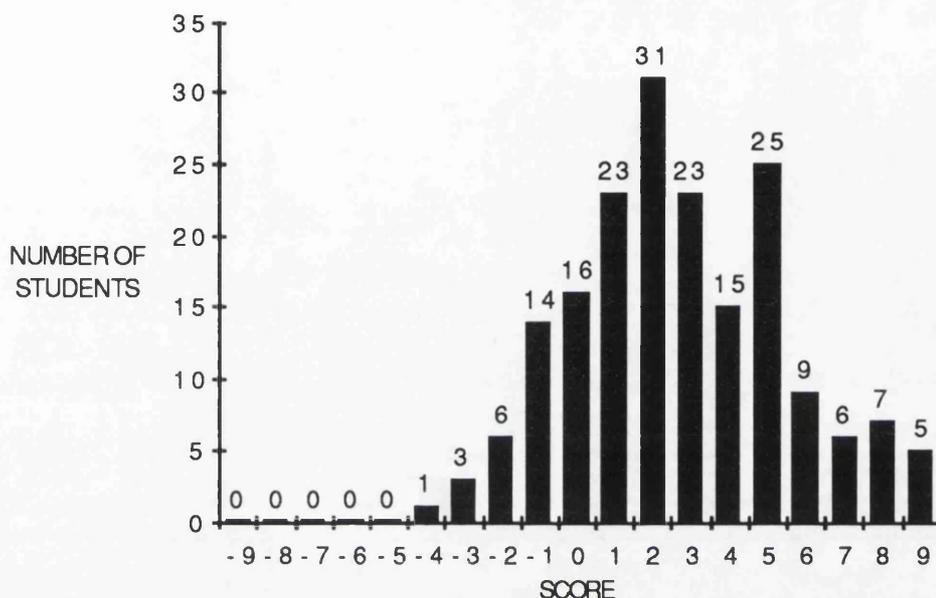


The mean score was 1.6 before the attachment. 128 students [69.9%] had a positive attitude, 25 [13.6%] had a neutral attitude and 31 [16.8%] had a negative attitude. Female students were significantly more likely to have a positive attitude [positive 71, neutral 14, negative 9 for female students, and 57, 11 and 22 respectively for male students. Chi-square 7.259 with 2 d. f.,  $p < 0.05$ ]. There was no difference in attitudes towards general practice according to age, place of birth, having a medical relative, having gained prizes or distinctions, having resits or having a previous or intercalated degree.

Those students, who gave General Practice as one of their three career choices in the first questionnaire, were significantly more likely to have a positive attitude score [positive 80, neutral 10, negative 11 if G.P. one of three career choices compared with 48, 15 and 20 respectively if G.P. not one of three career choices. Chi-square 9.947 with 2 d.f.,  $p < 0.01$ ].

The scores obtained by the students for the same six attitude statements at the end of the attachment are shown in figure 30.

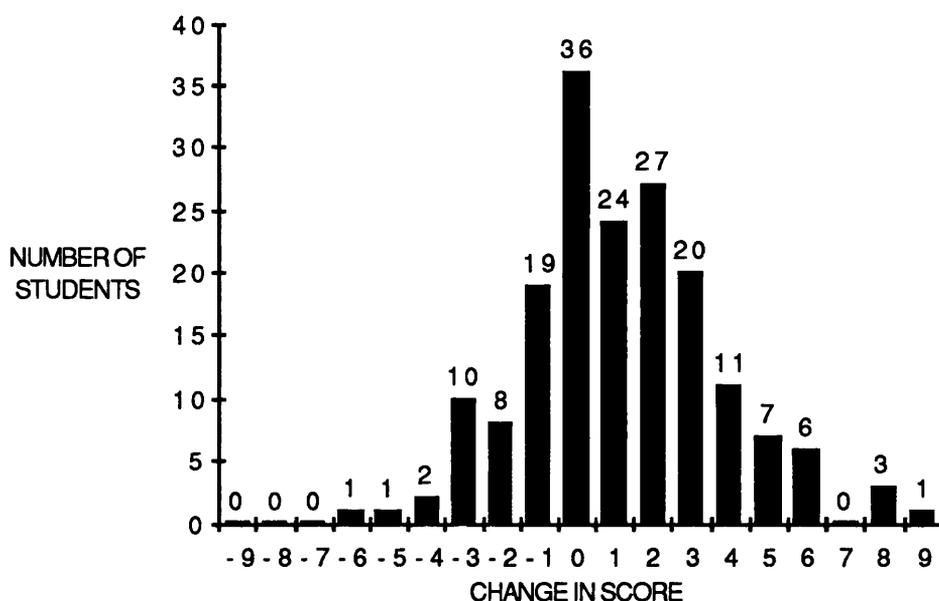
**FIGURE 30.** OVERALL SCORES FOR THE ATTITUDE STATEMENTS AFTER THE ATTACHMENT.



The mean score after the attachment was 2.7. 144 students [78.3%] had a positive attitude score, 16 [8.7%] a neutral score and 24 [13.0%] a negative score. 13 students, who had a negative score, and 17, who had a neutral score, before the attachment, had a positive score after it. Six students, who had a positive attitude score before, and 5, who had a neutral score before, had a negative attitude score after it and 8, who had a positive score, and 5, who had a negative score before, became neutral after the attachment.

The change in attitude score is plotted in figure 31. For each student, this change was calculated by subtracting the attitude score before the attachment from the attitude score after the attachment. For example, if the attitude score was -2 before the attachment and +2 after it the change would be +4. Similarly, if it was +2 before the attachment and -2 after it the change would be -4.

**FIGURE 31. CHANGE IN OVERALL SCORE FOR THE ATTITUDE STATEMENTS BETWEEN THE BEGINNING AND END OF THE ATTACHMENTS.**



The mean change in attitude score was 1.1 and figure 31 illustrates the shift, towards a more positive attitude score, at the end of the attachment. The change, to a more positive attitude towards General Practitioners, at the end of the attachment, was highly statistically significant [T-test, t -statistic 5.570 with 183 degrees of freedom,  $p < 0.001$ ].

There was an even more striking relationship between having a positive attitude score and putting General Practice as one of their first three career choices, after the attachment, although the level of statistical significance was the same [positive score 106, neutral score 10, negative score 8, if G.P. one of their three career choices compared with 36, 6 and 14, respectively, if not one of their three career choices. [Chi-square 13.36 with 2 d.f.,  $p < 0.001$ ].

#### 5.3.4. DISCUSSION

There is no consensus about why medical students prefer or choose one speciality over another. Previous studies have explored variables such as personality, demographic factors, marital status and beliefs about various

features of the speciality<sup>49</sup>. The demographic variables have not proved to be very useful, or powerful, predictors of attitudes to, or choice of, medical speciality. This has been confirmed, on the whole, by this research with the exception of those factors already discussed. More important determinants of choice appear to be students' attitudes to, or beliefs about, various specialities. A great deal of this work has been done with regard to Psychiatry. Various studies in the 1960's showed that Psychiatry received among the lowest prestige ratings in medical school. It was found that students were negatively influenced by the anti-Psychiatry views of non-Psychiatry staff and peers. It was concluded that experiences in medical school were extremely strong determinants of students' attitudes<sup>49</sup>.

Before the attachment, the majority of the attitude scores of the students tended to be positive. However, the mean score was only 1.6 and so this was not a striking finding. In addition, there was a normal distribution of these scores confirming that there was a significant minority of these students holding negative attitudes towards General Practice.

There was a shift in the normal distribution to the right, after the attachment, and the mean score increased to 2.7 demonstrating that attitudes improved after the attachment, confirming the findings of the workers in Psychiatry. Their experience of the attachment tended to improve their attitude to General Practice for the majority of the students. Perhaps their attitude had been negatively influenced by the anti-G.P. views of non-G.P.'s, earlier in their course.

Female students were significantly more likely to hold a positive attitude towards General Practice but, at this stage, they were not more likely to choose it as a career. It is thought that women may see General Practice as

more humanistic than men<sup>50</sup> and it tends to be regarded as the speciality which is more compatible with family life<sup>51</sup>. Women tend to move away from their speciality aspirations earlier than men and they become more likely to choose General Practice with time than men because of their family responsibilities<sup>50</sup>. Therefore, it would be of interest to find out, if more women from this cohort, change their preference of career, to General Practice, in the future.

Previous workers found that a leaning towards General Practice as a career was strongly linked with a favourable view of the General Practice Course<sup>52</sup>. They also found that the impact of the practical and clinical parts of the course, especially inspiration by a particular teacher seemed more important than any general principles or theoretical concepts, of primary medical care<sup>52</sup>.

#### CONCLUSION

The general practice attachment was rated as one of their three most enjoyed courses, so far in the undergraduate curriculum, by half of the students. This was associated with a preference for general practice as a future career, with more students opting for it, as a possible career choice, after the attachment. In addition, the attitudes of the students towards general practice became more positive after the attachment. This suggests that the attachments do act as a positive vocational experience.

## CHAPTER 6

### ATTITUDES OF PATIENTS TOWARDS STUDENTS IN THE CONSULTING ROOM

#### 6.1. INTRODUCTION

Little is known of the opinions of patients about having students in the consulting room. It could be argued that the presence of an additional person may affect the content of the consultation and the doctor-patient relationship. This would be an unwelcome consequence for the patient and limit the learning opportunities for the student.

A number of the tutors had expressed concerns about the effect of having students in the practice, at the original meetings, prior to the introduction of the attachments, and some were particularly reluctant about allowing the students to see patients on their own.

Therefore, in order to investigate the opinions of patients about the presence of medical students in the consulting room, three simple questionnaire studies were carried out three months before, immediately before, and immediately after, patients attended a consultation where student was present.

#### 6.2. METHOD

##### 6.2.1. STUDY ONE

A total of 100 general practitioner tutors, who had previously agreed to take a medical student for the four week attachment, were invited to distribute 10 questionnaires, in January 1992, to any 10 patients seen consecutively, in their surgery. The questionnaire included sections for the patient to give their age and sex, and to reply to four questions about the involvement of medical students in the consultation. This questionnaire is appendix 13.

### 6.2.2. STUDY TWO.

The first two sections of 52 students, who completed their attachment during April and May 1992, were asked to be responsible for giving questionnaires to the receptionist in their practices, for distribution to 10 consecutive patients, who attended for a consultation where they would be present, and for collecting the completed questionnaires. The questionnaire included sections for the patient to give their age and sex, and to reply to one question about the involvement of medical students in the consultation. This questionnaire is appendix 14.

### 6.2.3. STUDY THREE

The next four sections of 104 students who completed their attachment in June, September, October and November 1992 were asked to distribute questionnaires to 10 consecutive patients, as they left the surgery, after a consultation, at which the student was present. The questionnaire included sections for the patient to give their age and sex, and to reply to four questions about the involvement of medical students in the consultation. This questionnaire is appendix 15.

Statistical analysis was by Chi-square test.

## 6.3. RESULTS

### 6.3.1. STUDY ONE

In study one, 69 of the tutors returned a total of 681 completed questionnaires. The age-sex distribution of the patients, who completed the questionnaires, is shown in table 32.

**TABLE 32. AGE-SEX DISTRIBUTION OF THE PATIENTS IN THE THREE STUDIES OF PATIENT OPINIONS ABOUT THE PRESENCE OF MEDICAL STUDENTS IN THE CONSULTING ROOM.**

	<u>AGE - SEX DISTRIBUTION</u>							
	MALE/FEMALE 0-14 YEARS		MALE/FEMALE 15-44 YEARS		MALE/FEMALE 45-64 YEARS		MALE/FEMALE >65 YEARS	
<u>STUDY 1</u> N=649	2	1	85	230	89	135	42	70
<u>STUDY 2</u> N=420	18	10	63	148	52	55	34	40
<u>STUDY 3</u> N=716	10	16	113	251	90	124	40	72

Note: the number of patients in each study does not always correspond to the number given in the text because some patients did not give their age on the questionnaire.

Each of the replies to the following questions was analysed for age and sex of the patient.

Most of the practices in the study had previously been involved with teaching students during earlier years of the curriculum, although these students only attended the practice for short periods of time e.g part of a morning. Therefore, the first question asked in this study was "Have you ever seen your doctor in the past while a medical student was present in the room?". Of the 681 respondents, 207 [30.4%] replied yes and 474 [69.6%] replied no. Each of the next three questions was analysed for whether the respondent had previously seen a medical student with their doctor. To the next question "Do you think that medical students should receive some training in general practice?", 675 [99.3%] answered yes and 5 [0.7%] answered no. The next question "Would you be prepared to see your doctor while a medical student was present - for any problem, for some problems or not at all?" was answered by 678 patients [table 33].

**TABLE 33. REPLIES TO QUESTION THREE IN THE FIRST STUDY OF PATIENT OPINION "Would you be prepared to see your doctor while a medical student was present for any problem, for some problems or not at all?"**

		<u>for any problem</u>	<u>for some problems</u>	<u>not at all</u>
n=678		460[67.8%]	187 [27.6%]	31[4.6%]
<u>SEX</u>	MALE	176[80.4%]	35[16.0% ]	8[3.6%]
	FEMALE	265[60.9%]	147[33.8%]	23[5.3%]
Chi-square = 25.6 with 2 degrees of freedom, p<0.001				
<u>AGE</u>	0 - 44	205[62.5%]	114[34.8%]	9[2.7%]
	45 - 64	162[72.3%]	47[21.0%]	15[6.7%]
	>65	85[73.9%]	24[20.9%]	6[5.2%]
Chi-square = 18.92 with 4 degrees of freedom, p<0.001				
<u>SEEN A STUDENT</u>	YES	153[74.3%]	47[22.8%]	6[2.9%]
<u>IN THE PAST</u>	NO	307[65.0%]	140[29.7%]	25[5.3%]
Chi-square = 6.02 with 2 degrees of freedom, p<0.05				

67.8% replied for any problem, 27.6% replied for some problems and 4.6% replied not at all. They were significantly more likely to reply that they would see their doctor with a medical student, for any problem, if they had seen a student in the past, if they were male and if they were aged 45 or over. For the final question- "Would you be prepared to see a medical student alone before you saw your doctor?", 37.6% replied for any problem, 44.3% replied for some problems and 18.1% replied not at all [table 34].

**TABLE 34. REPLIES TO QUESTION FOUR IN THE FIRST STUDY OF PATIENT OPINION. "Would you be prepared to see a medical student alone for any problem, for some problems or not at all before you saw your doctor?"**

		<u>for any problem</u>	<u>for some problems</u>	<u>not at all</u>
n=679		255[37.6%]	301[44.3%]	123[18.1%]
<u>SEX</u>	MALE	115[52.5%]	74[33.8%]	30[13.7%]
	FEMALE	130[29.8%]	220[50.5%]	86[19.7%]
Chi-square = 32.09 with 2 degrees of freedom, p<0.001				
<u>AGE</u>	0 - 44	120[36.6%]	169[51.5%]	39[11.9%]
	45 - 64	86[38.2%]	90[40.0%]	49[21.8%]
	>65	47[40.9%]	37[32.2%]	31[27%]
Chi-square = 22.88 with 4 degrees of freedom after grouping, p<0.001				
<u>SEEN A STUDENT</u>	YES	87[42.0%]	88[42.5%]	32[15.5%]
<u>IN THE PAST</u>	NO	168[35.6%]	213[45.1%]	91[19.3%]
Chi-square = 2.969 with 2 degrees of freedom, not significant.				

They were significantly more likely to reply that they would be prepared to see a student alone, if they were male and aged 65 or over.

### 6.3.2. STUDY TWO

In study two, 48 students took part and returned a total of 469 questionnaires. The age-sex distribution of the patients who responded is shown in table 32. All 469 patients replied to the question "Are you prepared to see your doctor today while a senior medical student is present in the consulting room". 445 [94.9%] replied yes and 24 [5.1%] replied no. Of those who replied no, 18 were female [Chi-square = 4.62 with 1 degree of freedom,  $p < 0.05$ ]. The reasons given by those, who did not agree to see the doctor with a student, are shown in table 35.

**TABLE 35. REASONS GIVEN BY THE PATIENTS IN THE SECOND STUDY OF PATIENT OPINION FOR REFUSING TO SEE THE DOCTOR WHILE A STUDENT WAS PRESENT [ more than one reason was possible].**

<u>REASON</u>	<u>NUMBER OF PATIENTS</u>
Prefer to see doctor alone	4
Modesty/privacy	3
Personal problem	3
Intimate examination/ cervical smear	2
Uncomfortable with student present	2
Prefer female doctor	1
Reason not given	9

### 6.3.3. STUDY THREE

In study three, 77 students took part and returned 759 questionnaires. The age-sex distribution of the respondents is shown in table 32. The replies of these patients, to the four questions about how they felt after a consultation, at which a medical student was present, and how they would feel in the future, are shown in tables 36 - 39.

**TABLE 36.** REPLIES TO THE FIRST QUESTION IN STUDY THREE OF PATIENT OPINION  
 "How did you feel about seeing your doctor while a medical student was present?"

	<u>Happy about it with no reservations</u>	<u>Happy on the whole but with some reservations</u>	<u>Uncomfortable</u>	<u>Not at all happy</u>
	646[85.2%]	90[11.9%]	18[2.4%]	4[0.5%]
MALE	229[85.1%]	24[8.9%]	15[5.6%]	1[0.4%]
FEMALE	391[83.0%]	64[13.6%]	13[2.8%]	3[0.6%]

Chi-square = 5.81 with 2 degrees of freedom after grouping, p=0.06.

0 - 44	313[78.4%]	70[17.5%]	13[3.3%]	3[0.8%]
45 - 64	209[93.3%]	11[4.9%]	4[1.8%]	0
>65	108[92.3%]	7[6.0%]	1[0.9%]	1[0.9%]

Chi-square = 32.00 with 6 degrees of freedom after grouping, p< 0.001.

**TABLE 37.** REPLIES TO THE SECOND QUESTION IN STUDY THREE OF  
 PATIENT OPINION "Do you feel you discussed your problems more, the  
 same or less than you would have done if the student had not been  
 present?"

	<u>more</u>	<u>the same</u>	<u>less</u>	N=758
	72 [9.6%]	645[30.2%]	33[4.4%]	
MALE	31[12.2%]	219[85.9%]	5[2.0%]	
FEMALE	37[7.9%]	404[86.5%]	26[5.6%]	

Chi-square = 8.14 with 2 degrees of freedom, p< 0.02.

0 - 44	24[6.0%]	352[88.4%]	22[5.5%]
45 - 64	29[13.1%]	186[84.2%]	6[2.7%]
>65	14[12.4%]	96[85.0%]	6[2.7%]

Chi-square = 13.284 with 4 degrees of freedom after grouping, p< 0.01.

**TABLE 38.** REPLIES TO THE THIRD QUESTION IN STUDY THREE OF PATIENT  
 OPINION "Would you be happy to see your doctor again for any problem, for  
 some problems or not at all while a student is present?"

	<u>for any problem</u>	<u>for some problems</u>	<u>not at all</u>	N=755
	501[66.4%]	228[30.2%]	26[3.4%]	
MALE	180[69.8%]	69[26.7%]	9[3.5%]	
FEMALE	301[64.2%]	152[32.4%]	16[3.4%]	

Chi-square = 2.546 with 2 degrees of freedom. Not significant.

0 - 44	233[58.7%]	151[38.0%]	13[3.3%]
45 - 64	164[73.2%]	51[22.8%]	9[4.0%]
>65	90[77.6%]	22[19.0%]	4[3.5%]

Chi-square = 23.838 with 4 degrees of freedom after grouping, p< 0.001.

**TABLE 39. REPLIES TO QUESTION FOUR IN THE THIRD STUDY OF PATIENT OPINION "Would you be happy to see a student alone for any problem, for some problems or not at all before you saw your G.P.?"**

	<u>for any problem</u>	<u>for some problems</u>	<u>not at all</u>	N=750
	272[36.3%]	375[50%]	103[13.7%]	
MALE	102[39.7%]	116[45.1%]	39[15.2%]	
FEMALE	160[34.4%]	248[53.3%]	57[12.3%]	
Chi-square = 4.537 with 2 degrees of freedom. Not significant.				
0 - 14	9[34.6%]	11[42.3%]	6[23.1%]	
15 - 44	114[31.0%]	217[58.6%]	39[10.5%]	
45 - 64	95[43.0%]	92[41.6%]	34[15.4%]	
>65	44[22.7%]	9[25.3%]	22[19.1%]	
Chi-square = 23.300 with 6 degrees of freedom, p< 0.001.				

#### 6.4. DISCUSSION

The questionnaires were deliberately designed to be very simple and limited to a single page, in order to encourage the patients to complete them. This was felt to be necessary, because the studies relied on the voluntary co-operation of the general practitioner tutors, receptionists, students and patients. It could, therefore, be argued that detailed information about the effect of the presence of medical students, on the dynamics of general practice consultations, which might have been obtained from more complex questionnaires, has been sacrificed, in order to achieve good co-operation and excellent response rates, to the studies. However it was felt that the information obtained is still useful.

In an editorial in the British Medical Journal, Nigel Oswald said that we need to know more about the acceptability to patients of placing medical students in practices<sup>16</sup>, and King and colleagues called for a study, about patients' opinions towards medical students in the community, because an increasing proportion of medical teaching is occurring outside hospitals<sup>53</sup>. Attention has recently been focused on the opinions of patients, with the introduction of the Patients' Charter and the weight given to the results of patient satisfaction surveys. Patients are no longer seen as passive recipients of health care and it is only right that they should no longer be thought of as

suitable teaching material, without a great deal of thought being given to their feelings in this respect. In the past, the argument has been put forward that when a patient attends a teaching hospital he is giving implied consent to being examined by medical students. However, this argument is now felt to be untenable, even in the case of teaching hospitals<sup>54</sup>, and it is arguably less acceptable in general practice, despite the practice being recognised as a teaching practice. It is felt that hospitals should have an explanation in their introductory booklet of the importance of any clinical teaching which occurs<sup>53</sup>. In the same way, general practices should inform patients that a medical student may occasionally be present, in their patient information literature.

It was found that nearly all patients think that medical students should receive some training in general practice and the vast majority are prepared to see a medical student with their doctor. It is worthy of particular note that prior exposure to students encourages patients to be prepared to see a student again. However, a sizeable minority would not be prepared to see a student for certain problems. This is not surprising. Patients find it difficult enough to discuss certain kinds of problems with their general practitioner, despite often having a longterm and close relationship with him. It is, therefore, understandable that they may not wish to discuss these problems with a stranger. In fact, it is perhaps rather surprising that more than two-thirds of patients would be prepared to see a student for any problem. Perhaps for similar reasons, only a minority of patients would be prepared to see a student alone, before seeing their general practitioner for any problem.

The finding that older age groups are less reluctant to see students confirms the results of King et. al., who found that elderly patients in

hospitals were sympathetic and positive about medical students<sup>53</sup>. These workers also found that embarrassed women were the main group who refused examination. The reluctance of some young women, in this study, about seeing a student might be partly explained by the particular problems posed by those who attend for gynaecological reasons. Throughout the year of the attachments, male students in particular complained that they were often excluded from consultations which involved cervical smears or vaginal examinations. This would appear to be an inevitable problem and perhaps the only way, in which students can be taught these procedures, is by using artificial means, such as simulators<sup>54</sup>. Only 5% of patients refused to see the student with their doctor and so it is likely that the students saw a representative case-mix of the problems, encountered in general practice, with the exception that women with personal or gynaecological problems might be slightly underrepresented.

Most patients were happy to see their doctor while a student was present and 9.6% thought that they discussed their problems more than they would have done if the student had not been present. This may be explained partly by the students questioning the patients, in greater depth than the general practitioner, who may already know a great deal about the problem, and partly by teaching consultations being of greater duration than other consultations. Therefore, for some patients there may even be some benefit in teaching consultations. In a study of the attitudes of maternity patients towards students, a highly significant number felt that they benefited from contact with the students<sup>55</sup>.

Despite these findings, it is vital to obtain the consent of the patient, to allow the presence and participation of a medical student in the consultation. In addition, the patient should be given as much time as possible to consider whether they wish to allow the presence of the student, before the consultation

takes place. Perhaps, ideally, the patient should be informed that the student might be present, when they arrange an appointment. If that is not possible, for example because the consultation is urgent, they should be asked if they consent before they go into the consulting room. It is probably very difficult for the patient to refuse to agree to the presence of the student, once they have entered the consulting room, and the consultation has effectively begun.

In conclusion, it is felt that general practitioner tutors can be reassured that medical students are unlikely to have any adverse effects on their consultations, and those responsible for organising teaching in general practice can be reassured that students are likely to obtain a fairly representative case-mix of the problems, encountered in general practice.

## CHAPTER 7

### PROBLEM BASED LEARNING

#### 7.1. LITERATURE REVIEW

##### 7.1.1. INTRODUCTION

Medical practice is essentially a problem solving activity, whether at the individual, family or community levels<sup>56</sup>, and the World Health Organisation stresses that problem based learning, provided that it is based on relevant priority health problems of unchallengeable relevance, is a very valuable educational approach<sup>19</sup>. In addition, the Education Committee of the General Medical Council, in this country, has stressed the importance of encouraging problem solving skills among medical students<sup>1</sup>. It has also been stated that problem based learning is especially suited to the field of general practice<sup>19</sup>.

There is no fixed agreement yet as to what does or does not constitute problem based learning [PBL]<sup>19</sup>. There are a wide variety of methods called PBL and they can address quite different learning objectives. However, the common denominator is that they all use problems, although the problems vary<sup>57</sup>. Each setting for PBL displays its own peculiar characteristics determined by the availability of resources, the prevailing culture, student background and characteristics etc. PBL should therefore be used for flexibility to match the context within which it is to be used<sup>56</sup>. The principle of PBL is to put learners into a particular situation and then to give them a task or a challenge, as a source of learning. The situation should be similar to work with which they will be confronted in their professional future<sup>19</sup>. Successful problem based learning is based on the knowledge that learning which is driven by the challenge of actual practice, and which is integrated into the reasoning required to evaluate and resolve patient problems, promotes structuring of knowledge to support that practice in the future<sup>57</sup>.

Problem based learning is a way of enabling students to develop the required reasoning and critical thinking, more efficiently than they can do in the traditional methods of largely rote learning. It encourages the acquisition of a set of professional skills which includes collaboration in teams and learning how to listen, to respond and to partake in relevant discussion<sup>19</sup>. In addition the skills of self-directed learning, used in PBL, allow students to become sensitive to personal learning needs and to locate and use appropriate information resources. These are said to be essential skills for doctors<sup>57</sup>. Reviewing and looking up references in medicine is a lifelong process, in keeping with the knowledge explosion, and the fact that human beings cannot carry so many factual details in their heads. It seems likely that much time is unnecessarily wasted on teaching details which are going to be forgotten anyway<sup>58</sup>.

With time, undergraduate medical curricula tend to develop a chronic disorder labelled "curriculopathy" which prevents the provision of knowledgeable, humanistic doctors capable of improving the health of people<sup>59</sup>. The medical curriculum has not responded to this problem due to: the increased content; the decreased relevance of some of the knowledge students have to acquire in a traditional curriculum; the predominance of basic science and; faculty attitudes on teaching, costs and delivery of medical education<sup>59</sup>. There is lack of integration of subject matter from different medical disciplines and students are unable to make appropriate use of what they have learned<sup>60</sup>. Students entering the clinical years appear, to some observers, to be devoid of knowledge, which they could be presumed to have possessed earlier<sup>19</sup>.

Learning about problems is not new to students but it is a skill which may easily become submerged or lost in didactic teaching at school<sup>19</sup>. In order to optimise learning, education should help students in activating relevant,

prior knowledge, provide a context that resembles the future professional context as closely as possible, and stimulate students to elaborate on their knowledge<sup>60</sup>. In addition, the perceived relevance of work with medical problems and the challenge of solving problems provide strong motivation for learning<sup>57</sup>.

#### 7.1.2. WHAT IS A "PROBLEM" IN PROBLEM BASED LEARNING ?

A problem in problem based learning may be defined as a set of circumstances in a particular setting, which is new to the student, where the use of pattern recognition alone is insufficient, but where specific items of knowledge and understanding have to be applied in a logical analytical process, in order to identify the factors involved and their interaction<sup>19</sup>. To lead to activation of prior knowledge, problems should:

1. consist of a neutral description of events or a set of phenomena which are in need of explanation in terms of underlying processes, principles or mechanisms;
2. actually lead to problem solving activity;
3. be formulated as concretely as possible and;
4. have a degree of complexity related to students' prior knowledge<sup>60</sup>.

To facilitate learning the method should use problems, which closely resemble problems encountered in later life, and:

5. have the greatest frequency in the usual practical setting;
6. represent lifethreatening or urgent situations;
7. have a potentially serious outcome in terms of morbidity or mortality, in which intervention, preventive or therapeutic, can make a significant difference in prognosis and;
8. are frequently poorly handled in the community<sup>60</sup>.

In some varieties of problem based learning, students are given the initial presentation of the problem and have to assemble the important facts through free inquiry, using clinical reasoning as occurs in the real world. In addition, they may be given responsibility for the amount and sequence of information to be learned in the domain of the course. In closed loop or reiterative problem-based learning, after an episode of self-directed study is completed, students are asked to evaluate the information resources they used and then return to the patient problem, as it was presented originally, to see how they might have better reasoned their way through it and gained a better understanding of it<sup>57</sup>.

It has been argued that curricula should be dictated by the priority health problems of the community served by the health care system<sup>61</sup>. The closer a problem approximates to real life the better. Problems used for teaching and evaluation of clinical reasoning, in medical education, will therefore be most effective if they present the problem solver with undifferentiated problems. It is well established that knowledge is much better remembered or recalled in the context in which it was originally learned. Therefore careful thought must be given to the facts, determining the choice of problems to be used, in a problem based curricula<sup>61</sup>. Any teacher who wishes to employ PBL must decide on the desired educational objectives and then select the method which best fits with these<sup>19</sup>.

### 7.1.3. LEARNING STYLES OF STUDENTS

All students have a preferred learning style largely dependent on personality traits. They also have distinctive approaches to learning, which are influenced by an array of characteristics of the department and the teaching, to which the students are exposed. They can use one of three approaches:

1. surface learning - where they are motivated by a concern to complete the course and a fear of failure - and where they generally employ rote learning;

2. deep learning - where they are motivated by an interest in the subject and where they intend to reach an understanding of it and;
3. strategic [achieving] learning - where they need to achieve high marks and compete with their peers to be successful and where they achieve a variable understanding of the subject depending on the method of assessment used<sup>62</sup>.

In medical schools where traditional learning techniques are applied students show a shift to poorer studying approaches with time, whereas in PBL curricula, they maintain better studying approaches<sup>63</sup>. Each of the approaches to learning are characterised by features relating to the students' motivation and intention towards the subject being studied. Students in a PBL school appear to have an approach to studying, which closely approximates the aims of most medical schools i.e. to promote deep learning. The approach adopted by students at conventional schools is far from ideal<sup>62</sup>.

A medical curriculum, that is centred on teachers and disciplines, reacts to the continuing expansion of knowledge, by increasing the number of lectures and their content, and ever more of the students' daytime hours are taken up with passive learning and rote memorisation. Problem based learning with its combination of simulated clinical cases, active participation, peer interaction and self-directed learning is said to provide a context which resembles the students' future working environment<sup>64</sup>.

#### 7.1.4. PROBLEM BASED LEARNING GROUPS

In a problem based curriculum, students use clinical or research cases as the focus of discussion, in small-group tutorials led by an academic staff member. They identify unknown terms, formulate hypotheses and define learning objectives. The group members work independently, using multiple study resources, and then return to the group to elaborate on what they have learned.

Depending on whether they now feel able to solve the problem adequately, they may repeat the whole process<sup>65</sup>.

Problem based learning is best adapted to a small group of 5-7 students, as such a size enables acquisition of skills in working as a group<sup>19</sup>. The students can learn the assets of a small group including communication skills, respect for the views of others, the critical faculty, the satisfaction of contributing to the group, the ability to give and take criticism without offence being caused, and the excitement of the learning process within a group which wants to learn<sup>19</sup>. Group work does not suit all students<sup>66</sup>. However, in one study, students approved of more of the teaching, were more confident about what they had learned, were more satisfied with the contact they had made with teachers, were more prepared to treat a larger range of difficult patients in their later work, had examined more patients themselves and had become more positive to the subject taught<sup>67</sup>. The medical curriculum can "switch off the lights in a student's eyes". PBL can motivate or remotivate them again<sup>19</sup>. When the group is confronted with a new problem, it decides how to tackle it, recognise different aspects of it, and achieve an understanding of the basic mechanisms involved. The tutor's task is to guide the group towards areas overlooked. At the end, the group should be able to synthesize a comprehensive response. It should be a principle objective to put the students in the driving seat, help to motivate them and allow a sense of responsibility to grow. This is not fostered by listening to members of staff lecturing at them<sup>19</sup>.

#### 7.1.5. PROBLEM BASED CURRICULA

Problem based learning was the sole method used in fewer than 12 medical schools in the world in 1991, and less than 10% of North American schools employ problem based learning as a major educational method<sup>81</sup>. However, Harvard medical school has recently been gradually introducing PBL within their traditional curriculum<sup>59</sup> and McMaster University Medical School uses

PBL, as the sole instructional method. McMaster was started in 1969 and it was the first medical school to incorporate a problem based learning approach into its curriculum. In order to encourage good patient care, the overall curriculum emphasis is to help students acquire the attitudes, knowledge and ability necessary to identify, analyse and manage clinical problems, and to remain lifelong learners. The curriculum underwent a major revision in 1983, and the present curriculum was introduced in 1987. It includes a four week elective in family medicine. Throughout the course, groups of five or six students meet their tutor regularly to discuss health care problems. These sessions have three main aims:

1. to analyse health care problems;
2. to build a base of relevant knowledge and;
3. to evaluate their knowledge by self-assessment, peer review and programme initiated methods<sup>68</sup>.

89% of McMaster medical graduates describe their overall preparation for internship as equal to, or better than, that of fellow trainees from other medical schools and their supervisors felt that these trainees were better, or much better, in performance. McMaster graduates also felt very well prepared, compared to their fellow postgraduates, in independent learning, self-evaluation and problem solving<sup>69</sup>.

#### 7.1.6. ADVANTAGES OF PROBLEM BASED LEARNING

The advantages of problem based learning are said to be that:

1. learning needs of students can be easily identified;
2. learning can be individualised;
3. the relevance and importance of subject matter becomes readily apparent;
4. self-learning is encouraged;

5. learning is not entirely free-rein but can be largely determined by teachers and;

6. students are more aware of the diagnostic process and inquiry strategy<sup>58</sup>.

In a study describing student directed problem-based learning in General Practice and Public Health Medicine at the University of Sheffield, it was found that the method not only allowed students flexibility, in addressing their own learning, but also provided them with experience of tolerating uncertainty, an integral part of primary care. It also provided the students with a model of self-directed learning, appropriate to their continuing professional education. When there was a shift in emphasis to encouraging groups to regard the experiences of their practice attachments, as providing legitimate problems for discussion, on which to base their learning contracts, and subsequent presentations back to the group, it was found that the groups were more motivated to talk about their actual experiences than about hypothetical situations<sup>70</sup>.

#### 7.1.7. DIFFICULTIES WITH PROBLEM BASED LEARNING

The greatest problem in PBL is variation in the quality of teachers. The principles underlying PBL need to be well understood not only by the students but also by the teachers<sup>19</sup>. The understanding and skills of the tutor can compromise the objectives and have a potential effect on the quality of PBL<sup>57</sup>. The family doctor confronted daily with a wide range of clinical problems is often better equipped, than the hospital doctor, for this form of teaching. The integration which they practise with colleagues from the other health disciplines should ensure the necessary interdisciplinary cooperation, required for PBL<sup>19</sup>. One of the other principle difficulties encountered is that students are usually products of the didactic method of teaching and learning<sup>19</sup>.

In one German private medical school, tutors for supervising PBL were recruited among students, in late stages of clinical training. It was found that the tutors required professionally designed tutor training in advance, the cases and problems needed to be well-designed, and responsibility for producing material needed to be in the hands of the teacher<sup>71</sup>.

#### 7.1.8. ASSESSMENT OF PROBLEM BASED LEARNING

The primary objective of problem based learning is to accumulate the concepts of medicine in the context of a clinical problem. However, efforts to assess 'problem-solving skills' have led to many studies showing small effects. This is because expertise is characterised not by the possession of any superior general strategies, but by the availability of an extensive organised body of specialised knowledge. Nevertheless, this theory is highly compatible with PBL as a curriculum strategy in medical education<sup>61</sup>. In one early study of clinical reasoning, it was shown that if doctors considered the correct diagnosis in the first 5 minutes of an encounter, they had a 95% chance of arriving at the correct diagnosis. If they did not consider the correct diagnosis within the first 5 minutes then they had a 95% chance of not reaching the correct diagnosis. Thus the diagnostic process is complete long before all the data are gathered or analysed. Expertise is therefore contingent on a large storehouse of prior examples and so the work-up of problems in a tutorial setting is a beginning to the accumulation of these examples<sup>61</sup>.

The main thrust of evaluation should be on monitoring the educational process with the purpose of enhancing learning<sup>56</sup>. Students who have completed the course are an excellent source of useful advice<sup>19</sup>. Available empirical evidence and theoretical views suggest that PBL is at least a useful addition to conventional instructional methods and can perhaps be used as an

alternative approach<sup>60</sup>. However, problem based learning is still an experiment which requires to be extended, expanded and improved all under continued clinical scrutiny<sup>72</sup>.

#### 7.1.9. PBL VERSUS TRADITIONAL METHODS

It has been found that a traditional curriculum is efficient in content coverage but is not very effective in ensuring the ability of the students to apply that knowledge to solving common problems<sup>58</sup>. However, lecture based teaching methods are the least expensive in terms of cost, time and effort for teachers. They require the least effort by curriculum designers and no special teaching skills or materials<sup>57</sup>. Because of the large number of students to be taught, the vast amount of information to be imparted and the relative inexperience of teachers in other teaching methods, lectures cannot simply be abolished. However, they should be used where most effective:

1. to present information on subjects where there are rapidly changing concepts and the literature is not satisfactory;
2. to order and synthesize diverse subject matter;
3. to introduce complex concepts and;
4. to introduce a coherent framework<sup>183</sup>.

Lectures - defined as the uninterrupted presentation of information by an instructor - which are delivered dynamically and enthusiastically, have been found to be effective. If, in addition, they are well-organised they are valuable in facilitating learning. They should be reinforced and supplemented by reading material<sup>67</sup>. Furthermore the lecture-discussion method benefits from greater learner participation and is better at developing concepts and problem solving skills<sup>67</sup>.

#### 7.1.10. COMBINATION WITH OTHER TEACHING METHODS

A logical step is to combine the two methods - traditional and PBL. A decision can be made about several common problems, which students are

required to solve, at various stages of the course, and key lectures can be derived based on these. Therefore, the curriculum is problem based but learning methods may include lectures, problem solving practicals, projects and so on<sup>58</sup>.

Where there is a parallel opportunity for students to work with real patients, it allows them to practice and transfer the knowledge and skills they have acquired in PBL, enhancing all of its objectives<sup>57</sup>. Problem based learning needs, therefore, to be reinforced by other learning experiences - each selected and timed to help towards the attainment of specific objectives e.g. lectures<sup>19</sup>. However, when PBL and didactic teaching are mixed, the student may find the oscillation between dependence on the teacher and autonomy constitutes a difficult challenge<sup>19</sup>.

It is unlikely that an established school will ever be able to introduce the degree of innovation which was possible at the problem based medical schools, all of which were new institutions<sup>62</sup>. However, PBL can be introduced into an established school and conventional curriculum. There are a large range of different approaches among institutions. It may only be used for example in certain departments. The sort of changes which are possible include a substantial reduction in didactic teaching and workload and an increase in independent learning activities<sup>62</sup>.

## 7.2. AN EXPERIMENT IN PROBLEM BASED LEARNING DURING THE GENERAL PRACTICE ATTACHMENT.

### 7.2.1. INTRODUCTION

It was decided to incorporate a form of PBL into the Department based part of the attachment. The aims of this teaching were:

1. to introduce the students to an alternative method of learning, to the traditional one previously used in the course;

2. to encourage work as part of a team and ;
3. to encourage them to consider using alternative methods of obtaining information, rather than only referring to lecture notes or textbooks.

## 7.2.2. METHOD

### 7.2.2.1. ORGANISATION OF PROBLEM BASED LEARNING

During the four half days the students spent in the Department of General Practice the teaching time was divided as shown in table 40.

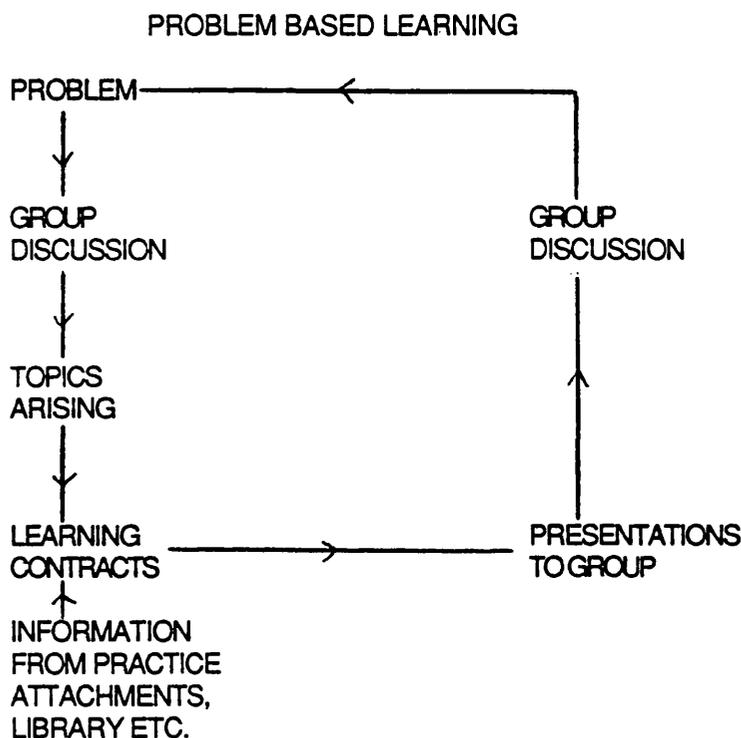
**TABLE 40. DIVISION OF TEACHING TIME DURING THE FOUR SESSIONS SPENT IN THE DEPARTMENT OF GENERAL PRACTICE.**

<u>CONTENT</u>	<u>TIME SPENT</u>
Session 1 : Introduction to course - aims and objectives, administrative details etc.	2 hours
Introduction to problem based learning	1/2 hour
Lecture	1/2 hour
Session 2 : Lectures [ 3 ]	1+1/2 hours
Problem based learning	1+1/2 hours
Session 3 : Lectures [ 3 ]	1+1/2 hours
Problem based learning	1+1/2 hours
Session 4 : Lecture	1/2 hour
Problem based learning	1/2 hour
Evaluation of course, feedback on audit project etc.	2 hours

Therefore, the time spent on problem based learning was equal to that spent in more formal lecture based teaching. The lecture subjects were chosen by the members of the Department as topics which they considered to be important in general practice. The topics chosen were: Consultation Skills; Health Promotion and Prevention; Hypertension Screening; Bereavement Counselling; Practice Management; Information Technology applied to General Practice; Geriatric Screening and; Training in General Practice.

During the first session in the Department, an introduction to problem based learning was given, with reference to some of the literature review discussed above. It was emphasised that the group work was not designed to teach them about any particular clinical situation and an outline of its aims were given. The design of the particular technique of problem based learning which they were going to use was then described, following the plan outlined in figure 32.

**FIGURE 32.** OUTLINE PLAN OF PROBLEM BASED LEARNING METHOD USED.



The plan was adapted from that used by Usherwood et al<sup>70</sup>. The students were divided into four groups of six or seven and one member of staff was assigned as a tutor to that group, on a continuous basis, over the following three sessions. The tutors were briefed about the aims of the group work and how the group should function, but it was stressed that this was essentially a student centred exercise, and that the tutor should only facilitate when the group was having difficulty.

At the introductory session each student was instructed to identify a problem encountered, during the first week of their general practice

attachment, to discuss at the next meeting of the class, in eight days time. It was emphasized that although the problem might be clinical, it might alternatively be psychosocial or organisational as long as it was a real problem. Some examples of types of problem, which could be considered, were given - the first section were given suggestions and the following seven sections were given examples from the preceding sections.

At the next session, each member of the group presented the problem they had encountered for discussion. They then voted for two out of the six or seven problems, presented by each member of the group, which they felt were the most challenging and interesting. Having chosen two problems, each member of the group was allocated a different aspect of each problem to research and present back to the other group members, at the next meeting, in eight days time. It was again stressed that they should try to use different methods of research, rather than simply obtaining the information from books. In particular, they were encouraged to see the personnel available to them as part of the general practice team to which they were attached, as valuable sources of information.

At the next meeting, each student presented their findings back to the group, dealing with each of the two problems in turn. If the presentations and ensuing group discussions threw up further issues for investigation, then these were pursued during the following week, and time was available for further small group work, on the last afternoon of the attachment. In practice, more time was often required by the groups, to finish the discussion of their problems.

The students were asked to complete a standard form for each problem, during the group work, partly to facilitate the process of the group work, and partly to allow analysis of the work which they had done [ figure 33 ].

**FIGURE 33. FORM COMPLETED BY GROUPS TO FACILITATE PROCESS OF PROBLEM BASED LEARNING.**

**PROBLEM BASED LEARNING**

**BRIEF DESCRIPTION OF PROBLEM**

**AREAS WHERE FURTHER INFORMATION IS REQUIRED**

**ASSIGNMENTS FOR GROUP MEMBERS**

**MAIN POINTS FROM FEEDBACK**

**FURTHER AREAS FOR INVESTIGATION FROM INITIAL FEEDBACK**

**PLEASE LIST ALL SOURCES OF INFORMATION USED INCLUDING PERSONNEL QUESTIONED**

**7.2.2.2. EVALUATION OF THE PROBLEM BASED LEARNING**

The PBL was evaluated by means of (1) the student evaluation form [appendix 9] and (2) the semi-structured tape recorded interviews with 25% of the class.

At the end of the attachment, the students were asked to evaluate the small group work, as part of the evaluation of the whole course. This was done on the standard attachment evaluation form, which asked the students to score each component of the course on a five point Likert scale, for interest and

relevance. As the lecture components of the course were also scored on the same scale, individually and as an overall score for lectures, a comparison was possible between the problem based and lecture components of the course. The evaluation form also contained a section for free comments about the course, including a section for suggested improvements. Finally, during the tape recorded interviews with a one in four sample of each class, at the end of the attachment, their honest opinions about the attachment and of the small group work was sought and discussed.

#### 7.2.3.1. RESULTS - DESCRIPTION OF PROBLEM SOLVING ACTIVITY

A total of 206 students rotated through the four week general practice attachment in 8 sections. Each section was divided into four groups for the problem based learning. Out of 32 groups, 18 had 6 members and 14 had 7 members. The groups completed the work for a total of 63 problems [one group only completed one problem instead of two as directed]. The problems tackled are loosely classified in table 41. As with most problems encountered in general practice, it is difficult to describe a problem as purely medical or purely social etc., as there is so much overlap, and so the classification is used only for simplification of presentation of the material.

**TABLE 41. THE 63 PROBLEMS TACKLED BY THE STUDENT GROUPS.**

<u>PROBLEM</u>	<u>NUMBER</u>	<u>PROBLEM</u>	<u>NUMBER</u>
<u>CLINICAL-MEDICAL</u>		<u>PSYCHOLOGICAL</u>	
Congenital abnormalities	3 groups	Community psychiatric care	4 groups
Infertility		Depression	
Adult onset coeliac disease		Transexuality	
Outbreak of scabies		Prescribing benzodiazepines	
Occupational hazards		Withdrawal from opiates	
Stammering		Grief management	
		Post-traumatic stress disorder	
<u>MANAGEMENT</u>		<u>SOCIAL</u>	
Management of HIV and AIDS	4 groups	Drug abuse	6 groups
Management of terminal illness	3 groups	Alcohol abuse	2 groups
Management of chronic pain	3 groups	Child abuse	2 groups
Compliance with drug therapy		Domestic violence	2 groups
Hormone replacement therapy		School truancy	
Homeopathic therapy			
Contact tracing for VD			
Abortion			
<u>ADMINISTRATIVE</u>			
G.P. personal security	2 groups		
Security of controlled drugs	2 groups		
Geriatric referrals	2 groups		
Practice too busy			
Arranging admissions			
Role of practice nurse			
Complaints against G.P.			
Sickness certification			
Deputising service			
Closure of local DGH			
Screening house calls			
Confidentiality			
Improving practice premises			
Patient preferences for doctor			

It can be seen that some problems were tackled by more than one group and these tended to be topical issues such as management of HIV and Aids, Management of Drug abuse and Community Psychiatric care. A total of 403 sources [mean 6.4 per problem] were used by the students, in preparation for the third and fourth sessions on Problem Based Learning. The sources used are shown in Table 42.

**TABLE 42. SOURCES OF INFORMATION AND NUMBER OF TIMES EACH SOURCE WAS USED BY STUDENTS IN PREPARATION FOR PROBLEM BASED LEARNING.**

<u>SOURCE</u>	<u>NUMBER</u>	<u>SOURCE</u>	<u>NUMBER</u>
Primary care team	127	Associations/ Societies/ Helplines	24
General practitioner	[77]	Police	10
Nurse/ Health Visitor	[20]	Health Board	7
Patients	[15]	Hospital Nurse	6
Social Worker	[6]	Patient leaflets	5
Practice manager	[3]	Pharmacist	5
Counsellor	[3]	Area Drug Projects	5
Receptionist	[2]	Counsellor	3
Physiotherapist	[1]	Deputising service	3
Books	74	Clinical Psychologist	3
Journal Articles	50	MDDUS*	2
Lecture notes	3	Reporter to children's panel	2
Specialists	41	Lawyer	2
Hospital doctors	[29]	Insurance company	2
Public Health Specialist	[9]	Blood Transfusion Service	2
Factory doctors	[2]	RCGP**	2
Family Planning doctor	[1]	Women's Aid Volunteer	2
		Others	23

\* MDDUS = Medical and Dental Defence Union of Scotland.

\*\*RCGP = Royal College of General Practitioners.

The other sources were used once only. These are shown in table 43.

**TABLE 43. OTHER SOURCES USED ONCE ONLY IN PREPARATION FOR PROBLEM BASED LEARNING.**

Funeral Director	Addiction Officer	District Council
Assistant Registrar	Alcohol Council	Survey of Scouts
Drug representative	R.S.P.C.C.	Prison
Speech therapist	Register of Addiction	Ambulance Drivers
Occupational therapist	Acupuncturist	Health Spokeswoman[Labour]
Prostitute	Computer records	Professor Moral Philosophy
Church	Reflexologist	Television
Radio	Thompson's Local directory	

An example of one of the problems, worked by one group, is given below, to give an indication of how the group went about tackling the problem.

#### **EXAMPLE**

##### **BRIEF DESCRIPTION OF THE PROBLEM**

Child sexual abuse [- prompted by a case seen in practice ].

##### **AREAS WHERE FURTHER INFORMATION IS REQUIRED**

How the various agencies involved in dealing with this problem function and co-operate.

**ASSIGNMENTS FOR GROUP MEMBERS**

<b><u>STUDENT</u></b>	<b><u>ASSIGNMENT</u></b>
Z	Contact social work department
C	Contact R.S.P.C.C.
N	Contact Childline.
J	Contact reporter to the children's panel
A	Contact police surgeon
M	Find out about support groups for victims
Ca	Find out what help offenders receive

**MAIN POINTS FROM FEEDBACK**

Z	Social worker acts as reporter, arranges home supervision, at risk registration and medical examination.
C	RSPCC accepts referrals from all other agencies. Offers 1:1 counselling and group work for adults.
N	Childline volunteer suggested range of options available to child. Advised on who to talk to, time to talk and words and terms to use. Some children contact them regularly.
J	Described function of reporter to children's panel and the function of the children's panel.
A	In suspected case police arrange examination by paediatrician who sends report to Procurator Fiscal and reporter to children's panel.
M	Older children have self run groups with counsellor facilitating. Younger children have personal counselling.
Ca	Social worker in rehabilitation unit for sex offenders in prison offers counselling to recognise own patterns of behaviour - still evolving. These prisoners are segregated - section 1. Prisoners are encouraged to write letter to victims but not to send it.

**SOURCES USED**

Reporter to children's panel

Police surgeon

Childline Glasgow

Support group - Children vs Sexual Abuse

Prison social worker

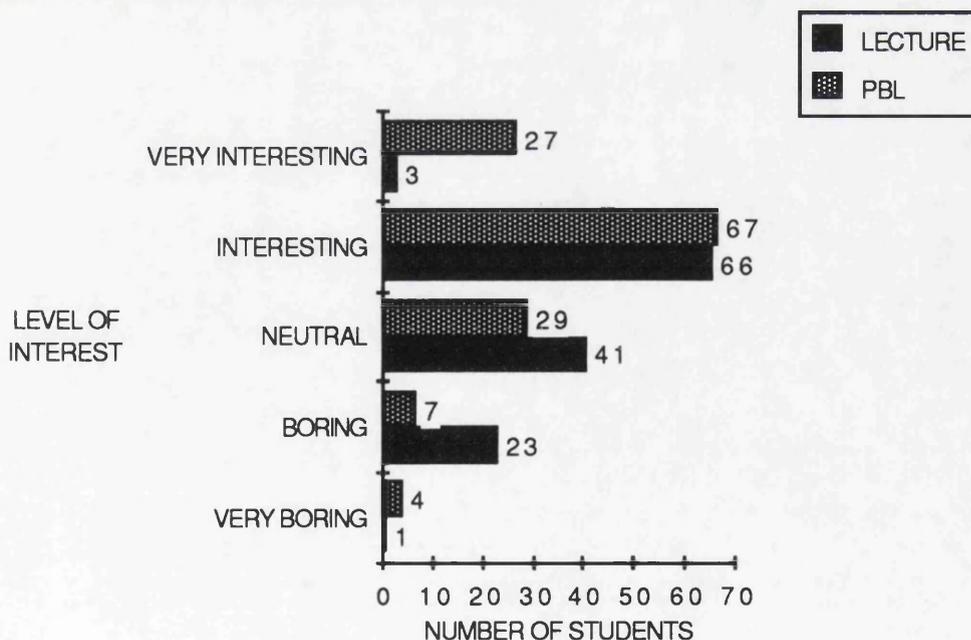
RSPCC worker

At the end of the Problem Based Learning, this group reported that they now felt that they understood the differing, but complimentary, roles of the individuals and agencies, involved in dealing with this complex problem. They also felt that it was important that the general practitioner should be aware of these roles and that if they were presented with a similar problem, in the future, they would have a better idea of how to manage it.

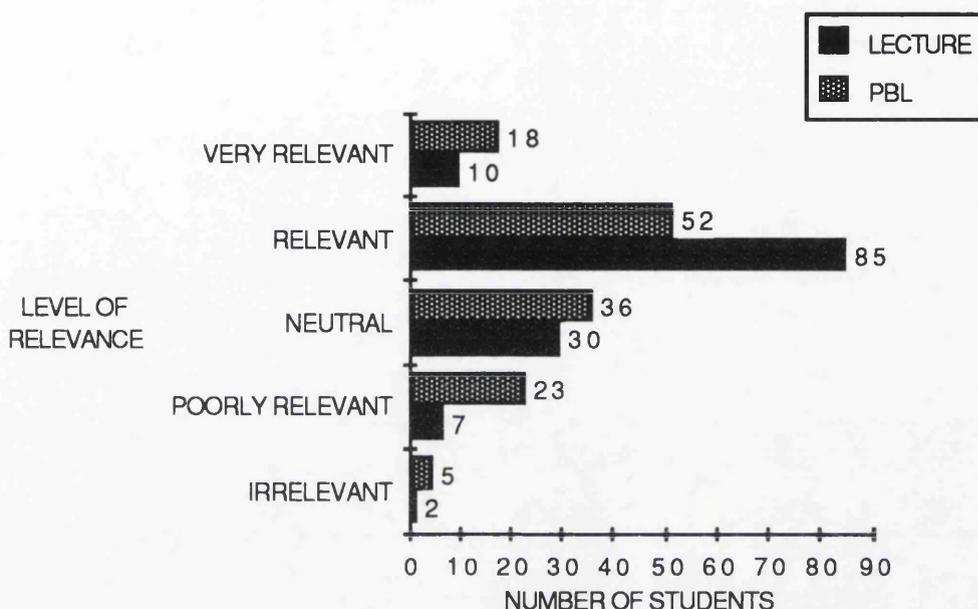
#### 7.2.3.2. RESULTS - EVALUATION

Of the 206 students who completed the course, 190 [92 %] handed back a course evaluation sheet. However, only 134 completed every section on the sheet and so, in order to make a true comparison between the Lecture Based part of the course and the Problem Based Learning, only the 134 fully completed evaluations are included in these results. The scores, given by the students for interest and relevance of the problem based learning compared with the lecture based part of the course, are graphed in figures 34 and 35.

**FIGURE 34.** SCORES GIVEN BY THE STUDENTS FOR INTEREST FOR THE PROBLEM BASED AND LECTURE BASED PARTS OF THE COURSE.



**FIGURE 35.** SCORES GIVEN BY THE STUDENTS FOR RELEVANCE FOR THE PROBLEM BASED AND LECTURE BASED PARTS OF THE COURSE.



The mean score for interest for the problem based learning was 3.79, where 4 is interesting and 3 is neutral. The mean score for relevance was 3.4, where 4 is relevant and 3 is neutral. The mean score for interest for the lecture based part of the course was 3.35 and the mean score for relevance was 3.70. It can therefore be seen that, overall, the students felt that the Problem Based Learning was more interesting, but less relevant, than the Lecture Based part of the course.

A total of 131 of the students gave additional written comments about how they thought the Departmental part of the course could be improved, on the open part of the evaluation sheets, and 37 of the students commented on how the Problem Based Learning could be improved. Table 44 shows a summary of these comments.

**TABLE 44. SUMMARY OF COMMENTS MADE BY THE STUDENTS TO IMPROVE THE PBL.**

<b><u>IMPROVEMENTS</u></b>	<b><u>NUMBER OF STUDENTS</u></b>
More PBL/ small group work	19
Restrict topics/ set topics	12
Formalise presentations back to class	5
Allocate more time for research	4

Several students used this space to make other comments about the PBL. Three of these comments were favourable e.g. "Continue emphasis on PBL - much more useful than lectures". Five of the other comments were unfavourable - three of these suggested that the time spent on the PBL was not justified for what was learned e.g. "The PBL is a good idea but is time consuming with little benefit".

There was a further section in the evaluation sheet for other comments, about the Department based part of the course, and 51 students gave comments, with nine commenting on the PBL. Five of these comments were favourable, three were unfavourable and one comment was equivocal. The favourable comments stated that the PBL was interesting, or a good idea, or should be extended. The equivocal comment was "PBL seems to involve a lot of work each and library work even for one aspect. Reviewing one aspect seemed to entail reading about other aspects. Definitely more interesting and useful than lectures but quite time consuming. I feel I will remember the subject better however". The three unfavourable comments were: "I wasn't really interested in going out and finding out information from different sources"; "The aims of the problem based learning could have been clearer"; and "The PBL did not work very well".

There were approximately five hours of tape recorded material from the informal interviews, about the entire attachments, with 25% of the students. The questions, asked by the interviewer, were semi-structured and consisted

of e.g. "What did you like or dislike about the Departmental teaching?" and "How would you improve the Departmental Teaching?". There were a total of 18 comments made about the problem based learning. Table 45 gives a breakdown of the comments

**TABLE 45. BREAKDOWN OF COMMENTS MADE BY STUDENTS DURING THE TAPE RECORDED INTERVIEWS ABOUT THE PBL**

<u>COMMENTS</u>	<u>NUMBER</u>
Generally favourable	6
Restrict topics/ set topics	4
More PBL	3
Prefer to choose own topic	3
Require more time for research	1
Other	1

The generally favourable comments included "The problem based learning was successful because everyone joined in and talked and asked questions" and "I thought I learned quite a lot from the things we looked at in the PBL - about the Community Care Act and Psychiatric Care in the Community. It was quite interesting. I probably learned more from that than I learned from the lectures ". The other comment was "I wouldn't like a course which was exclusively PBL but it was good to have a chance to do some of this ".

#### 7.2.4. DISCUSSION

This experiment shows that it is possible to introduce some problem based learning, into a new course, in parallel with a more formal lecture based programme, and to interest students who are used to a much more traditional, didactic curriculum.

As far as it is possible to assess them, the aims of the experiment would appear to have been fulfilled. The students were introduced to the concept of Problem Based Learning and it was subjectively felt, by the tutors and the students, that they were encouraged to work in teams. There is also no doubt

that they were encouraged to use alternative sources of information.

These are students, who have been mainly encouraged, throughout their medical course, to gain the information, they require to pass their examinations, from formal lectures and textbooks and in their clinical years from formal bedside teaching. However, they used 55 different sources of information in researching their problems and, although textbooks were still the second most commonly used source, they only accounted for 18 % of the total. Lecture notes were only mentioned as a source of information on three occasions, which suggests that the students felt that they were a poor source of information, for the topics they were interested in. Whether this is because the topics chosen for research tended not to have been covered elsewhere in the medical curriculum, or the information given in them was poorly applicable to real life problems, is unclear. However, it would seem that subjects like drug and alcohol abuse, HIV and Aids related issues and the more clinically orientated topics should have been covered earlier in the course, as these are topics which are not only relevant to general practice.

It can be seen from the lists of sources used that, on occasion, these students used quite novel and interesting approaches to researching the topics. This suggests that, if the curriculum would allow the time, they would not be so heavily dependent on textbooks and formal teaching, to gain information. However, as some of their comments made clear, they did find the process of collecting information time consuming and, in a packed medical curriculum, the advantages of ease of retrieval of information from textbooks and the compact presentation of facts possible in lectures, are all too readily appreciated.

Although 63 problems were tackled in total by the students, only 40 different topics were chosen. There were therefore a number of topics chosen in common, by some of the groups. As the groups had complete autonomy for

choosing the problems they wished to research, it suggests that there are some areas which the students identify as being of particular interest and importance. It also suggests that these are areas which they feel ill-equipped to deal with, from their previous medical education. Again, although topics such as drug and alcohol abuse are important in terms of morbidity and mortality as well as workload, there may be confusion, as to which specialist is responsible for teaching these topics in the undergraduate curriculum, and so they may be inadequately covered. It may therefore be the case that General Practice is the appropriate setting for teaching the students about these subjects.

It could be argued that this experiment has been a qualified success, based on the student evaluation of the course. The students undoubtedly found the Problem Based Learning interesting, more so than the lecture based part of the course, which was designed to give them insights into issues of importance and topical interest in General Practice and delivered by lecturers who have expertise in the chosen areas. However, they did not find it as relevant.

In general, students tend to find small group work more interesting than lectures, although this learning situation does not suit every student. In addition, by this time in their course the students were showing signs of being victims of 'curriculopathy' where they had suffered a relative overdose of lectures and information overload. Therefore, it could be argued that they were simply stimulated by a new form of learning activity. However, this is a valid reason for the use of this form of learning, as it could be argued that the more interested and stimulated students are by their education, the more likely they are to retain information and develop new learning skills.

The reason, for the students finding the Problem Based Learning relatively less relevant, can probably be summed up in one word - EXAMS! As

general practice is not a degree examination subject at the University of Glasgow, the students do not have to pass this part of the course, in order to pass their final examinations. In addition, the Problem Based Learning was not assessed as part of their grade in general practice. By the time the students enter the final rotation of their medical course, they are already preoccupied by passing their final examinations. Evidence for this view was obtained by informal discussions with the students and also from some of the comments made on their course evaluation sheets and taped interviews. As their course so far has tended to encourage superficial learning, likely to aid in passing exams, the Problem Based Learning, although promoting deep learning, was judged to be less relevant. This was particularly so as many of the topics covered had a very low likelihood of being included in their final examinations.

Possible solutions to this problem include: placing the general practice attachment earlier in the medical curriculum, perhaps in fourth year rather than during the final rotation; making general practice a degree subject or; altering the design of the course. As the first two solutions would involve major decisions at the level of the Faculty of Medicine, the third solution is the only practical one in the short term.

Some of the students' evaluation comments suggested ways in which the PBL could perhaps be rendered more relevant for the students. The overall impression gained was that the majority of the students would probably prefer set topics, chosen for them, rather than choosing their own topics, and that each group would have more time available for preparation of the problems, if they only had one problem to research. Each group could then present their topic back to the class formally, so that the class could benefit from the information obtained on four different topics. It would probably be more

relevant if the topics chosen could be integrated with the lecture course, so that the entire teaching within the Department could become more cohesive. Suitable topics could be chosen from the list of topics given in table 2 and might be for example: 'Drug abuse in general practice'; 'HIV and Aids in general practice'; 'Community psychiatric care' and; 'Management of terminal illness in general practice'. The students could be given a clinical real life case, addressing one of these issues, perhaps with a number of facets to the problem, and could be asked to research it to their satisfaction.

## CHAPTER 8.

### THE AUDIT PROJECT

#### 8.1. INTRODUCTION

One of the essential elements of basic medical education is "the development of a capacity for self-audit and for participation in the peer review process" and for this reason audit must become an established part of undergraduate education<sup>73</sup>. However, several factors have been identified which have made it difficult to introduce audit into the undergraduate curriculum. These include: lack of curricular time; difficulty in making the teaching relevant and interesting; lack of expertise and knowledge among staff; problem of compartmentalizing audit as a separate topic; negative attitudes in the medical faculty; teaching not linked to the student's own clinical work and; audit being considered a postgraduate topic. Despite these difficulties, in one study 41% of Departments of General Practice in the United Kingdom and Eire were providing formal teaching in audit<sup>73</sup>.

Since the early 1980's, the Royal College of General Practitioners has fostered audit, through its 'Quality Initiative' and other policies<sup>74</sup>, but despite this, the pursuit of audit among grass roots general practitioners has been somewhat disappointing. There has been difficulty in reaching agreement about criteria and standards and many published audits have failed to complete the audit cycle or to show any improvements in patient outcome<sup>75</sup>. It has been said that a barrier to audit is the narrowness of medical education. Learning without critical appraisal of the subject matter - all too often a tradition in medical education - will not provide the skills required for medical audit in the future<sup>76</sup>.

It was felt, in view of the increasing importance of audit, not only in general practice, but in all aspects of medical practice, that formal teaching

about audit should be provided as part of the teaching, during the general practice attachment.

## 8.2. METHOD

The plan of the audit teaching is outlined in figure 36.

### FIGURE 36. OUTLINE OF AUDIT TEACHING.

#### **SESSION 1**

Seminar on audit in general practice.

#### **IN PRACTICE**

Retrieve case-notes for 10 patients with diabetes and record information on prepared form.

#### **SESSION 2**

Return completed form to Department of General Practice

Information on forms analysed and aggregated.

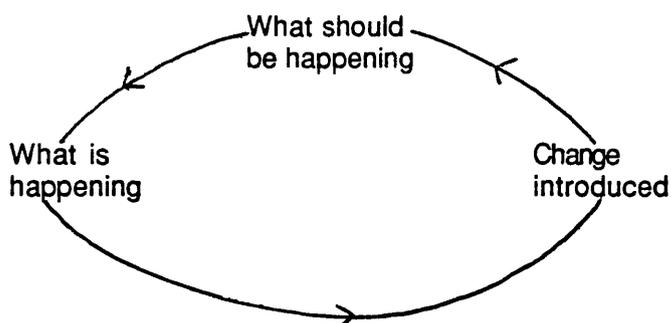
#### **SESSION 4**

Results of audit fed back and improvements in process of care and other issues raised by audit discussed.

On the first morning session of the attachment, when the students attended the Department of General Practice and, as part of the introduction to the course, they received a half hour seminar about the audit project. As an introduction to audit, the students were asked if they remembered receiving any teaching about audit, prior to this course and, if so, what did they understand by the term audit. Very few did remember being taught about audit and those who did were under the impression that it referred mainly to the collection of data. None of them mentioned the concept of implementing change and repeating the data collection, to find out if the change had improved the outcome.

Subjectively, therefore, it was felt that these students had very little prior knowledge about audit, before this course. They were then given a mini-lecture about audit using very simple terms and utilising the simple audit cycle in figure 37<sup>77</sup>.

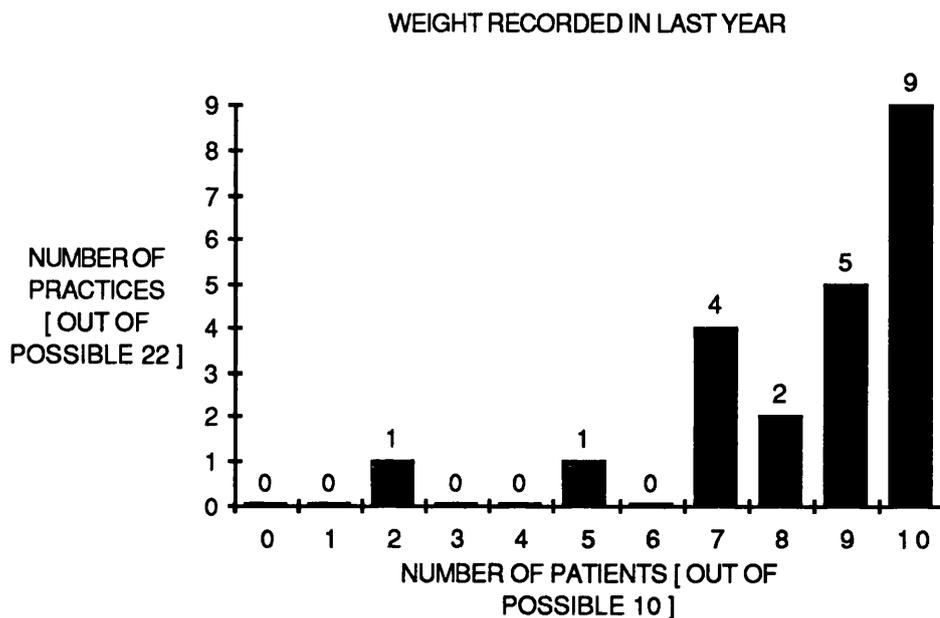
**FIGURE 37. SIMPLE AUDIT CYCLE.**



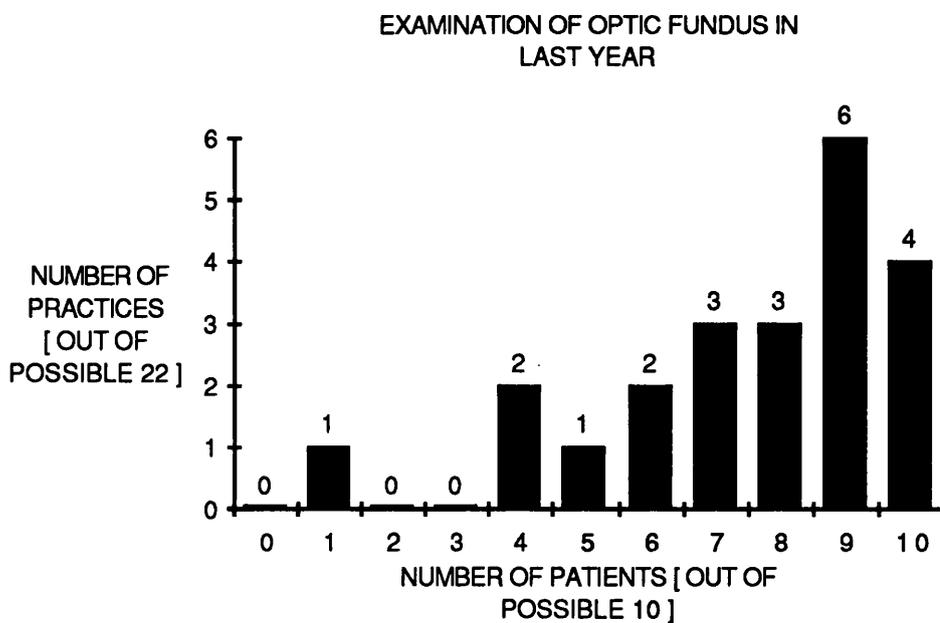
The audit, they would be performing in their own practices, was then described and the data collection sheet, they would be using, was distributed [appendix 16].

The audit involved identifying 10 patients, in their practice, with diabetes, and reviewing their case notes, for the information required to complete the data collection sheet. It was explained that the patients with diabetes could be identified, in any appropriate way e.g. from a computerised or manual disease register, repeat prescription system or from their G.P. tutor's memory. They were asked to return the completed audit sheets, on their visit to the Department, during the following week. Between that meeting and the final meeting of the class, the information on the data collection sheets was aggregated and produced as a series of graphs, to illustrate the differences between their practices. All information was anonymous and none of the practices could be identified from the returned sheets. Examples of some of the graphs presented to the students are given in figures 38 - 40.

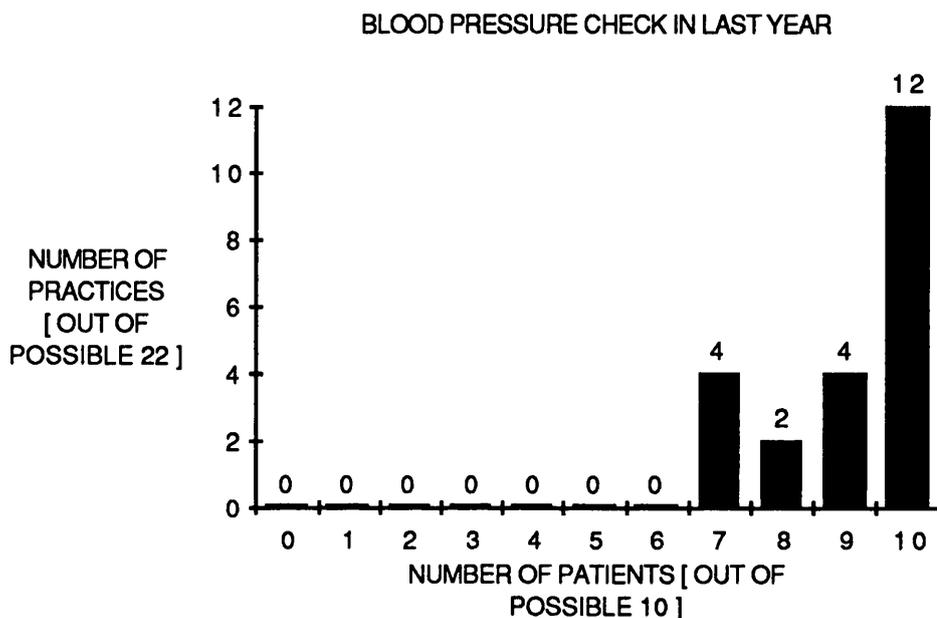
**FIGURE 38.** EXAMPLE ONE OF A GRAPH PRESENTED TO THE STUDENTS TO ILLUSTRATE THE AGGREGATED RESULTS OF THEIR AUDIT.



**FIGURE 39.** EXAMPLE TWO OF A GRAPH PRESENTED TO THE STUDENTS TO ILLUSTRATE THE AGGREGATED RESULTS OF THEIR AUDIT.



**FIGURE 40.** EXAMPLE THREE OF A GRAPH PRESENTED TO THE STUDENTS TO ILLUSTRATE THE AGGREGATED RESULTS OF THEIR AUDIT.



On the final session of the attachment, when students attended the Department for the last time, there was a further seminar, when the aggregated results of their audit were fed back to them, and a series of issues, relating to the audit were introduced and discussed. These issues are shown in figure 41.

**FIGURE 41.** ISSUES DISCUSSED AT THE FINAL SESSION ON AUDIT.

What were you actually auditing?

What do you understand by good diabetic care?

What standards would you set in general practice diabetic care for recording in the last year? -

- smoking status
- weight
- examination of optic fundus
- examination of feet
- complications
- visual acuity
- blood pressure

What are the reasons for the variations between practices?

What improvements in the process of diabetic care would you suggest for you practice?

It was pointed out to the students, at this stage, that they had only completed the initial stages of the audit and that, to complete the audit, they would have to implement the changes, they had suggested, in their practices and re-audit the diabetic patients, in the future.

Finally, at the end of the seminar, the students were asked to complete an evaluation of the audit exercise and seminar session. The evaluation sheet used is shown in appendix 17.

### 8.3. RESULTS

The first two sections were used as a pilot study to refine the method of teaching used and so the results only apply to the final six sections. Out of 153 students in these six sections, 128 handed in completed data collection forms [83.7 %]. Four of these forms were incomplete.

#### 8.3.1. ISSUES RAISED BY STUDENTS AT FEEDBACK SESSIONS

After discussion, the students usually reached a consensus that, although the exercise was called a diabetic audit, it would perhaps be more accurate to use the term diabetic record keeping audit. They thought that, in most instances, the distinction was academic but it was possible, in some cases, that diabetic care could still be good, although the records kept about it were poor. However, they agreed that in practices, where a patient with diabetes might see more than one doctor during different visits to the practice, then good record keeping was essential.

Issues of structure, process and outcome were introduced, at the stage of the discussion dealing with "good diabetic care". The students felt that, although the structure of care was important, the process was more important. There was debate about the relative importance of the process of care e.g. biochemical evaluation of diabetic status, and longterm outcome e.g. presence of lifethreatening complications. It was felt that outcome was the

ultimate indicator of good diabetic care but that, by this stage, it would be too late to do anything about improving the care of individual patients, and so the process of care should be relied upon, to provide an interim indicator of good diabetic care, as a basis for improvements.

The relative merits of using numerical and non-numerical standards, for the recording of the various items in the audit, such as smoking etc. were debated. Many of the students felt that the aim should be to record these items in "all" or "as many as possible" of the patients. However, it was eventually agreed, that the advantage of a numerical standard, which allowed a direct comparison of actual performance with other practices and within their own practice, before and after any changes, was preferable. At this stage, clinical and administrative issues were introduced, such as who was the best person to examine optic fundi.

The reasons for differences in the rates of recording the various elements, in different practices were discussed and involved the structure of provision of diabetic care e.g. computerised call and recall systems as well as interpractice variations e.g. differences in social class of the patients.

Finally, the students discussed what features, they would suggest, should be introduced to the practices, to improve the process of diabetic care. The advantages and disadvantages of features, such as call and recall systems, miniclinics with involvement of nurses, chiropodists, dieticians etc. as well as general practitioners, one person responsible for organising diabetic care, standard protocols for care, shared care with local diabetologist and shared care cards, were all suggested and discussed.

### 8.3.2. STUDENT EVALUATION OF THE DIABETIC AUDIT EXERCISE.

Out of 153 students in the six sections, 128 students completed every section of the first part of the evaluation which asked them to rate the exercise, on a five point scale for interest and relevance. 130 students completed three out of

the four sections. The results of this part of the evaluation are shown in table 46.

**TABLE 46. STUDENT EVALUATION OF THE DIABETIC AUDIT EXERCISE FOR INTEREST AND RELEVANCE.**

	<u>VERY INTERESTING</u>	<u>INTERESTING</u>	<u>NEUTRAL</u>	<u>BORING</u>	<u>VERY BORING</u>
PRACTICAL EXERCISE OF COLLECTING INFORMATION [N=130 STUDENTS]	6 [4.6%]	33 [25.4%]	40 [30.8%]	38 [29.2%]	13 [10%]
FEEDBACK SESSION [N=130 STUDENTS]	5 [3.8%]	73 [56.2%]	32 [24.6%]	16 [12.3%]	4 [3.1%]
	<u>VERY RELEVANT</u>	<u>RELEVANT</u>	<u>NEUTRAL</u>	<u>POORLY RELEVANT</u>	<u>IRRELEVANT</u>
PRACTICAL EXERCISE OF COLLECTING INFORMATION. [N=130 STUDENTS]	11 [8.5%]	63 [48.5%]	27 [20.8%]	25 [19.2%]	4 [3.1%]
FEEDBACK SESSION [N=128 STUDENTS]	9 [7.0%]	80 [62.5%]	29 [22.7%]	9 [7.0%]	1 [0.8%]

NOTE: The percentages do not always add up to 100 because of rounding off.

In summary, it can be seen that on the whole: the students did not find the practical exercise of collecting information interesting [30% very interesting or interesting Vs 39.2% very boring or boring]; they did find the feedback session interesting [60% very interesting or interesting Vs 15.4% boring or very boring]; they did find the practical exercise relevant [57% very relevant or relevant Vs 22.3% poorly relevant or irrelevant] and; they did find the feedback relevant [69.5% very relevant or relevant Vs 7.8% poorly relevant or irrelevant].

The second part of the student evaluation of the audit exercise asked the students to state their agreement with a series of four statements. 131 students completed this part of the evaluation. The results of this are shown in table 47.

**TABLE 47. AGREEMENT BY STUDENTS WITH STATEMENTS ABOUT THE DIABETIC AUDIT EXERCISE.**

	<u>AGREE STRONGLY</u>	<u>AGREE</u>	<u>NEUTRAL</u>	<u>DISAGREE</u>	<u>DISAGREE STRONGLY</u>
STATEMENT 1. I already knew a lot about audit before this course.	5 [3.8%]	28 [21.4%]	45 [34.4%]	45 [34.4%]	8 [6.1%]
STATEMENT 2. I know more about audit after doing this course.	3 [2.3%]	76 [58.0%]	31 [23.7%]	17 [13%]	4 [3.1%]
STATEMENT 3. Clinical audit is not a suitable subject for inclusion in the course	1 [0.8%]	9 [6.9%]	31 [23.7%]	83 [63.4%]	7 [5.3%]
STATEMENT 4. This audit project was a waste of time.	5 [3.8%]	15 [11.5%]	39 [29.8%]	65 [49.6%]	7 [5.3%]

NOTE: The percentages do not always add up to 100 because of rounding off.

It can be seen from this that: although 25.2% of the students agreed strongly or agreed that they already knew a lot about audit before this course, 40.5% of students disagreed or disagreed strongly with this statement; 60.3% of the students agreed strongly or agreed that they knew more about audit after doing this course, while only 16.1% disagreed or disagreed strongly with this statement. This difference was highly statistically significant [Chi-Square on actual numbers 31.9, 1 d.f.,  $p < 0.0001$ ]. Only 7.7% of the students agreed or agreed strongly that clinical audit was not a suitable subject for inclusion in the course, whereas 68.7% of the students disagreed or disagreed strongly with this statement and ; only 15.3% of the students agreed strongly or agreed

that this audit project was a waste of time, whereas 54.9% disagreed or disagreed strongly with this statement.

#### 8.4. DISCUSSION

Diabetes was chosen as a subject for audit in these practices because the frequency of a condition should be considered when choosing a topic for audit<sup>74</sup>. Despite the fact that participation in the audit exercise was voluntary in so far as it did not count towards the grade given to the students for this attachment and no penalty was imposed on those who did not complete the exercise, over 80% of the students completed the exercise and no student complained that they were unable to complete it because of lack of suitable patients. Each general practitioner will have between 15 and 30 patients with diabetes and so this finding was expected<sup>78</sup>. Completing the exercise may have been more difficult with a less common condition. It was also felt that a common medical problem would have more relevance to these students than perhaps an audit of a nonclinical problem at this stage. Finally, it is agreed that the quality of care offered to patients with diabetes can be enhanced by setting standards and criteria<sup>79</sup>.

This simple audit exercise allowed these students to perform the first part of the audit process, in the practices to which they were attached. It then enabled them to compare the data they collected with that of their colleagues and to discuss the implications of the differences between practices. They were then able to suggest changes which they thought might improve standards. Therefore, although it was not possible for them to carry out a complete audit in the time available to them, all the stages of the audit cycle were covered in the course work.

It has been suggested that there is little teaching about audit elsewhere in the curriculum, in the majority of medical schools. The findings presented here would support this suggestion at this medical school<sup>73</sup>. The students

appeared to know very little about audit at the introductory session and only a quarter stated they knew a lot about audit before this exercise, while 40% disagreed or disagreed very strongly with this statement. This is an unsatisfactory situation as audit should be seen by students as part of day to day clinical practice<sup>73</sup>.

The main student criticisms of audit projects, at other medical schools, were the time spent on data extraction and the fact that they were not auditing their own work<sup>73</sup>. In this study, only 30% of the students found the data collection part of the exercise interesting or very interesting, whereas 39.2% found it boring or very boring. This lack of enthusiasm for data collection is reflected among practicing G.P.'s, who often delegate it to ancillary staff such as receptionists. It has been suggested that, to present audit to undergraduates in a way that engages their interest, the students should be involved in planning the course<sup>73</sup>. Again this would be difficult, given the constraints of time involved and also the apparent lack of knowledge about audit, among the students at the start of the course.

Although the students found the data collection boring, they nevertheless found it relevant and the feedback was felt to be both interesting and relevant. Perhaps of more importance was that they did appear to learn from the exercise - demonstrated both by their grasp of some of the difficult issues discussed at the feedback session, and also by their evaluation. Finally, it was reassuring to find that they mainly agreed that they should be taught about clinical audit and that the project was not a waste of time. It should therefore continue to be included in the course.

## CHAPTER 9

### EVALUATION OF STUDENTS

#### 9.1. INTRODUCTION

The General Medical Council suggests a newly qualified doctor should have an understanding of health and disease, coupled with an attitude of learning, based on curiosity and the exploration of knowledge<sup>49</sup>. In addition, the new doctor should possess a wide range of skills, including the ability to solve problems<sup>80</sup>. It has been argued that the medical school must demonstrate its commitment to these aims, by making it clear to students that they will be tested on the relevant, necessary knowledge and skills<sup>81</sup>. In addition, if students' learning is not assessed, it may be distorted to such a degree, that their development, and ultimate medical competence, is seriously impaired.

It is vital for medical teachers to match their assessments to their educational objectives<sup>81,82</sup>. However, valid and reliable assessment of clinical competence is a substantial area of concern for medical educators<sup>83</sup>. Clinical competence is only partly based on cognitive ability, and there is no consensus about which dimension of clinical performance best reflects competence<sup>84</sup>. Direct observation of clinical skills may not reflect students' understanding of a case<sup>85</sup> and assessment of data gathering may be inadequate<sup>123</sup>. In addition, if the students see the examination system as one which requires predominately recall of factual information, they will tend to adopt a surface-level or rote learning approach<sup>81</sup>.

General practice is an ideal setting in which students can develop clinical skills, because patients commonly present early with undifferentiated problems, and students can make few diagnostic assumptions<sup>80</sup>. Teaching in general practice takes place in a relaxed, nonthreatening atmosphere which makes it easy for students to learn, and be open, about their areas of ignorance.

However, it may also make it easy for students to avoid having to formulate, or state, their own opinions about the patients they see<sup>82</sup>.

Although the four week attachment is a component of the final year rotation, General Practice is the only speciality, included in the rotation, not examined on currently, in the final professional examination. Members of the Department of General Practice do participate in the final clinical examinations, in Medicine and Surgery, but there is no separate examination in General Practice. However, according to University policy, students do require to receive a grade for General Practice in final year, and so it was necessary to devise a method of assessment for them. It was accepted that, as far as possible, the method of assessment used should be fair, reliable and valid<sup>86</sup>. It should also be comprehensive, objective and appropriate and, if possible, administratively easy, interesting and a teaching/learning experience<sup>87</sup>. However, there is no single assessment method, which fits these criteria, and also attempts to assess the complex professional skills, which it was hoped the attachment would help to foster among the students.

It is therefore recommended that the clinical performance of undergraduate medical students should be assessed by a combination of subjective and objective measures<sup>88</sup>. Subjective evaluation, i.e. expert assessment by rating student performance at a higher degree of simulation e.g. in the course of an extended period of supervised practice, can be very useful. Advantages of this method include low cost, flexibility and ability to measure domains not amenable to evaluation by objective method, such as dependability, rapport with patients and ability to work effectively with other health professionals. Disadvantages are low inter-rater reliability, "halo-effect", self-imposed restriction in use of scale, and often, the use of second hand information. However, global ratings are the only possible method of

assessment of some of the personal qualities which, it was hoped, the attachment would encourage<sup>89</sup>.

It was therefore decided that the grading of the students, during the first year of the attachments, would be based equally, on a global assessment by the General Practice tutor, and written case studies submitted by the students. The written case studies were included in order to provide a more objective measure of the student's understanding of the issues involved in the care of patients, in general practice. A similar assessment tool had been used previously, by the Department, and had been found to be useful. It was also hoped that the case studies would provide a valuable learning experience for the students.

At the same time, research would be conducted into the use of a Multiple Choice Questionnaire (MCQ) as an appropriate tool, for assessing the students, in the future.

This chapter describes the development of the tools used, in the assessment of the students, and the outcome of their use, during the attachments.

## 9.2. METHOD

### 9.2.1. TUTOR'S REPORT

The use of already available tools for assessing the students clinically, such as a Modified Manchester Evaluation Form, was considered<sup>90</sup>. However, when it was suggested to the general practice tutors that they might use this scale to assess the students, the consensus was that it was too detailed. The tutors requested that a simpler method was devised for them to use, at least initially, in the attachments, until they had more experience of observing the students over a prolonged period.

Clinical competence has been described in terms of problem-solving, rapport with patients and colleagues, history taking and physical examination

skills, diagnostic ability and clinical judgement<sup>88,89</sup>. These skills were therefore considered, and a simple report form was constructed, which required the tutors to rate the student for communication skills, history taking, clinical examination, problem solving and general medical knowledge. The student was to be rated in each of these domains, on a five-point scale from very good to very poor. There was also a section on the form, for the tutor to complete, about the attendance record of the student, as a proxy measure of dependability, and the tutor had to give an overall assessment of the student, on the same five-point scale. Finally, there was an open section on the form, asking the tutor to give the student's main strengths and weaknesses, and any other comments they may have. The Tutor's Report Form is contained in Appendix 7. A mark out of 50 was assigned to each student on the basis of the tutor's report.

### 9.2.2. LONG CASES

A great deal of a general practitioner's time and effort is spent in caring for patients with chronic ill-health, and it can be difficult for medical students to appreciate the impact of chronic illness, when much of their experience involves single episodes of illness, in patients, in hospital. It was therefore felt that the students should complete long cases, involving patients with chronic illness. It was considered that three cases, involving a child, an adult and an elderly patient, would be sufficient to assess the students understanding in this area.

Although students are able to develop and hone their basic medical knowledge and clinical skills during general practice attachments, it is felt that general practice enables them to explore other aspects of the effects of ill-health, on a patient's life. Areas, such as the effect of illness on family relationships and the social and psychological effects of illness, are thought to be appropriate topics for exploration, in the setting of General Practice. In

order to encourage the students to consider these aspects in the preparation of their long cases, standard forms, contained within their log diaries, were used [Appendix 6]. The students were asked to complete their long cases, during the attachment, and submit them to the Department, by the final afternoon of the attachment. The cases were marked using a structured, but flexible, marking schedule [Appendix 18] and each student was assigned a mark out of 50 based on their long cases.

The combined marks from the tutor's report and the long cases were then used to assign a grade to each student.

### 9.2.3. MULTIPLE CHOICE QUESTION STUDY

The advantages of multiple choice papers include high reliability and validity, and ease of scoring<sup>91</sup>. For these reasons, they are included in many examinations in our medical school [personal communications]. However, there is controversy about the precise cognitive facilities assessed by multiple choice questions<sup>91</sup>. M.C.Q.'s do not appear to test higher cognitive levels, only memorisation, and doctors require not only the ability to memorise facts, but also to interpret data and solve problems, in diagnosis and management.

However, in view of the advantages of M.C.Q.'s, particularly because they are administratively easy to use, it was decided to try this method out on the students, during the first year of the attachments, to assess whether it could be incorporated into any future assessment process. It was not used to assess the students in any way, during this first year of the attachments.

A bank of multiple choice questions was produced with the help of members of the Department. The questions were divided into two sets of ten questions, each with five stems, and they were included in the student questionnaires in Appendices 11 and 12 .

Each section of students was asked to complete one set of M.C.Q.'s at the start of the attachment, and the other set at the end. Four sections received one set of questions (Set A) at the start, and the other set (Set B) at the end, and the other four sections received the questions in the opposite order - table 48.

**TABLE 48. ORDER IN WHICH SETS OF MULTIPLE CHOICE QUESTIONS WERE COMPLETED BY THE STUDENTS.**

<u>SECTION</u>	<u>H</u>	<u>G</u>	<u>F</u>	<u>E</u>	<u>D</u>	<u>C</u>	<u>A</u>	<u>B</u>
M.C.Q. AT START	A	B	A	B	A	B	A	B
M.C.Q. AT END	B	A	B	A	B	A	B	A

It was felt that conducting the study in this way, would give two groups of about one hundred students in each, who would act as the other groups' controls. Therefore, it could be assumed that any change in the mean scores for the M.C.Q.'s, between the start and the end of the attachment, was due to a change in the students' factual knowledge as a result of the attachment, and not simply because one M.C.Q. was more difficult than the other.

The students were instructed to decide whether each stem was true or false and to answer as many questions as possible. One mark was awarded for each correct answer and one mark was deducted for each incorrect answer.

### 9.3. RESULTS

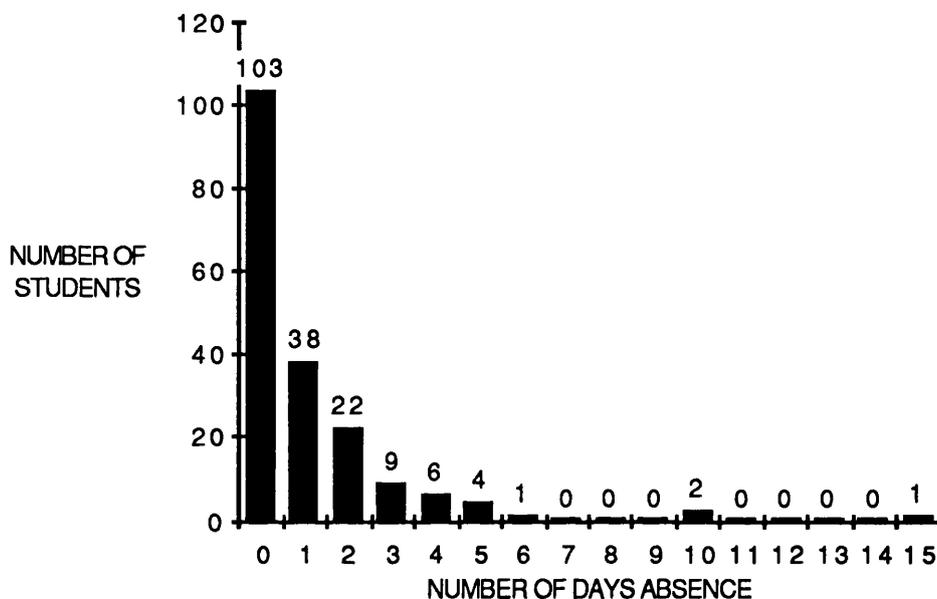
#### 9.3.1. TUTOR'S REPORT

Written reports were received from the tutors for 198 students [ 96.1% ], although one tutor returned the report on the wrong form. The eight tutors, who had still not returned the report form for their students after one reminder, were contacted by telephone and a verbal report was obtained.

Information about attendance was available for 196 students: 103 students had perfect attendance; 84 had a period of excused absence and; 9

students had a period of inexcused absence. Figure 42 shows the number of days absence reported for these students.

**FIGURE 42. NUMBER OF DAYS OF ABSENCE FOR 186 STUDENTS.**



Two students were reported to have had ten days absence each, during the attachment [ students 1 and 2 ].

Student 1 experienced marital problems during his attachment. He was encouraged to complete a further period of attachment at the end of the year and his grade for general practice was withheld until after this was completed.

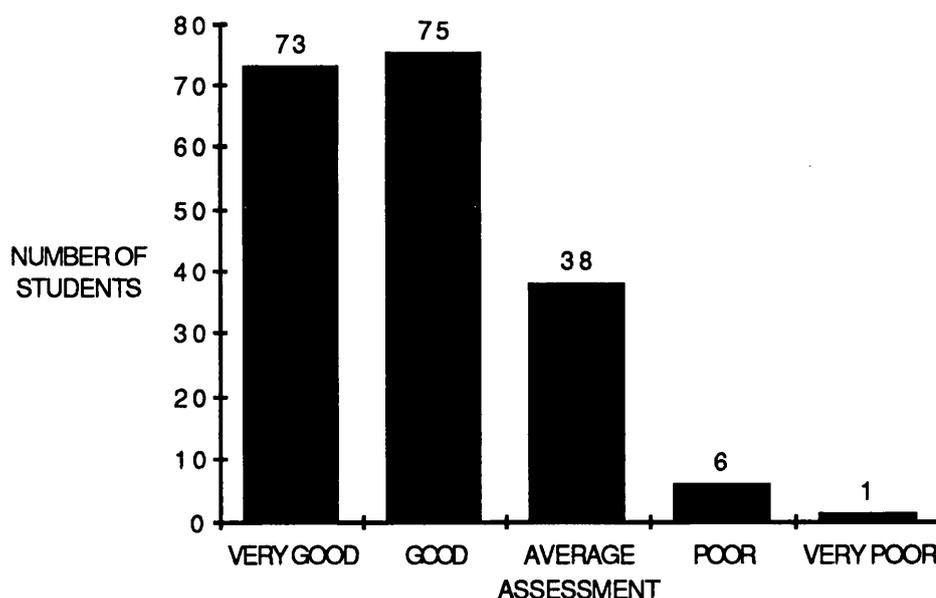
Student 2 had missed eight days due to illness and she submitted an appropriate medical certificate. She was offered a further period of attachment but declined this. Her grade for general practice reflected her poor attendance.

A further student [ Student 3 ] missed 15 days of the attachment.

Student 3 nursed her father, who was terminally ill and died at home, during the attachment. She was offered a further period of attachment but, as she also had time to make up in General Surgery [ which is included in the final examinations ], she preferred a extra period of attachment in it.

The assessments given by the tutors for communication skills are shown in figure 43. This is an area in which the Department has a particular interest and, as shown in the introductory chapter, in which it is involved in instructing students in earlier parts of the course. It was therefore of particular interest to discover how the students were assessed in this area.

**FIGURE 43. ASSESSMENTS OF COMMUNICATION SKILLS FOR 193 STUDENTS.**

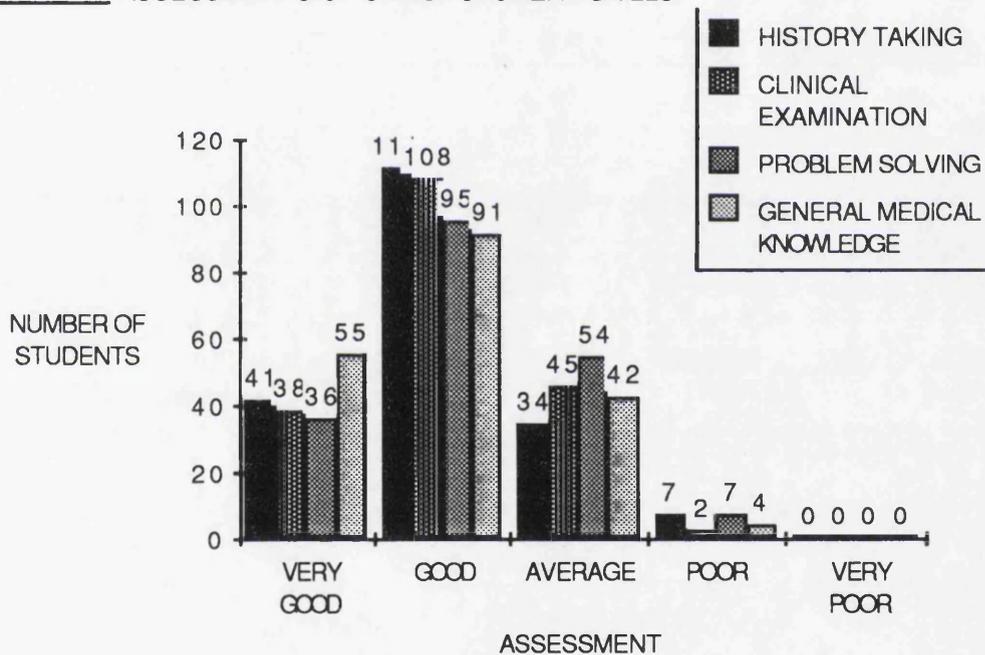


Six students [ students 1,2,3,4,5,6 ] received a poor assessment for their communication skills and one received a very poor assessment [ student 7 ]. Students 1, 2 and 3 were thought to have psychological disorders and the Faculty of Medicine were already monitoring two of these students. Student 4 suffered a close family bereavement during the attachment and students 5 and

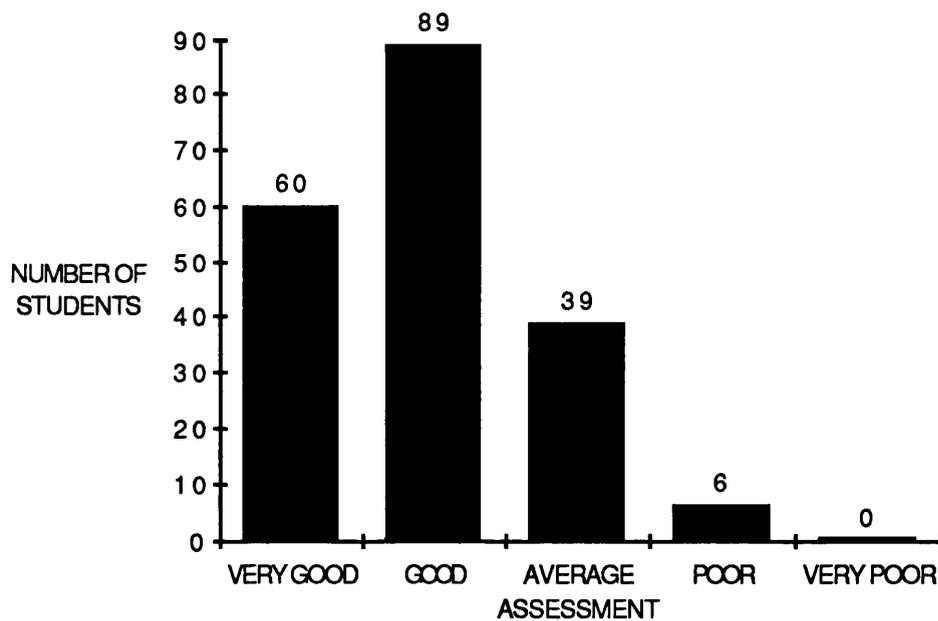
6 were thought to have language/ cultural problems [ both were from the Far East originally ]. Student 7 received very good assessments for clinical examination, problem solving and general medical knowledge. She also received the highest mark in the class for her long cases and had won six prizes previously in the course. Her tutor described her as "a very quiet young lady".

The number of students receiving each assessment, in the other domains, are shown in figure 44.

**FIGURE 44. ASSESSMENTS OF OTHER STUDENT SKILLS.**



The overall assessments given are illustrated in figure 45.

**FIGURE 45. OVERALL ASSESSMENTS AWARDED TO STUDENTS.**

### 9.3.2. LONG CASES

The conditions covered by the students in their child long cases are shown in table 49.

**TABLE 49. CONDITIONS COVERED BY THE STUDENTS IN THEIR CHILD LONG CASES.**

<u>CONDITION</u>	<u>NUMBER OF CASES</u>
Asthma*	63
Congenital Syndromes	26
Cystic Fibrosis	13
Mental Retardation	12
Diabetes Mellitus	11
Malignancy	9
Cerebral Palsy	8
Down's Syndrome	8
Prematurity	7
Eczema	6
Epilepsy	6
Cleft Lip/Palate	4
Infections	4
Other Congenital Abnormalities	4
Renal Disease/UTI	4
Chronic Otitis Media	3
Spina Bifida	3
Behavioural Problems	2
Deafness	2
Other	11

\* Five cases with asthma also had eczema.

The conditions covered by the students in their adult long cases are shown in table 50.

**TABLE 50. CONDITIONS COVERED BY THE STUDENTS IN THEIR ADULT LONG CASES.**

<u>CONDITION</u>	<u>NUMBER OF CASES</u>
Malignant Disease	36
Multiple Sclerosis	24
Connective Tissue Disorder/ Rheumatoid Arthritis	18
Diabetes	17
Psychiatric Illness	14
Chronic Respiratory Disease	13
Ischaemic Heart Disease	11
Cerebrovascular Disease	9
Inflammatory Bowel Disease	9
Alcoholism	7
Paraplegia secondary to Accident	6
Osteoarthritis	5
Epilepsy	3
Obesity	3
Parkinson's Disease	3
Asthma	2
Drug Abuse	2
Myalgic Encephalomyelitis	2
Renal Failure	2
Other	20

As expected, a large proportion of the elderly long cases involved patients with multiple chronic illnesses. The numbers of diagnoses noted in this group are shown in table 51.

**TABLE 51. NUMBER OF DIAGNOSES IN THE LONG CASES ABOUT ELDERLY PATIENTS.**

<u>NUMBER OF DIAGNOSES</u>	<u>NUMBER OF CASES</u>
SINGLE	110
TWO	40
THREE	33
FOUR	13
FIVE	9
SIX	1

The single conditions covered by the elderly long cases are shown in table 52.

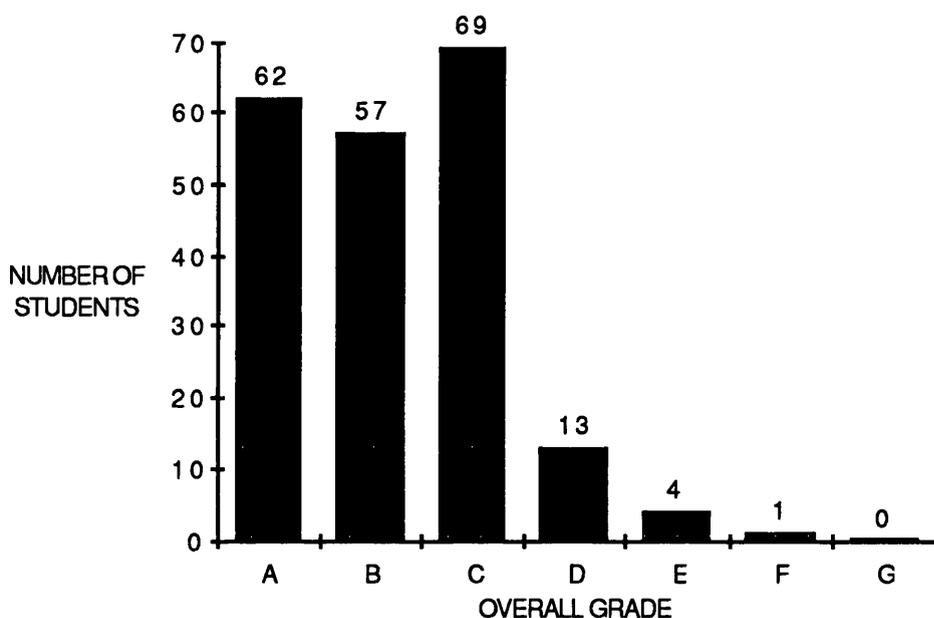
**TABLE 52. THE SINGLE CONDITIONS COVERED BY THE STUDENTS IN THEIR ELDERLY LONG CASES.**

<u>CONDITIONS</u>	<u>NUMBER OF CASES</u>
Malignant Disease	24
Rheumatoid Arthritis	13
Chronic Respiratory Disease	12
Senile Dementia	9
Osteoarthritis	8
Cerebrovascular Disease	6
Ischaemic Heart Disease	6
Other Psychiatric Disease	5
Parkinson's Disease	5
Diabetes	2
Valvular Heart Disease	2
Other	18

The standard of work in the long cases was generally considered to be high, and the marks awarded ranged from 23 to 47, out a possible 50.

The marks for the long cases were combined with the marks based on the tutor's report, to give a grade for each student, for the attachments. The overall grades awarded for the students completing the attachment are shown in figure 46.

**FIGURE 46. OVERALL GRADES ASSIGNED TO THE STUDENTS COMPLETING THE ATTACHMENTS.**



### 9.3.3. MULTIPLE CHOICE QUESTIONNAIRE STUDY

A total of 185 students [89.8% of the entire class] completed both M.C.Q.'s, and only these students are considered, in order that a direct comparison can be made, between the scores obtained at the start and at the end of the attachments. The mean and range of scores obtained by each section of students, before and after the attachment are shown in table 53.

**TABLE 53. SCORES OBTAINED BY EACH SECTION OF STUDENTS FOR THE MCQ'S COMPLETED AT THE START AND THE END OF THE ATTACHMENTS.**  
( A maximum score of 50 was possible in each MCQ).

<u>Section</u>	<u>Start of Attachment</u>				<u>End of Attachment</u>		
	<u>Number of students completing MCQ</u>	<u>M.C.Q. completed at start</u>	<u>Mean score</u>	<u>Range of scores</u>	<u>M.C.Q. completed at end</u>	<u>Mean score</u>	<u>Range of scores</u>
H	25	A	31.0	24-39	B	30.4	24-37
G	26	B	30.5	21-40	A	31.0	26-36
F	20	A	31.1	24-38	B	31.0	23-39
E	22	B	30.0	24-36	A	30.6	25-36
D	25	A	31.5	21-36	B	28.9	26-37
C	24	B	30.7	24-37	A	32.7	24-38
A	20	A	33.0	29-38	B	30.3	26-35
B	23	B	30.0	21-37	A	32.8	27-30

The mean scores obtained before and after the attachment, for the entire class, and for the four sections, who completed questionnaire A at the start, and questionnaire B at the end, and the four who completed the questionnaires, in the opposite order, are shown in Table 54.

**TABLE 54. MEAN SCORE FOR MCQ'S WITH RANGES.**

<u>Section</u>	<u>BEFORE ATTACHMENT</u>		<u>AFTER ATTACHMENT</u>	
	<u>Mean</u>	<u>Range</u>	<u>Mean</u>	<u>Range</u>
H F D A N = 90 Students	31.6	21 - 39	30.1	23 - 39
G E C B N = 95 Students	30.3	21 - 40	31.8	24 - 38
ENTIRE CLASS	30.9	21 - 40	31.0	23 - 39

These results reveal that Questionnaire B was marginally more difficult than Questionnaire A, as the mean scores for B were slightly lower. However, the mean score before the attachment was almost exactly the same, before and after the attachment, for the entire class.

#### 9.4. DISCUSSION

Subjective tutor evaluations have been shown to be uncritical and unreliable. Very few students are rated as unsatisfactory, despite evidence that some have inadequate clinical skills, and tutors are reluctant to make negative comments<sup>93</sup>. However, composite judgements by tutors provide a useful standard for testing the results of other evaluative tools, which are designed to measure performance. In addition, experience improves objective reporting, and observation and continual assessments avoid the problem of having a "bad day" at an examination. Also, the reproducibility of "subjective" expert assessment of performance, through global rating scales, is comparable to "objective" evaluation, through written MCQ's.

The tutors' reports demonstrated the problems of subjective assessments, as very few students were given poor reports. However, despite its drawbacks, this method of assessment was felt to be a useful tool, as it appeared to pinpoint students with serious problems.

The long cases demonstrated the wide range of clinical conditions encountered, and dealt with in depth, by the students. They allowed a rather more objective component to be included, in the student assessment, and as previously shown, they were also felt to be an interesting, relevant, learning experience by the students.

The results of the MCQ study were rather surprising. It was previously suspected that an MCQ was not a particularly appropriate method for testing what is learned during a general practice attachment. The mean mark for the MCQ, before the attachment, was almost exactly the same as the mean mark

after it. This was unexpected, especially as several of the questions, for example on payment levels for immunisation and the practice nurse, were specifically developed to be appropriate for the attachment.

Although the methods used to assess these students during the first experimental year of a new course were considered reasonable, it is concluded that a more stringent method of assessment is required. Examinations can provoke high levels of anxiety in students<sup>94</sup> and can influence their method of learning. However, they can also act to ensure that students work hard, and act as an incentive for better students to widen their interest in a subject<sup>95</sup>. Therefore, in order to firm up the assessment procedure, it is considered that one component should be a more objective examination.

Which method should be considered? This research has suggested that an MCQ would not be an appropriate method to apply. Two methods to consider are the Objective Structured Clinical Examination ( OSCE ) and the Modified Essay Question ( MEQ ).

The OSCE is a reliable and valid form of clinical examination which measures practical and interpretative skills<sup>96</sup>. It involves a series of stations, which the student rotates through, dealing with clinical problems, using real or simulated patients. Sometimes the clinical material is presented in different ways for example photographs, laboratory reports etc. At each station the student is observed and questioned by an observer, and marked on their answers, on a standard form. It is a method of examination which has been found to be very acceptable to students and staff<sup>93</sup>. However, its disadvantages include: low correlation across OSCE stations, possibly because performance across different skill areas is poorly correlated and; the concept of clinical skills, as a broad category, has limited usefulness<sup>97</sup>. In addition, the OSCE has been found to generate greater pre-examination, emotional

tension than other evaluation formats<sup>164</sup> and it is very expensive to run in terms of space and personnel.

The modified essay question focuses on problem solving, rather than simply testing factual recall or understanding of principles<sup>96</sup>, and it realistically simulates clinical practice. It is a valid and reliable method of testing problem solving skills. It simulates the clinical sequence of decision making including use of time, and not only tests objective, factual knowledge but also ability to collect, select and use data, and test recall, insight, judgement and selectivity, in the problem solving process. Finally, it includes the effects of biological, psychological and sociological factors<sup>92</sup>.

Therefore, perhaps a compromise for assessment of the students, undergoing the general practice attachment, would be to use a variety of assessment methods, so that a candidate would not pass or fail on the result of a single component, which has been suggested may be unreliable, invalid and unfair. A suitable combination, initially, would be to continue to use the tutor's report, long cases and to include an MEQ. Further consideration could be given to overcoming the practical problems of running an OSCE, in the long term.

## CHAPTER 10

### EVALUATION OF THE ATTACHMENTS

#### 10.1. INTRODUCTION

It is recognised that ongoing evaluation is essential to check if a new system is working to produce a better product<sup>98</sup> and, applied to undergraduate medical education, it is an important part of assessing the success of any new teaching<sup>99</sup>. Therefore, it was considered of great importance to try to evaluate this new four week attachment in general practice.

Evaluating undergraduate teaching programmes can take many forms, including open discussion with students or completion of questionnaires, at the end of their time in a particular discipline. However, students have not yet been in clinical practice as postgraduates and their comments lack this perspective<sup>100</sup>. Nevertheless, student opinion has been found to have a valuable influence on the medical curriculum, and students consistently assert that they should have more influence on it<sup>101</sup>. Consequently, the evaluation of the attachments was based on the opinions of the students.

Evaluation of teaching and learning is more of a challenge for general practice attachments than for other courses, due to the great variability in the experiences afforded the students<sup>102</sup>. For this reason, there was no attempt to evaluate the teaching given by individual tutors, at this stage, but to try to discover, in an anonymous, collective manner, the general strengths and weaknesses of the attachments.

#### 10.2. METHOD

The tools used in the evaluation of the attachments were: part of the questionnaire applied to the students at the beginning and the end of the attachment; the written evaluation form and; the tape recorded interviews with the students. Each of these tools are considered separately.

#### 10.2.1. STUDENT QUESTIONNAIRE

The first six statements, in the third section of the student questionnaire, deal with teaching in general practice [appendix 11]. These six statements were developed to try to ascertain the students' opinions about some aspects of general practice, as a learning situation. This questionnaire was applied to the students, on the first morning of the attachment, and reapplied, on the final afternoon.

#### 10.2.2. EVALUATION FORM

On page 4 of this form, there was a section for free comments about the attachments [appendix 9] and these comments form part of the evaluation. This form was completed by the students on the final afternoon of the attachment.

#### 10.2.3. TAPE RECORDED INTERVIEWS

It was felt important to have face to face interviews with a sample of the students, in order to validate the findings in the written evaluation forms, and to obtain further student views about the attachments.

The interviews were organised for the final session of the attachment, on the Friday afternoon, for each section. A one in four sample of the students was randomly selected from the class, so that six or seven students were involved, on each occasion. These students were removed into a private room, and told that the purpose of the interview was to obtain their honest opinions of the attachment. They were informed that the interview would be recorded on an audiotape but that, as soon as the tape had been transcribed by the interviewer, it would be destroyed and no student or practice would be identified with any comments made. Each section was interviewed by the same interviewer and no other person listened to the tapes.

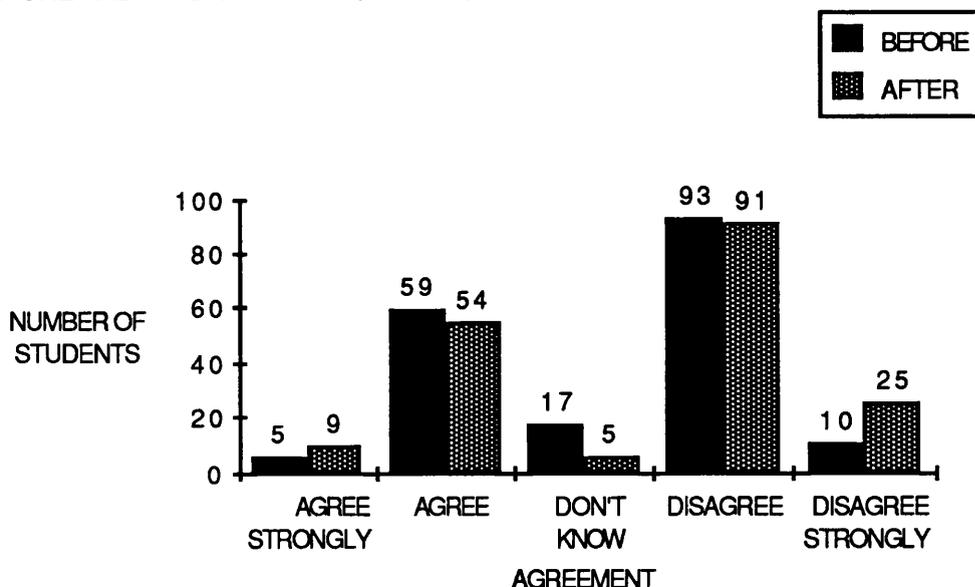
The students were told that they were free to comment on any aspect of the attachments, including the practice based and Department based parts, which they wished to discuss. However, in order to facilitate the interviews at the start, the students were asked to comment on any areas of the attachment they enjoyed most and least, and the areas which they would like to see changed in order to improve the attachments. Small group techniques were used to include the views of all six or seven of the students present.

### 10.3. RESULTS

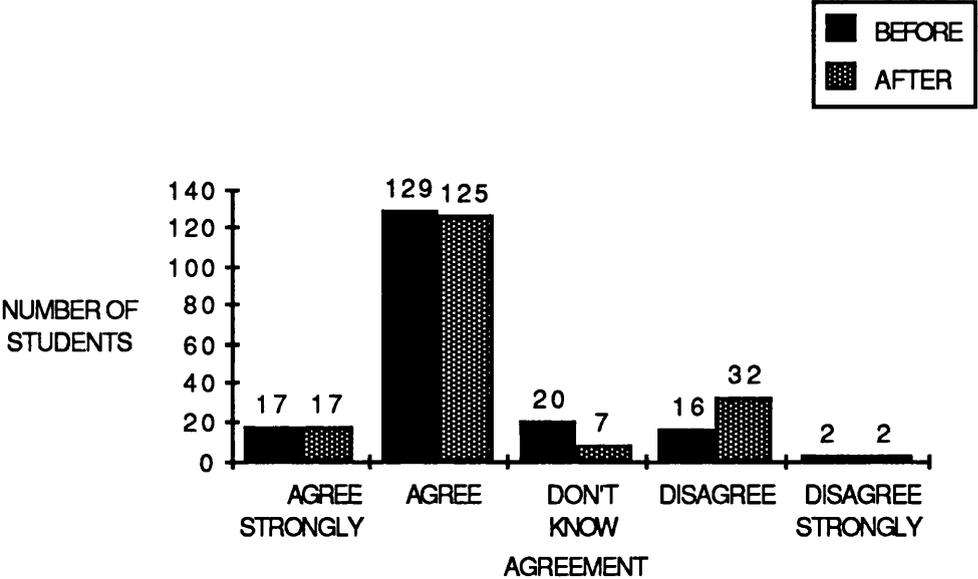
#### 10.3.1. STUDENT QUESTIONNAIRE

184 students completed both questionnaires, at the start and the end of the attachment, and only the findings from these 184 questionnaires are presented, in order to allow a direct comparison, between the students' opinions, at the beginning and the end. The change in the opinions for the group, as a whole, before and after the attachments are presented in figures 47 to 52.

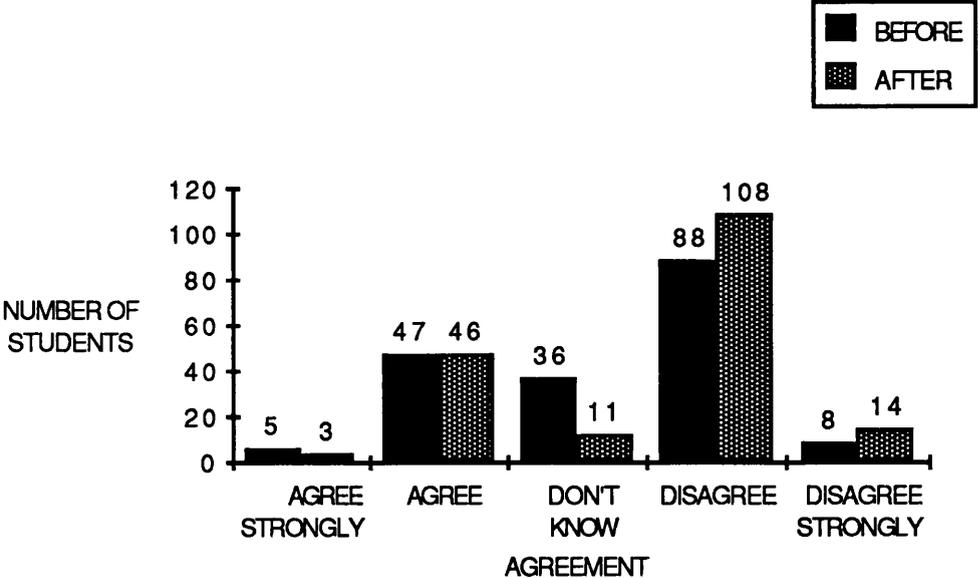
**FIGURE 47. STUDENTS AGREEMENT WITH STATEMENT 1 THAT "GENERAL PRACTICE IS A SUITABLE SETTING FOR LEARNING EXAMINATION TECHNIQUE" BEFORE AND AFTER THE ATTACHMENTS.**



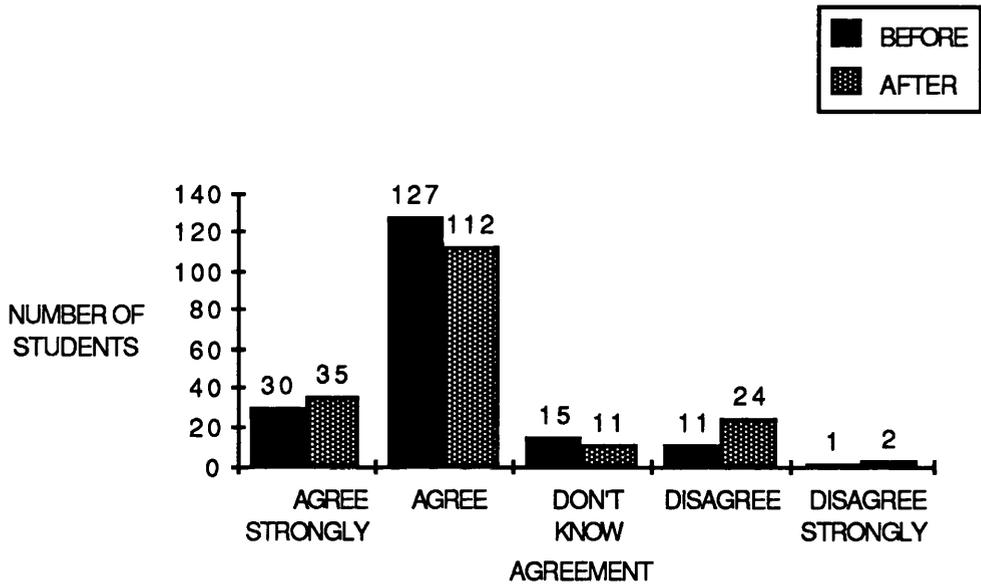
**FIGURE 48. STUDENTS' AGREEMENT WITH THE STATEMENT "GENERAL PRACTICE IS A SUITABLE SETTING FOR LEARNING GENERAL MEDICINE" BEFORE AND AFTER THE ATTACHMENT.**



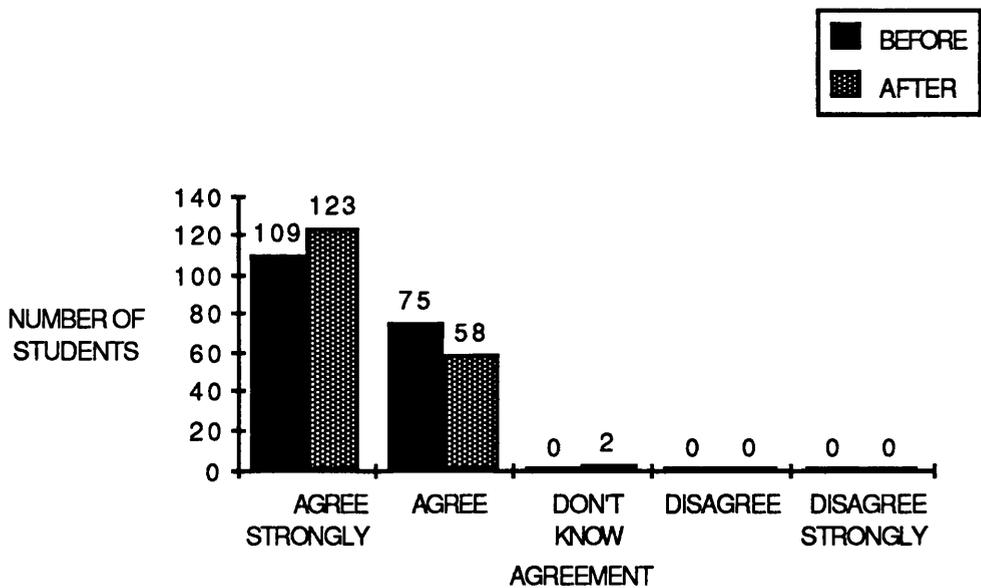
**FIGURE 49. STUDENTS' AGREEMENT WITH THE STATEMENT "GENERAL PRACTICE IS A SUITABLE SETTING FOR LEARNING GENERAL SURGERY" BEFORE AND AFTER THE ATTACHMENTS**



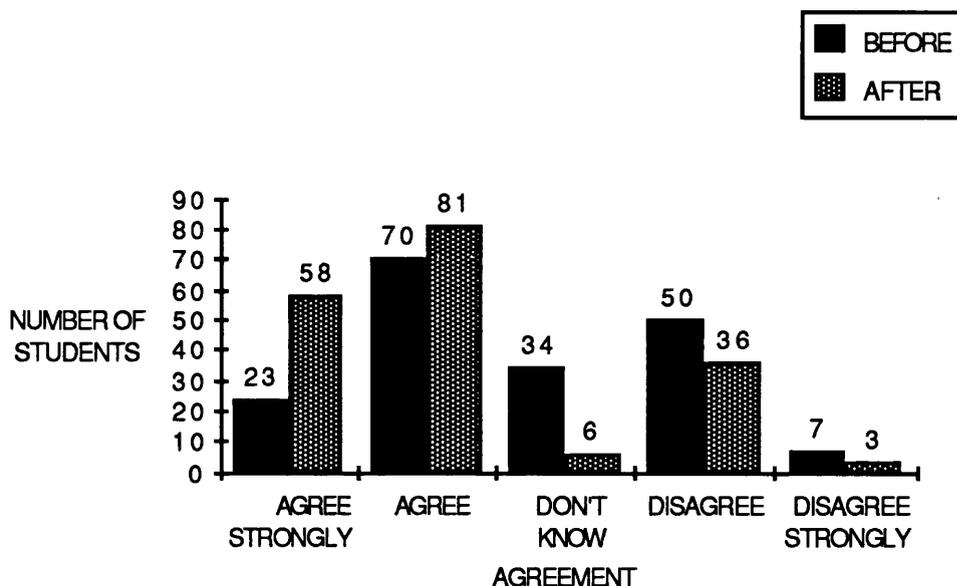
**FIGURE 50. STUDENTS' AGREEMENT WITH THE STATEMENT "GENERAL PRACTICE IS A SUITABLE SETTING FOR LEARNING PSYCHIATRY" BEFORE AND AFTER THE ATTACHMENT.**



**FIGURE 51. STUDENTS' AGREEMENT WITH THE STATEMENT "GENERAL PRACTICE IS A SUITABLE SETTING FOR LEARNING COMMUNICATION SKILLS" BEFORE AND AFTER THE ATTACHMENT.**



**FIGURE 52. STUDENTS' AGREEMENT WITH THE STATEMENT "AN ATTACHMENT IN GENERAL PRACTICE IS AS IMPORTANT AS AN INTENSIVE PERIOD IN GENERAL MEDICINE" BEFORE AND AFTER THE ATTACHMENTS.**



### 10.3.2. EVALUATION FORM.

The students were asked to comment on suggested improvements to the Department based part of the course, and to give any other comments. They were also asked to give any other comments about the practice based part of the course. After excluding the comments specifically about the Problem Based Learning, which have been discussed previously, there were 104 suggestions for improving the Department based part of the course. A summary of these is given in table 55.

**TABLE 55. SUGGESTIONS MADE BY STUDENTS ON THE EVALUATION FORM FOR IMPROVING THE DEPARTMENT BASED PART OF THE COURSE.**

<u>SUGGESTION</u>	<u>NUMBER OF STUDENTS MAKING IT</u>
Reduce number of lectures	19
Avoid repetition of lectures (mainly from Public Health)	14
Reduce time spent in Department	12
Make lectures more interesting	10
Change lecture topics	9
Improve physical facilities in Department e.g. larger room, better ventilation, new overhead projector etc.	6
Arrange time off e.g. half-day	5
Omit specific lectures	4
Increase time spent at hospice	4
Reduce time spent at hospice	3
Have seminars instead of lectures	2
Reduce course assessments	2
Other*	14

\* Each of the other suggestions were given by only one student.

Four students also used this space to comment on travelling problems they had experienced, and two commented that it was good not having an examination in general practice.

Again after excluding the comments about the Problem Based Learning, there were 41 other comments about the department based part of the course. A summary of these is given in table 56.

**TABLE 56. OTHER COMMENTS MADE BY THE STUDENTS ON THE EVALUATION FORM ABOUT THE DEPARTMENT BASED PART OF THE COURSE.**

<u>COMMENT</u>	<u>NUMBER OF STUDENTS MAKING IT</u>
General positive comment about attachment	6
Travelling difficult	4
Department teaching not worthwhile	4
Department teaching good	3
Criticism of physical facilities in Department	3
No examination good	3
Specific lecture good ( Bereavement )	2
Hospice visit good	2
Too many questionnaires	2
Duplication of lectures	2
Other *	10

\*Each comment made by one student only.

There were 118 positive comments about the practice based part of the attachment and these are further subdivided and summarised in table 57.

**TABLE 57. POSITIVE COMMENTS ABOUT THE PRACTICE BASED PART OF THE ATTACHMENT**

<u>COMMENT</u>	<u>NUMBER OF STUDENTS MAKING IT</u>
<b>A. GENERAL COMMENT ABOUT ATTACHMENT</b>	<b>59</b>
Thoroughly/very much/really/greatly/enjoyed it	32
Other e.g. "really brilliant", "just fine","generally worthwhile","it is more what medicine is about".	27
<b>B. GENERAL COMMENT ABOUT PRACTICE</b>	<b>40</b>
Welcoming/friendly/helpful/excellent practice	26
Well-organised	8
Teaching good/very good	6
<b>C. SPECIFIC COMMENT ABOUT ATTACHMENT</b>	<b>13</b>
Hospice good	4
Long cases good	3
Other*	6
*each comment given by one student only.	
<b>D. ATTACHMENT VALUABLE AS A VOCATIONAL OPPORTUNITY</b>	<b>6</b>

An example of a comment from section D above is "I would like to say that on the whole I am more likely to be a G.P. now than four weeks ago".

There were 25 negative comments about the attachment and these are subdivided and summarised in table 58.

**TABLE 58. NEGATIVE COMMENTS ABOUT THE ATTACHMENTS**

<u>COMMENT</u>	<u>NUMBER OF STUDENTS MAKING IT</u>
Not enough time for set work/reading	4
Travelling difficult	3
Log diary boring	2
Research project boring	2
Too few practical procedures	2
Practical procedures not worthwhile	2
Observing consultations boring	2
Student felt superfluous	2
Other*	8

\* Each other comment made by one student only.

There were also eight suggestions given in this space. Four students suggested dropping the second and /or third year teaching in general practice, and two suggested changing the timing of the attachment to earlier in the undergraduate curriculum.

There were two further suggestions and eight other comments, each given by only one student.

### 10.3.3. TAPE RECORDED INTERVIEWS

The sample of students from each section was interviewed for 30 to 40 minutes each and so there was approximately five hours of tape recorded material. The tapes were transcribed, as closely as possible to what the students actually said, allowing for technical problems, with the clarity of the tapes i.e. some students spoke too softly for everything they said to be heard completely.

The transcriptions were divided into individual comments. These divisions were based on one student making one statement on one subject,

which could be one or several sentences in length. According to this, there were 234 individual comments made by the students. There were 18 comments about the Problem Based Learning and these have been discussed previously. Therefore 216 comments are considered here.

Any classification of the comments is open to criticism of artificially dividing them up because the discussions were largely unstructured and wide ranging. However, in order to present them in a structured way, the comments have been loosely divided into four broad areas.

These are :

- A. Educational value of the attachments
- B. Organisational aspects
- C. Departmental teaching and assessment of students
- D. General comments

Each of these four broad areas is discussed separately below.

#### **A. EDUCATIONAL VALUE OF THE ATTACHMENTS**

A total of 86 comments were made about the educational value, or content, of the attachments. This broad heading was further subdivided into eleven further areas summarised in table 59.

**TABLE 59. - SUBDIVISION OF SUBJECTS COMMENTED ON IN THE TAPE RECORDED INTERVIEWS ON THE EDUCATIONAL VALUE OF THE ATTACHMENT WITH NUMBER OF COMMENTS MADE IN EACH AREA.**

<u>SUBJECT</u>	<u>NUMBER OF COMMENTS</u>
1. What students should learn in general practice	22
2. General practitioner tutors as teachers	12
3. Function of the practice team	11
4. Epidemiology of illness in general practice	9
5. Difference between general practice and hospital medicine	6
6. Use of time in management of patients	5
7. Family background and home circumstances	5
8. Gynaecological examination	5
9. Attachment as a vocational experience	4
10. Continuity of care	4
11. Incidence of psychosocial problems	3

The first two areas noted, i.e. 'What students should learn in general practice' and 'General practitioner tutors as teachers', stimulated considerable debate among students. Individual student viewpoints appeared to be influenced, not only by the students experience of the immediately preceding attachment, but also their previous experience of hospital teaching and, to some extent, their philosophical viewpoint.

The 11 areas listed in table 59 are discussed further below.

#### 1. WHAT STUDENTS SHOULD LEARN IN GENERAL PRACTICE

There were opposing viewpoints expressed about several areas under this heading. Firstly, students disagreed about its value for learning and practicing examination technique. Five students commented that the attachment allowed them the opportunity to practice examination technique e.g. "I didn't get much chance to practice history taking and examination last year, and so it was a

good chance to do this" and "I think general practice is a good place to learn how to do things because you don't have six other students lining up to do them after you". However, four students thought that general practice examination is too brief to teach them to examine properly e.g. "The G.P. sometimes just listened to the chest without doing percussion and then he asked me to listen to the chest while he was still talking to the patient". Another two students commented on the difference between examination in general practice and in the hospital situation e.g. "If you come in with a small problem then the G.P. is the best person to tell you you have two things you should be looking for and not do a full neurological examination".

Four students commented on the value of the attachment for learning about consultation skills e.g. "I don't really think we were there to learn practical things. The important things we should have been learning about was communication and what was behind the consultation. There is plenty of chances to do practical things in hospital". Another five students gave examples of areas they learned about in general practice which they had not heard about elsewhere in the curriculum e.g. "I found it useful one morning when we went out to do disability allowance assessments. I had heard of it but I didn't know what was involved". Another two students felt that their knowledge in specific areas was increased e.g. "I learned a lot of pharmacology and paediatrics". However, in relation to this, one student commented "I didn't think it was particularly relevant, apart from some pharmacology, because the sort of things you see in surgeries in G.P., unless you are lucky and see unusual things, then you are not going to see in your finals".

## 2. GENERAL PRACTITIONER TUTORS AS TEACHERS

Five students commented on the quality of the teaching received in practice. Four of these comments were positive e.g. "My tutor was a good teacher so, although the practice was small, I would rather have been with him than

someone who wasn't interested in teaching" and one was equivocal "In terms of teaching it wasn't great but you could see a lot of different cases". A further seven students gave examples of teaching techniques which they found useful. They all gave examples which suggested that they found it useful to be challenged e.g. "It's a good thing if the G.P. tries to put you on the spot because you have to concentrate a lot more".

The other comments, classified under this broad heading, covered specific areas of the teaching and each is briefly considered.

### 3. FUNCTION OF THE PRACTICE TEAM

Eleven students commented on the value of the attachment for learning about the roles of other members of the practice team e.g. "I thought it was good that we just didn't see what the doctors were doing. The best bits were when you saw what the receptionists and health visitors were doing. When you are in hospital you ignore what the nurses are doing and just concentrate on the bedside teaching. You never actually see what the other health professionals are doing, whereas in general practice, because it is a team approach, it actually helps to get a bit of an insight into what the district nurse or some of the other people actually do."

### 4. EPIDEMIOLOGY OF ILLNESS IN GENERAL PRACTICE

Nine students made comments which suggested that the attachment gave them a better appreciation of the incidence and variety of illness found in the community e.g. "We always just see major problems in these specialities, in hospital, like someone coming in for an operation because they have a tumour. I didn't see anyone in ENT with an otitis or something like that and yet, in G.P., we saw how common this was" and "You saw a variety of different diseases".

### 5. DIFFERENCE BETWEEN GENERAL PRACTICE AND HOSPITAL MEDICINE

Six students commented specifically on areas of difference between general practice and hospital patients e.g. "The thing which struck me, as the

difference between hospital and general practice, was the amount of time ethical and social considerations came up" and "In hospital they don't treat the whole person so I learned how to do that".

#### 6. USE OF TIME IN MANAGEMENT OF PATIENTS

Five students commented on the use of time, in managing patients in general practice e.g. "When you're not sure about something then you do send off blood and tests, and you buy time. Maybe the problem will have resolved itself in the course of one to two weeks and maybe, if you ask them to come back, the problem will have disappeared. Over the week and a half in between, the results of the test will have come back and given you more time, so I think its the very opposite of having to work things out in five minutes".

#### 7. FAMILY BACKGROUND AND HOME CIRCUMSTANCES

Five students commented on the value of the attachment in this area e.g. "Quite often one week, for example, I would see the son and then the next week I would see one of the other relatives. It was quite useful to learn about the family background".

#### 8. GYNAECOLOGICAL EXAMINATION

Five students commented on the difficulty in gaining experience in this area of general practice e.g. "I was with a lady G.P. who attracted a lot of female patients and so she did a lot of smears. I wasn't allowed to do any smears or to go to any of the well woman clinics. I was sorry I missed that".

#### 9. ATTACHMENT AS VOCATIONAL EXPERIENCE

Four students commented on the value of the attachment as an opportunity to assess general practice as a possible career choice e.g. "One of the other things that happens is that it disabuses you of the myth that G.P. is an easy way out. I cannot believe that, before I went there, I used to think that G.P.'s just did it so they could spend more time on the golf course but, in fact, they work really hard".

## 10. CONTINUITY OF CARE

Four students commented on the continuity of care observed in practice e.g. "You see what kind of patients come, how they are managed and because they come in again and again you see what happens to them. This was very practical, instead of theoretical, as we have had previously".

## 11. INCIDENCE OF PSYCHOSOCIAL PROBLEMS

Three students commented on this aspect of general practice e.g. "I saw a lot of psychiatry, which is sort of compulsory to do in general practice, but you don't realise that side of it in hospital at all. Every second person I saw had some sort of depression".

## C. ORGANISATIONAL ASPECTS

There were a total of 83 comments made about organisational aspects of the attachments. Again this broad heading is subdivided as shown in table 60 and each of these further subdivisions is briefly considered below.

**TABLE 60. COMMENTS BY THE STUDENTS ON THE ORGANISATIONAL ASPECTS OF THE ATTACHMENTS.**

<u>ASPECT</u>	<u>NUMBER OF COMMENTS</u>
1. Conducting personal consultations	40
2. Timetable	12
3. Giving student appropriate experience	7
4. Travelling	7
5. Introduction of student	6
6. One to one teaching	4
7. Lack of student knowledge	3
8. Responsibility given to student	3

### 1. CONDUCTING PERSONAL CONSULTATIONS

This topic excited the greatest volume of debate of any subject, discussed during the taperecorded interviews. This confirmed and emphasized the findings previously, that conducting personal interviews was rated the most

interesting and relevant task of the attachment, and a request for more experience in this was given most often, as a suggestion for improving the attachments. In their discussions during the tape recorded interviews, seven students again emphasized how valuable they found this particular experience e.g. "In the last two weeks, the G.P. set me some cases to do and took me to see the patients at home, where I had to talk to them and examine them for about half an hour. I found it quite difficult but very useful and very good". In addition, two students expressed regret that they were not able to do more personal consulting e.g. "I had a few opportunities to see patients on my own but I would have liked some more". Eight students commented that they were not given experience of consulting personally, but they were able to appreciate the practical reasons for this. The reasons given by the students were lack of space [ three comments ], lack of time [ three comments ] and the belief that the patients had come to see the doctor and so it would be inappropriate for them to see a student [ two comments ]. This final point was taken up and discussed at some length. Part of this discussion is reproduced below:

FIRST STUDENT "Most of the time it would probably be O.K. for the patient to be seen by a student, but I can understand the view that the patient is coming to see the doctor, and so should be seen by a doctor".

SECOND STUDENT "I think it should be up to the patient whether they see the student or the doctor".

THIRD STUDENT "That is if the patient has the option. I accept the fact that it is quite difficult for the patient to say no to seeing a student."

FOURTH STUDENT "I think that when a patient comes in, in great pain or has something seriously wrong with them, then they should see the G.P."

One student felt that it should be compulsory - "I think that you should specify that students should be allowed to see patients on their own and get it across to the G.P.'s, so that every student should have the chance".

Another four students went into greater detail about how the opportunities for them to conduct personal consultations were organised e.g. "About halfway through my block, my tutor asked what sort of things were worthwhile to do, so I said I would quite like to do more of seeing patients alone. So, he was able to arrange one Wednesday afternoon for five cases, who had phoned in, to come down, and I was able to see them first, with case notes to look at previous illness and information, and one of the doctors would come in afterwards, to see them separately and then we would talk about it afterwards. I also got a lot of experience on housecalls, where I would be left at the house on my own while the doctor went away and came back. Then I stayed in while he saw the patient himself. That was a good experience" and "I had a chance to do all three things: watching the G.P. consulting; seeing patients alone and; interviewing them with the G.P. sitting next to you. Of the three methods, I think with the G.P. sitting next to you is the best."

Although six students expressed regret that they were unable to have had more experience of conducting consultations personally, three students made comments which suggested that they did not enjoy this experience e.g. "When the G.P. was sitting in the room at the other side of the room and just watching me and criticising me - I did this nearly every day in the last week - he just came in and checked the prescription I was writing to make sure I was doing the right thing. I realise this was possibly quite good but I didn't think so at the time".

Two further students felt that the confidence of the individual about seeing patients alone was an important factor in how they performed in this task e.g. "It is also something which develops over the four weeks. Its not so

much how much you know, but more about your confidence. If you behave in a confident way, the G.P. tutor is more likely to allow you to see your patient on your own".

## 2. TIMETABLE

Of the 12 students who commented on parts of the timetable, eight were unhappy about some aspect of it. Two of these felt that the break at lunchtime in their practices was too long and one student felt that time off was insufficient. Four students found it difficult to fit in their set course work during the daily routine e.g. "Interesting long cases usually came in at the end of the day and I didn't want to ask them to wait and speak to me". The final adverse comment about the timetable was "With the holidays and hospice we only had three weeks in practice". The other four comments on the timetable simply clarified the arrangements in other practices.

## 3. GIVING STUDENTS APPROPRIATE EXPERIENCE

Five students gave suggestions for ensuring the experience of the attachment was more appropriate e.g. "It might be quite helpful for the students to tell the G.P. what we had actually done. For example, I had just done ENT during the previous term and so knew how to examine ears and what I was looking at, but my G.P. kept asking me to look in ears". Two students gave examples of experiences which they felt were inappropriate e.g. "The wart clinic was the worst thing I did".

## 4. TRAVELLING

Of the seven students who commented on travelling during the attachments four felt that this was a problem e.g. "I had a problem with the distance. It took me 45 minutes in the car and it would have helped if I could have had a room there". The other three comments were concerned with clarification of travelling arrangements.

#### 5. INTRODUCTION OF STUDENT

All six students, who commented on the mode of introduction of themselves by the tutor to the patients, independently agreed that this was an important factor in how the consultation proceeded. It was generally agreed that introducing the student as a 'student doctor' or a 'doctor in training' seemed to make a more favourable impression on the patient than 'medical student'.

#### 6. LACK OF STUDENT KNOWLEDGE

Five students felt that the attachment exposed gaps in their knowledge e.g. "I found it difficult because the things I saw in dermatology were different from the things I saw in general practice. I didn't know what many of the conditions were because I had never seen them before".

#### 7. ONE TO ONE TEACHING

Four students commented on the value of this arrangement for the attachments e.g. "It was very useful to have one to one. Two to one would have been acceptable but one to one is best. I am able to answer questions better on my own".

#### 8. RESPONSIBILITY GIVEN TO STUDENTS

Three students commented that the attachment allowed them more responsibility than previously e.g. "This was the first time I was allowed to make decisions for myself. Although the G.P. saw the patients, I found what was wrong with them and to say what I would do with them".

#### 9. PROGRESSION DURING THE ATTACHMENT

Three students commented on the value of a progression during the attachment e.g. "In the practice I was in, I would like to have had more of a progression. You start the first week just sitting in but as the attachment goes on you should be allowed to do more".

### C. DEPARTMENTAL TEACHING AND STUDENT ASSESSMENT

A total of 36 comments were made concerning this aspect of the attachments. Twenty-nine of these were about the departmental teaching and seven were about assessment of students. The problem based learning part of the department work has already been discussed so only the comments about the lecture course are considered here. Five students made positive comments about the lecture course but 11 made comments to the effect that they did not find it generally useful e.g. "I think that some subjects lend themselves to being lectured on and, even within general practice, there were some things which worked very well in a lecture. We would never have picked up on the information without actually having a lecture on it. Most of it is not really suitable for lectures".

Three students pointed out that some of the lecture topics had previously been covered in other specialities, such as public health, and ten students gave suggestions for topics, which they would have preferred to hear about in the lectures, e.g. "I would like to go over problems like back pain and ear problems because they seem to come up quite a lot".

All seven comments about assessment were in support of continuing not to have a formal examination in general practice, at the end of the attachment e.g. "I don't think you should have an exam. I think the best thing about the four weeks is that it has been a relaxed atmosphere and you've been going in and being conscientious about your work, without having an exam. If you need an exam to make you do that three months before your finals, then you are in a bad way anyway. I think that has been the best thing about the general practice attachment - that you've been learning things as you go along, in a relaxed way".

#### D. GENERAL COMMENTS

Eleven comments were made spontaneously by the students to express their positive opinions about the attachment e.g. "Attachment was surprisingly good", "It was a really great course", and "I found the attachment very interesting and valuable". There were no comments expressing an negative view of the attachments.

#### DISCUSSION

Three different methods for evaluating the attachments are described in this chapter which, together with some evaluative information described earlier, are believed to provide a comprehensive assessment of these attachments. The student questionnaire describes a structured method of assessment, and the other two methods - free comments from the written evaluation sheet and the tape-recorded interviews - provide relatively unstructured information on the students' opinions. Although this unstructured information is more difficult to analyse, it allows the students to offer a wide range of comment<sup>52</sup>. Further quantitative methods, such as a longer questionnaire or a structured interview, would not have generated such spontaneous insights into the students' experience of the course, and would have risked framing the students' answers within the researchers predetermined views<sup>52</sup>.

Despite the freedom offered to the students by these methods of evaluation, four main themes emerged. These are :

- How enjoyable and worthwhile the students found the attachments.
- What students should learn during their attachments.
- What students should do during their attachment.
- How the Department based part of the attachment could be improved.

There were also three minor themes which are worth commenting on.

These are :

- Hospice visit.
- Travelling.
- Timetable.

Each of these four major and three minor themes are discussed separately below.

#### 10.4.1. HOW ENJOYABLE AND WORTHWHILE THE STUDENTS FOUND THE ATTACHMENT.

The vast bulk of the evaluative information obtained about the attachment and about the time spent in practice, in particular, showed that the course was successful, at least from the point of view of consumer [ student ] satisfaction. Although satisfaction with the attachments was not universal, the ratio of positive to negative written comments was 118 to 25 about the practice based part of the attachment. In one study of final year students in Aberdeen, 45% thought that hospital staff had been insufficiently accessible for advice, and 37% felt that they had been treated with insufficient respect on the wards<sup>101</sup>. The comments from our students suggest that they appreciated the friendliness shown to them during their time in practice. They also appreciated the time spent in a one to one relationship with their tutor and this was probably a unique opportunity to get to know a senior practicing doctor, as it is in other medical schools<sup>75</sup>. It has been found by other workers that the impact of the practical and clinical parts of the attachment, especially inspiration by a particular teacher, seemed more salient than any general principles, or theoretical concepts, of primary medical care<sup>75</sup>. Other workers have found that students are impressed by the amount of consistently good clinical teaching they receive in general practice<sup>103</sup>.

#### 10.4.2. WHAT STUDENTS SHOULD LEARN DURING THEIR ATTACHMENT

There are some differences in opinion about what is appropriate to teach in general practice. Several medical schools are moving their general medical firms into general practice, where students are expected to acquire clinical knowledge and practical skills<sup>104</sup>. However, research suggests that students and tutors expect, and find, that general practice contributes most to the development of the more complex skills of: integrating clinical knowledge; making clinical decisions; devising management plans and; increasing their awareness of the physical and social aspects of illhealth<sup>104</sup>.

The responses to the statements in the student questionnaire mainly confirmed these findings. In their replies, students mainly agreed that general practice was a suitable setting for learning psychiatry and communication skills. They also agreed that it was a suitable setting for learning general medicine but not general surgery. This finding may be part of the overall trend for surgery to be viewed, increasingly, as a postgraduate subject<sup>105</sup>. Finally, they mainly did not agree that it was a suitable setting for learning examination technique. These opinions would have been influenced by the students' previous limited experience of learning in general practice, their personal experience as patients, their reading, the influence of teaching in other specialities and the student grapevine<sup>104</sup>.

There were no dramatic shifts in opinion, illustrated by figures 47 to 52, between the beginning and the end of the attachment, except for in the final statement. A significantly larger number of students agreed, or agreed strongly, that an attachment in general practice is as important as an intensive period in general medicine, after the attachment [Chi-square = 24.678,  $p < 0.001$ ]. This is further evidence for the success of the attachments.

The tape recorded comments, about what students should learn in general practice, revealed conflicting opinions. Some students felt that the attachment was valuable for learning examination skills, whereas other students did not. Part of this conflict is attributable to the differences in teaching skills of individual tutors, and their opinions about what students should learn in general practice. It would never be possible to guarantee a completely uniform, clinical experience in general practice because the tutors and practices are all different. Some tutors will have strengths in some areas, and others, strengths in different areas. Some practices will provide patients with certain conditions and social problems, and others, with different ones. However, the same problem arises in hospital attachments, where for example one student may be attached to a medical firm with a dominant interest in renal disease, while another learns largely about gastrointestinal disease<sup>15</sup>. However, the Department can provide a lead in producing a curriculum with specific areas to be covered. In the future, when general practice may be required to provide a setting where students acquire practical skills and clinical knowledge, currently taught in the hospital setting, more stringent curricular guidelines will be required<sup>104</sup>. Further work is required in this Department to discover how best this can be achieved. In the meantime, the attachment can allow: disease and disability to be studied in their natural context; the uncertainty at the centre of clinical practice to be appreciated; relationships between organic, psychological and social dimensions of health, sickness, and disease, to be studied and; problem solving skills, communication skills and patient education techniques to be learned<sup>2</sup>.

#### 10.4.3. WHAT STUDENTS SHOULD DO DURING THEIR ATTACHMENTS

The evidence from the evaluation feedback discussed here, and previously, about the tasks of the attachment, provide strong pointers to what activities the students found most valuable, during the attachments.

Most of the evidence suggested that students most appreciate doing, rather than observing. This applies to consulting, performing practical procedures, being part of the practice team, and so on. Conducting their own consultations was the most highly valued activity, but it was appreciated that this could pose practical problems for the practices. However, this need not be the case because, although it was probably ideal when a practice could offer the student a separate room and time to consult on their own, it was also a valued experience when the student performed the consultation with the tutor observing, in the same room.

The tutors should be given information on what the students find most valuable, at tutor feedback meetings, and the tutors and practices should be encouraged to adapt their facilities, to provide these experiences for the students.

#### 10.4.4. HOW THE DEPARTMENT PART OF THE ATTACHMENT COULD BE IMPROVED.

A great deal of information has been obtained, both from analysing the data here and previously on Problem Based Learning, on how the Department teaching could be made more responsive to the needs of the students. The overwhelming evidence suggests that the teaching in the Department would be much more satisfactory for the students, if the formal lectures could be reduced or discontinued. Much of the information imparted during the lectures was felt to be duplicated, from earlier parts of the curriculum, and this supports the need for better communication and integration, between medical specialities. It was also felt that much of the work covered in the Department could be equally well, if not better, dealt with in the practice setting. Students seemed to prefer small group work, although they felt that this should be rather more structured than what they received.

Taking these findings into consideration, a new Department course should be planned which mainly involves more structured Problem Based Learning, self-directed learning for project work, and a minimum of formal presentations. This formula should be more varied, interesting and still provide an acceptable learning framework for the students.

#### 10.4.5. HOSPICE VISIT

As previously discussed, the West of Scotland Palliative Physicians Group "borrowed" two days from the attachment, by arrangement. No other curricular time was available for this important speciality and, as there is a large area of overlap between general practice and palliative care, this was felt to be an appropriate release. It is outwith the remit of this thesis to discuss the hospice visits, as they were developed and evaluated separately by the Palliative Physician's Group. However, as the students perceived the hospice release to be part of the attachment, it is inevitable that some of the feedback mentions it.

#### 10.4.6. TRAVELLING

A small, but vocal, minority of students found it relatively difficult to travel to the practice, to which they were attached, on a daily basis. As far as possible, students were allocated to practices close to their home addresses and they were allowed to arrange swaps, as long as this was arranged to the satisfaction of all students and tutors involved, at least one month before the attachments began. However, because 55% of the tutors were located outside the City of Glasgow and 40% were outside Greater Glasgow, it was occasionally necessary to allocate a student to a practice at a further distance from their home. Efforts were made to ascertain which students had access to a private car but, although students had been required to complete a questionnaire for Faculty Office during the previous year about this, as one student said " Nobody told the truth on the form because they knew if they said they had a car they

would be sent to attachments and hospitals further away". Travelling problems would diminish, if more tutors were recruited and more choice was available in making allocations, and further effort should be expended in matching students, as far as possible, to more local practices.

#### 10.4.7. TIMETABLING

Two different problems were identified by students under this heading. The main problem was that a small number of students found that their days in practice were so busy, that they had very little free time for completing set work, such as their long cases, or attending to personal business, such as banking. Tutors should be advised at feedback meetings that a reasonable amount of free time should be timetabled, during the attachments, and hopefully this problem will be resolved for the following attachments.

The other, more trivial, problem was that a minority of students felt that, particularly in the middle of the day, they were hanging around with little to do. It was suggested to these students that, perhaps this was the time they could use for preparing course work, going to the bank etc. If the project work was more demanding this would better occupy the time of these students in the future.

#### 10.4.8. CONCLUSION

The evaluative comments made by the students undergoing this attachment have been, on the whole, reassuringly positive. Although student satisfaction does not always equate with educative value, nor does it imply that students' performances also reach the standards required by instructors or faculty, it is more likely that they will absorb the learning experiences offered. In the words of one student from King's College in London "All too often students' opinions of the efficiency of teaching is not sought, when in fact feedback such as this should play some part in, if not form the basis of, the ascription of success or failure"<sup>106</sup>.

## CHAPTER ELEVEN

### CONCLUSIONS AND RECOMMENDATIONS

At a time when the shift of undergraduate medical education into the community appears to be inevitable, it must be ensured that high standards of clinical teaching are maintained<sup>107</sup>. Although Glasgow University has been slower than many to provide substantial curricular time for teaching in general practice, this has allowed the introduction of such teaching to occur in the carefully planned way described in this thesis. As with any curricular change, ongoing evaluation is essential to check if the new system is working to produce a better product<sup>98</sup> and the evaluative information, collected during the first year of this new course, has been presented in this thesis.

This final chapter provides a synopsis of the main conclusions of the preceding chapters and recommendations for the future of the four week attachments in general practice, at the University of Glasgow. Recommendations are also made, where appropriate, for the wider application of the findings of this research, in the United Kingdom [U.K.]

#### 11.1. ORGANISATION

The administrative arrangements for the attachments functioned well, on the whole, although some improvements are possible, on a geographical basis, in making travelling to the practices easier for individual students. More effort should be expended in matching students to practices, within a reasonable travelling distance of their home addresses.

Allocations of attachments would be facilitated if there was a larger pool of tutors available. Therefore, efforts should be made to recruit interested and suitable tutors. It is not yet fully clear what constitutes a suitable tutor, although enthusiasm for the activity is a major requirement. Those general practitioners, who are also trainers for the purposes of vocational training in

general practice, have participated in specific training courses and reached required standards<sup>15</sup> and so should be automatically accepted as tutors, unless there are exceptional circumstances. The Department should consider establishing guidelines similar to those used in Maastricht in Holland<sup>29</sup> for appointing new tutors. These guidelines should include attendance at a minimum number of recognised training sessions in teaching, organised by the Department. Initially, training should be offered to those wishing to become tutors and existing tutors who are not trainers but, if successful, they can be extended to all tutors.

Of more importance than recruiting new tutors, is consolidating links with existing tutors. It would not be surprising if some of the initial enthusiasm for the course became dissipated with time, as the heavy demands of service general practice conflicted with the requirements of teaching students. Consideration must be given to methods of reducing service workload for tutors, at times when students are present, whether by financial reimbursement or otherwise.

Communication links with tutors must be encouraged and fostered by the Department. Meetings to discuss modifications to the course, or problems with it, must be organised regularly, with as many of the tutors as possible. Besides these, a named person responsible for organising the attachments should continue to be readily available on a day to day basis, to discuss unexpected difficulties which arise, and provide support for the tutors.

There is no evidence that general practitioner tutors at Glasgow University are substantially different from tutors elsewhere, in the United Kingdom. There is therefore a large pool of enthusiastic teachers available for teaching medical students in the community. This should help to facilitate the transfer, into the community, of those areas of undergraduate medical

education, which can equally well be taught there, and so ease the burden on hospital based teaching. To enable tutors to provide a high standard of teaching, it is recommended that undergraduate departments of general practice should set up training courses, perhaps along similar lines to those organised by postgraduate departments. Finally, to allow tutors to fulfil the increased teaching demands, at the same time as their service commitment, funding for undergraduate teaching should be equitably redistributed to adequately fund teaching in general practice.

## 11.2. OBJECTIVES

The final list of 12 objectives used for the attachments are appropriate and should continue to be used, with the one minor modification discussed.

Objectives, concerning specific clinical areas to be covered, were not included in the list for the first year of the course, as it was felt that the interests of the tutors, and nature of the participating practices, were too diverse to enable uniformity of clinical experience, for the students. However, particularly if there is a move towards teaching more clinical medicine in general practice in the future, research should be pursued to discover what core clinical conditions can be covered adequately in all participating practices. Teaching sessions can then be arranged around specific clinical cases while still allowing opportunity for students to experience the depth and variety of general practice. Therefore, effort should be expended to produce more specific attachment objectives, to be used in conjunction with the current, more general objectives.

It has been reported that most of the recommendations of the GMC, on undergraduate medical education, cannot be achieved, at any reasonable level, without using the resources of general practice. Most of the objectives used for

this course were based on the GMC recommendations and the students reported that the attachment enabled them to reach these objectives. As the concepts expressed by these objectives are similar to those used by many courses in general practice in other medical schools, it would be possible to produce standard objectives, common to all courses of general practice in the U.K., with more specific, individual learning objectives, available in each school. Common objectives would facilitate the training of tutors and exchange of ideas between medical schools, to produce an optimum learning experience for the students. Therefore, it is recommended that the possibility of producing common objectives for undergraduate teaching in general practice, should be explored by U.K. medical schools.

#### 11.3.TASKS

Nine of the tasks of the attachment were thought to be interesting and relevant, by the great majority of the students, and feasible and useful, by the great majority of the tutors. These tasks should be presented as mandatory for the attachments and the tutors should be urged, as far as possible, to give the students the opportunity to complete them during the attachment. In particular, students should be allowed to conduct personal consultations, with or without the presence of the tutor in the consulting room, as this was the most highly valued activity. Other tasks, such as participating in out of hours work or following a patient to hospital, should not be compulsory but should be encouraged among interested tutors and students.

#### 11.4. STUDENTS

The attachment promoted a positive attitude among the students towards general practice and acted as a positive vocational opportunity. More students said they would consider a career in general practice after the attachment, than before it. This cohort of students should be followed up to find out whether those, who said they were likely to follow a career in general practice, actually go on

to do so, in order to assess the true value of the attachments, as a vocational opportunity.

The increased positive attitude, produced by exposure to general practice, augurs well for any future transfer of undergraduate teaching into general practice, on a nationwide level. Further exposure, during their undergraduate training should not lead to a reduction in recruitment into general practice and would perhaps help to reverse the current trend away from applying for general practice training schemes, by young doctors.

#### 11.5. PATIENTS

The vast majority of patients think that students should be taught in general practice and are happy to see them in the surgery, with their general practitioner. A majority are happy to see students alone, although not for all problems. However, tutors should be advised to obtain consent from their patients, to the presence of a student, during the consultation, and this should be obtained, at the earliest possible time, before the consultation takes place.

As few patients refuse to see them, students observe a good case-mix in general practice. Therefore, it is recommended that educators in medical schools in the U.K. should be reassured about the case-mix seen in general practice and tutors should be reassured about the acceptability to patients, of students in the consulting room.

#### 11.6. PROBLEM BASED LEARNING

The experiment in this form of learning was a qualified success. The students found it more interesting, although less relevant, than the formal lectures. It is recommended that this method of learning should be retained in this course, but its form should be altered. Groups should be allocated a topic or allowed to choose from a list of topics; they should be given sufficient time to research the topic and; each group should present back their findings, to the entire class so that they may learn collectively, from the findings of each group.

It is recommended that the findings of this study should be disseminated, and the use of problem based methods of learning should be supported, and promoted, in U.K. medical schools.

#### 11.7. AUDIT PROJECT

This again was a qualified success. The students' self-reported knowledge about audit increased and they found the feedback session interesting. However, in order to produce a more useful and interesting learning experience, the students should be given more ownership of the project. They should be allowed to choose an individual project either, from a set list prepared by the Department, from their own interests or from a topic suggested by their tutor. They should be asked to set standards, at the beginning of the audit, and to submit a written report, at the end of the attachment, giving details of how the audit cycle could be completed, if that was not possible, during the four weeks of the attachment.

It is recommended that the findings of this study should be disseminated and teaching medical students about audit, in the setting of general practice, should be promoted to help to develop an awareness of the value of audit, at an early stage in a medical career.

#### 11.8. STUDENT EVALUATION

The students were evaluated by two methods. They were assigned a mark for their long cases and given a report by their tutor. The students found the preparation of the long cases interesting and educational. The tutor's report measures some skills, which would be very difficult to assess otherwise. This was useful, as it was hoped that the attachment would influence skills and attitudes as much as, if not more than, knowledge. However, a more objective assessment measure is required for the future and this is likely to take the form of an examination. The best candidates for such an examination would appear to be an Objective Structured Clinical Examination which would be

difficult to organise, given the numbers of students involved, or a Modified Essay Question which is easier to administer and measures some problem solving skills.

If a sufficiently rigorous method of assessment for the students is achieved then general practice should be included as a subject for the final qualifying examinations.

#### 11.9. EVALUATION OF THE ATTACHMENTS

Comprehensive evaluative information about the attachments has been provided by this research. It has been shown that the majority of the students greatly enjoyed their general practice attachment. They appreciated the friendship shown to them in the practices, the one to one relationship with their tutor and the general level of teaching provided.

The students found the attachments useful for learning about General Medicine, Psychiatry and Communication skills. Some of the difference of opinion among the students, about what could be learned during the attachments, was inevitable due to the variability among individual tutors and practices. However, in future the Department should consider setting more stringent guidelines about specific areas to be covered.

It was shown that the students prefer to do rather than to observe and the tutors should be urged to allow the students to participate as much as is feasible in their practices.

The students indicated that they would have preferred fewer formal presentations, during their Department sessions, and they would have preferred more structured small group work. An improved formula for the Department sessions might be more structured Problem Based Learning in small groups, self-directed learning for project work and a minimum of formal presentations. Therefore, although the feedback from the students

suggests that the attachments were largely successful, the Department should continue to evaluate and modify the attachments, in the future, to endeavour to provide a course, which is responsive to the learning requirements of the students.

#### CONCLUSION

This detailed description of the development and evaluation of a new course, in general practice at the University of Glasgow, has been a worthwhile exercise in helping to shape a course, which it is hoped will be responsive to the requirements of medical students, the University of Glasgow and the recommendations of the General Medical Council. It is hoped that information from this thesis can be used to support the shift of more undergraduate medical education into the setting of general practice, in the U.K., in the future.

## APPENDIX 1

DR. A. TUTOR,  
ADDRESS

Dear Dr. Tutor,

You may already know that from April 1992 medical students at Glasgow University will have to complete attachments in General Practice for the first time. This will involve a four week attachment at some time during Whitsun term of fourth year or Candlemas or Martinmas terms of fifth year. They will also have to undertake a further two week clerkship in Whitsun term of final year. This is an exciting time for us as teachers in General Practice but it is also going to be rather fraught administratively because attachments for approximately 240 students will have to be arranged each year. For this reason we are writing one year in advance of the beginning of the course to request the help of our existing General Practice Tutors. We would ideally like each tutor to agree to take at least two four week attachments on a one to one basis, however any help offered will be grateful received. The remuneration for each four week attachment will be approximately £400 which we hope will compensate in a small way for the work involved.

Nearer the time we will send out more details of the course including dates, aims and objectives and course content and several meetings will be arranged so that you can air your views about content and arrangements. As the two week clerkships will not be required until April 1993 requests for help with these will not be made until later in the year.

If you are able to help with this course could you indicate the level of commitment which you think you might be able to make on the attached slip and return it to me.

With kindest regards.

Yours sincerely

DR. JILLIAN MORRISON  
LECTURER

## APPENDIX 1 (CONT'D)

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I would / would not like to help with practice attachments.  
(Delete as appropriate)

I hope to be able to take :

1	2	3	More than 3 attachments
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Tick as appropriate)

Please return to :

Dr. J. Morrison  
Department of General Practice  
Woodside Health Centre  
Barr Street  
Glasgow G20 7LR

## APPENDIX 2

NOTES FOR TUTORS FOR FOUR WEEK ATTACHMENTS

The four week attachments are a new and exciting development in undergraduate medical education at the University of Glasgow and one which many of us feel is overdue. However the curriculum time for the attachments has been hard won as the 4 week attachment is made up of time taken in the curriculum from medicine and surgery. There are eight 4 week attachments scattered throughout the year from April 1992 until March 1993 in the first year and you have already received a letter with the dates of the attachments listed asking you to tell me on which dates you would be available. The students who go to the first the attachments in Whitsun term from April to June are still in fourth year whereas during the other five attachments in Candlemas and Martinmas terms they are in final year.

There are approximately 210 students in the present fourth year and as there are eight four week blocks there will be approximately 26 students in each block. Therefore I require 26 tutors for each four week attachment. Most of you have agreed to take between one and three attachments during the year and as there are 120 tutors who have agreed to help I should manage to allocate the students without any difficulty. Some of you who have offered to take three or more attachments may find that I am unable to give you students for more than 2. I apologise in advance for any disappointment that this might cause.

The first Monday of the attachments in May, June and September are Public holidays and so in these months the attachments will begin on a Tuesday.

During the four weeks the students will spend one session each week in the Department of General Practice where they will receive a series of lectures and small group teaching.

In the first week of the attachment they will be here on Monday morning or in the case of May, June and September on Tuesday morning. In the second week they will be here on Tuesday morning and in the third week they will be here on Thursday morning. These times were a modest attempt to try and relieve pressure on practices who may also have a third year student in the practice at these times. In the fourth week they will come here on the Friday afternoon and as well as further lectures etc. they will be asked to evaluate the attachments.

During the attachment, agreement has been made between the Department of General Practice and Palliative Medicine to allow the students to attend two full days of Terminal Care Teaching. My colleague Dr. Moya Kelly is organising this aspect of the attachment but I understand that the release to terminal care will either be on a Tuesday and Wednesday or on a Wednesday and Thursday. When I mail you details of your attachment students I will also give you details about the release to terminal illness teaching. I hope that this information will be available by the beginning of March.

During their time in the practice we do not expect you to have the student by your side continuously. However we would like them to spend 50% of their time either with you or your partners seeing patients. The rest of the time can be divided up by arrangement between you and the student depending on what is possible in your practice. For example it might be going out with the district nurse or doing a baby clinic with the health visitor. Incidentally I have written to the CANO's of the four relevant health boards to confirm that this was satisfactory and I have received very positive replies.

The students will also have a set number of tasks to fulfil during the attachment contained in the log diary they will be given and they will therefore require time to carry these out. I will mail you a copy of the log diary as soon as it is available from the printer. In the log diary the student will be asked to keep a timetable of what they do during the attachment.

Incidentally it was suggested previously by one of the tutors that you could send a practice timetable into the department for us to give out to the students before they arrive in the practice so they have a rough idea of what they might be going to do. It was also suggested that it would be useful for the students to be given a copy of your practice leaflet before they arrive so that they will already know a little about the practice. If you could possibly send copies of these to me I will give one to the students who are going to be attached to your practice.

A rough guide to what I hope the students will see and do during the attachment is contained in the aims and objectives which you received with the questionnaire in the summer. There are also revised aims and objectives in the student log diary. However most of you have taught students previously and you know that it is impossible to plan ahead exactly what the students will see so the broad thrust is that they should see a good mix of general practice work. We would also like if possible for them to see some out of hours work

and to follow a patient to hospital. They should also have some opportunity to see a patient alone and to do some practical procedures.

The financial arrangements for the attachments should be straightforward. The health board pays a standard £10.95 fee per session for teaching and normally you will be paid for 32 sessions which is £351.40. It was the consensus from our meetings that you should forward your claim to the health board on form U.M.S. as usual and send a copy of the register of student attendance to me so that I can confirm the claim to the health board. I will send you a standard register form prior to the attachments.

It is important to evaluate these attachments mainly so that they can be altered and improved for subsequent years because they are a new development. I am therefore hoping that they can be evaluated fairly extensively by me assessing the students, by you assessing the students and the students assessing the attachments.

I hope to assess the students by means of a questionnaire survey at the start of the attachment and repeated at the end of it to try to gauge their knowledge and attitudes to general practice. I will also be marking their log diaries.

I would also like you to assess the students. The consensus from the meetings was that the Manchester Rating Scale was too complicated but that you would prefer a structured assessment form. I am still working on preparing standardised forms for you to use. The form will include continual assessment during the attachment and possibly also a more objective test applied at the end of the attachment.

The students will also be asked to assess the attachment. This assessment will be loosely based on the suitability of the attachment for allowing them to reach their objectives and will be rated on usefulness and enjoyment. I also hope to interview a small subgroup of students in order to validate their written evaluations. I had originally intended that the students evaluation and interviews would be completely confidential but at the previous meeting it was indicated to me that the tutors would prefer to see the students' evaluations of the attachments so I will send you a copy of these. Incidentally the sessions in the Department of General Practice and at Terminal illness teaching will also be assessed and generally students prefer practical sessions so we are more likely to receive poor feedback than you.

An issue which troubles us a great deal in the department is that of non-attenders at teaching sessions, either at University but more particularly out in practice. I think that this is less likely to be a problem

with these attachments as they are for longer periods but we still feel that it is important to impress upon the students that the attachments are compulsory and sanctions will be applied if they fail to attend. Therefore if they don't attend without a good excuse or obtain a poor report from you or fail to complete and hand in their log diaries they will be told that this information will be available at their finals. So far we don't have any other sanctions available to us. On the other side of the coin we hope to be able to award prizes to the two best students.

Finally I hope to arrange further meetings so that you can give me your feedback about the attachments. I will try to arrange meetings at the end of June or beginning of July, at the end of December and some time in March.

#### QUESTIONS FROM TROON MEETING

"For those of us in the wilderness will it be possible to be allocated students who have transport?"

Unfortunately this is not possible because we do not know in advance which students have transport but students will be advised to contact the tutor at least one week before their attachment starts so that they can sort out any travel arrangements and if there is a major problem they can contact me and I will rearrange their attachment.

"Will students have a half day on a Wednesday?"

I contacted Faculty Office and although it is a University policy to keep Wednesday afternoons free for sport, as with many other things this rule does not apply to medical students, so there is no half day on a Wednesday.

"Do we have to give students lunch?"

No. Students will be advised that there may not be facilities available locally for them to buy lunch and so they should bring their lunch with them.

"What is the payment position if we delegate a teaching lesson to a nurse?"

The fee is still payable to the tutor.

## APPENDIX 3

NAME \_\_\_\_\_

## FOUR WEEK ATTACHMENTS FOR FINAL YEAR STUDENTS.

NUMBER OF ATTACHMENTS:

DATES OF ATTACHMENTS:

1. SECTION H 6.4.92 - 1.5.92

2. SECTION G 5.5.92 - 29.5.92

3. SECTION F 1.6.92 - 26.6.92

4. SECTION E 29.9.92 - 23.10.92

5. SECTION D 26.10.92 - 20.11.92

6. SECTION C 23.11.92 - 18.12.92

7. SECTION A 5.1.93 - 29.1.93

8. SECTION B 1.2.93 - 26.2.93

PLEASE RETURN TO:

DR. J. MORRISON  
DEPARTMENT OF GENERAL PRACTICE  
WOODSIDE HEALTH CENTRE  
BARR STREET  
GLASGOW  
G20 7LR

## APPENDIX 4

FOUR WEEK ATTACHMENTS IN GENERAL PRACTICE

With reference to the above teaching I enclose :

1. Name(s) and date(s) of student(s) to be attached to you. The students have been instructed to contact you at least one week before the attachment begins to check any travelling or special timetable arrangements you might have. My colleague, Dr. Moya Kelly, will write to you with a note of the dates of their release to terminal illness teaching when these are available.
2. Register(s) for completion during the attachment(s) - Could you write in the data next to the day of the week, ask the students to sign the register each time they attend and note the total number of sessions at the bottom of the sheet? The Register should be returned to me at the end of the attachment(s) and I will then write to the Health Board to confirm your claim for reimbursement.
3. Log diary - this is the same diary which the students will use to record their work during the attachment and is enclosed for your information.
4. Evaluation sheet(s) - Could you please complete this toward the end of each attachment for each student and return it to me as soon as possible.

With many thanks again for all your help.

Yours sincerely

DR. JILLIAN M. MORRISON  
LECTURER IN GENERAL PRACTICE

**APPENDIX 5**

**REGISTER FOR FOUR WEEK ATTACHMENT**

STUDENT'S NAME \_\_\_\_\_

TUTOR'S NAME \_\_\_\_\_

	DATE	MORNING	AFTERNOON	EVENING
<b>W E E K 1</b>	MON			
	TUES			
	WED			
	THURS			
	FRI			
	SAT			
	SUN			
<b>W E E K 2</b>	MON			
	TUES			
	WED			
	THURS			
	FRI			
	SAT			
	SUN			
<b>W E E K 3</b>	MON			
	TUES			
	WED			
	THURS			
	FRI			
	SAT			
	SUN			
<b>W E E K 4</b>	MON			
	TUES			
	WED			
	THURS			
	FRI			
	SAT			
	SUN			

STUDENT'S SIGNATURE \_\_\_\_\_

APPENDIX 6

LOG DIARY FOR  
FOUR WEEK ATTACHMENT  
IN GENERAL PRACTICE

237.

DIARY NUMBER

STUDENT'S NAME

TUTOR'S NAME

PRACTICE ADDRESS

PRACTICE TELEPHONE NUMBER

ISSUED BY: DEPARTMENT OF GENERAL PRACTICE  
UNIVERSITY OF GLASGOW  
WOODSIDE HEALTH CENTRE  
BARR STREET  
GLASGOW G20 7LR

TELEPHONE 041 332 8118

FAX 041 332 3402

CONTACT

DR. JILLIAN MORRISON

## INTRODUCTION

Welcome to your attachment in general practice. We hope that you will find it both an enjoyable and a profitable experience. The attachment will introduce you more fully to the discipline of general practice and will also reinforce the skills of history taking and examination learned in other medical and surgical specialities.

Much of the attachment will be spent in observing your tutor, his/her partners and other members of the primary care team but wherever possible you will be encouraged to participate. There are also a number of tasks which you will be expected to fulfil and these will be fully explained during the introductory session in the Department of General Practice. There is space in the diary for writing up these tasks in the log diary, the completion of which is a compulsory part of the course and will form part of your assessment at the end of the attachment.

You are required to attend four sessions in the Department of General Practice during the attachment. During your attachment these sessions will be on:

<u>DAY</u>	<u>DATE</u>	<u>TIME</u>
Monday/Tuesday		9.30am - 12.30pm
Tuesday		9.30am - 12.30pm
Thursday		9.30am - 12.30pm
Friday		2.00pm - 5.00pm

You will also spend two days attached to a hospice for terminal illness teaching. During your attachment these sessions will be on:

<u>DAY</u>	<u>DATE</u>	<u>TIME</u>
------------	-------------	-------------

The venue for your terminal illness teaching will be :

---

## OBJECTIVES OF PRACTICE ATTACHMENTS

By the end of the attachment you should:

Understand the importance of the doctor-patient relationship.

Understand the importance of good communication in the delivery of primary health care.

Understand the role of the general practitioner as decision maker and gatekeeper for other providers of health care.

Understand the importance of ethical considerations.

Recognise which illnesses present commonly in general practice and their epidemiology.

Appreciate how the health of a patient can affect his/her role as part of a family.

Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.

Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.

Understand the place of health promotion and prevention of problems.

Appreciate the importance of effective collaboration between general practitioners and other health professionals who deliver primary health care such as district nurses etc.

Understand the interface between general practice and hospital practice including referral procedures and problems.

Understand the difficulties of providing continuing care for patients with chronic illhealth in the community.

### AIMS OF PRACTICE ATTACHMENTS

By the end of the attachment you should have:

Observed at least one hour of surgery consultations per day with the tutor or another partner.

Conducted at least 10 consultations in the surgery personally and reported back to tutor.

Attended at least 15 home visits.

Attended at least three emergency consultations either at home or in the surgery.

Obtained experience of out of hours visits.

Spent at least one session with other members of the practice staff to gain some insight into their purpose and function as members of the primary care team.

Spent at least one session with members of practice attached staff e.g. district nurse, to gain some insight into their purpose and function.

Spent at least two sessions at other clinics held in the practice e.g. health promotion, antenatal etc.

Written up five short cases seen in surgery.

Followed and written up one chronic case in each of the following age groups:

- child
- adult
- elderly

Followed a patient from home or surgery to hospital and written it up.

Kept a log diary of experience obtained.

Taken part in a simple research or audit project.

Observed or performed practical procedures as listed later.

SHORT CASES

1.

PATIENT DETAILS (age, sex etc.)

SYMPTOMS AND SIGNS (presenting symptoms and details of brief examination)

PROVISIONAL DIAGNOSIS

SUGGESTED MANAGEMENT (including any investigations, prescriptions and any follow-up required)

SHORT CASES

2.

PATIENT DETAILS (age, sex etc.)

SYMPTOMS AND SIGNS (presenting symptoms and details of brief examination)

PROVISIONAL DIAGNOSIS

SUGGESTED MANAGEMENT (including any investigations, prescriptions and any follow-up required)

SHORT CASES

3.

PATIENT DETAILS (age, sex etc.)

SYMPTOMS AND SIGNS (presenting symptoms and details of brief examination)

PROVISIONAL DIAGNOSIS

SUGGESTED MANAGEMENT (including any investigations, prescriptions and any follow-up required)

SHORT CASES

4.

PATIENT DETAILS (age, sex etc.)

SYMPTOMS AND SIGNS (presenting symptoms and details of brief examination)

PROVISIONAL DIAGNOSIS

SUGGESTED MANAGEMENT (including any investigations, prescriptions and any follow-up required)

SHORT CASES

5.

PATIENT DETAILS (age, sex etc.)

SYMPTOMS AND SIGNS (presenting symptoms and details of brief examination)

PROVISIONAL DIAGNOSIS

SUGGESTED MANAGEMENT (including any investigations, prescriptions and any follow-up required)

LONG/CHRONIC CASES

1. \_\_\_\_\_ CHILD

PATIENT DETAILS (age, sex etc.)

SUMMARY OF RELEVANT FACTS IN HISTORY

SUMMARY OF EXAMINATION

SOCIAL HISTORY (in terms of family - parents' occupation, housing, other children in family etc.)

EFFECT OF ILLNESS ON PATIENT (and family)

PROBLEM LIST (List the problems that affect this patient today, active and inactive. Express in physical, psychological and social terms and in descending order of importance).

LIST OF TREATMENTS NECESSARY FOR THE PATIENT'S PROBLEMS

DISCUSS PROSPECTIVE CARE

GIVE A DETAILED PROGNOSIS

WHAT DO YOU THINK COULD HAPPEN OVER THE NEXT YEAR?

WHAT HAVE YOU LEARNED FROM THIS PATIENT?

LONG/CHRONIC CASES

2. \_\_\_\_\_ ADULT

PATIENT DETAILS (age, sex etc.)

SUMMARY OF RELEVANT FACTS IN HISTORY

SUMMARY OF EXAMINATION

SOCIAL HISTORY (in terms of family, occupation, housing, etc.

EFFECT OF ILLNESS ON PATIENT (and family)

PROBLEM LIST (List the problems that affect this patient today, active and inactive. Express in physical, psychological and social terms and in descending order of importance).

LIST OF TREATMENTS NECESSARY FOR THE PATIENT'S PROBLEMS

DISCUSS PROSPECTIVE CARE

GIVE A DETAILED PROGNOSIS

WHAT DO YOU THINK COULD HAPPEN OVER THE NEXT YEAR?

WHAT HAVE YOU LEARNED FROM THIS PATIENT?

LONG/CHRONIC CASES

3. ELDERLY PATIENT

PATIENT DETAILS (age, sex etc.)

SUMMARY OF RELEVANT FACTS IN HISTORY

SUMMARY OF EXAMINATION

SOCIAL HISTORY (in terms of family, previous occupation, housing, social and family support etc.

EFFECT OF ILLNESS ON PATIENT (and family)

PROBLEM LIST (List the problems that affect this patient today, active and inactive. Express in physical, psychological and social terms and in descending order of importance).

LIST OF TREATMENTS NECESSARY FOR THE PATIENT'S PROBLEMS

DISCUSS PROSPECTIVE CARE

GIVE A DETAILED PROGNOSIS

WHAT DO YOU THINK COULD HAPPEN OVER THE NEXT YEAR?

WHAT HAVE YOU LEARNED FROM THIS PATIENT?

WEEK ONE

	MONDAY	TUESDAY	WEDNESDAY
<u>09.00</u>			
<u>10.00</u>			
<u>11.00</u>			
<u>12.00</u>			
<u>13.00</u>			
<u>14.00</u>			
<u>15.00</u>			
<u>16.00</u>			
<u>17.00</u>			
<u>18.00</u>			



WEEK TWO

	MONDAY	TUESDAY	WEDNESDAY
<u>09.00</u>			
<u>10.00</u>			
<u>11.00</u>			
<u>12.00</u>			
<u>13.00</u>			
<u>14.00</u>			
<u>15.00</u>			
<u>16.00</u>			
<u>17.00</u>			
<u>18.00</u>			



WEEK THREE

	MONDAY	TUESDAY	WEDNESDAY
<u>09.00</u>			
<u>10.00</u>			
<u>11.00</u>			
<u>12.00</u>			
<u>13.00</u>			
<u>14.00</u>			
<u>15.00</u>			
<u>16.00</u>			
<u>17.00</u>			
<u>18.00</u>			



WEEK FOUR

	MONDAY	TUESDAY	WEDNESDAY
<u>09.00</u>			
<u>10.00</u>			
<u>11.00</u>			
<u>12.00</u>			
<u>13.00</u>			
<u>14.00</u>			
<u>15.00</u>			
<u>16.00</u>			
<u>17.00</u>			
<u>18.00</u>			



PATIENT FOLLOWED FROM HOME / PRACTICE TO HOSPITAL AND BACK  
PATIENT DETAILS (age, sex etc.)

PRESENTING PROBLEM (S) AND PREVIOUS MEDICAL HISTORY

REASON FOR HOSPITAL REFERRAL / ADMISSION

MANAGEMENT IN HOSPITAL

• DETAILS ON DISCHARGE FROM HOSPITAL

FOLLOW-UP REQUIRED IN GENERAL PRACTICE





APPENDIX 7

TUTOR'S ASSESSMENT

Please fill in this report about your attached student at some time during the last few days of the attachment. If you have a student whose performance gives you cause for concern please reflect this in your report and I will telephone you when I receive the report to discuss it further with you. Thereafter this information may be made available at the student's final examinations particularly if their log diary is also of a poor standard. Conversely if you have a very good student please reflect this in your report and if their log diary is also of a very high standard they will be considered for one of the two available prizes.

JILLIAN MORRISON  
LECTURER IN GENERAL PRACTICE

TUTOR: \_\_\_\_\_

STUDENT: \_\_\_\_\_

DATES OF ATTACHMENT: \_\_\_\_\_ TO \_\_\_\_\_

1. ATTENDANCE AT PRACTICE	COMPLETE	<input type="checkbox"/>	NUMBER OF DAYS ABSENCE (IF APPLICABLE)	<input type="checkbox"/>
	PARTIAL BUT EXCUSED	<input type="checkbox"/>		
	INEXCUSED ABSENCE	<input type="checkbox"/>		

Please assess each of the following areas for your student on the 5-point scale given.

	V. GOOD	GOOD	ADEQUATE	POOR	V. POOR
2. COMMUNICATION SKILLS	<input type="checkbox"/>				
3. HISTORY TAKING	<input type="checkbox"/>				
4. CLINICAL EXAMINATION	<input type="checkbox"/>				
5. PROBLEM SOLVING	<input type="checkbox"/>				
6. GENERAL MEDICAL KNOWLEDGE	<input type="checkbox"/>				
Please give your overall assessment of this student	<input type="checkbox"/>				

What are this student's main :

STRENGTHS

WEAKNESSES

ANY OTHER COMMENTS:

Thank you very much for completing this assessment. Please return it to me as soon as possible.

JILLIAN M. MORRISON

## APPENDIX 8

QUESTIONNAIRE FOR TUTORS INVOLVED IN PRACTICE ATTACHMENTSPART ONEDEMOGRAPHIC DETAILS OF TUTOR AND PRACTICE

AGE

\_\_\_\_\_

PLACE OF GRADUATION

\_\_\_\_\_

\_\_\_\_\_

POSTGRADUATE EXPERIENCE OBTAINED  
BEFORE ENTERING GENERAL PRACTICE.  
LIST HOSPITAL POSTS.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

NUMBER OF YEARS IN GENERAL PRACTICE

\_\_\_\_\_

SPECIAL INTERESTS IN GENERAL PRACTICE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

NUMBER OF PARTNERS IN PRACTICE

FULL TIME

PART TIME

IS THERE A TRAINEE IN THE PRACTICE?

YES

NO

TYPE OF PRACTICE e.g. URBAN,  
DISPENSING etc.

\_\_\_\_\_

TYPE OF PREMISES      HEALTH CENTRE      PURPOSE BUILT      CONVERTED




OTHER

---

IS THE PRACTICE IN RECEIPT OF A DEPRIVATION PAYMENT?

YES

NO



LIST PRACTICE EMPLOYED STAFF WHICH YOU HAVE

---



---



---

LIST PRACTICE ATTACHED STAFF WHICH YOU HAVE

---



---



---

DO YOU HAVE AN APPOINTMENT SYSTEM?

YES

NO



PLEASE LIST ANY SPECIAL HEALTH PROMOTION OR OTHER MINI CLINICS WHICH YOU HOLD.

---



---



---

PLEASE LIST ANY OTHER SERVICES YOU OFFER WHICH ARE NOT INCLUDED ABOVE e.g. MINOR SURGERY, CHILD HEALTH SURVEILLANCE etc.

---



---



---

CAN YOU GIVE YOUR MAIN REASONS FOR BEING INTERESTED IN UNDERGRADUATE TEACHING?

---



---

OBJECTIVES OF PRACTICE ATTACHMENTS

Please rate each of the following objectives from 1 - 5 according to your own opinion - 1 being very important and 5 being very unimportant.

	1	2	3	4	5
	Very Import.	Import.	No Prefer.	Not Import.	Very Unimport.
By the end of the 4 week attachment the student should:					
Understand the importance of the doctor/patient relationship.	<input type="checkbox"/>				
Understand the importance of good communication in the delivery of primary health care.	<input type="checkbox"/>				
Understand the role of the general practitioner as decision maker and gatekeeper for other providers of health care.	<input type="checkbox"/>				
Understand the importance of ethical considerations.	<input type="checkbox"/>				
Recognise which illnesses present commonly in general practice and their epidemiology.	<input type="checkbox"/>				
Appreciate how the health of a patient can affect his/her role as part of a family.	<input type="checkbox"/>				
Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.	<input type="checkbox"/>				
Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.	<input type="checkbox"/>				

	1	2	3	4	5
	Very Import.	Import.	No Prefer.	Not Import.	Very Unimport.
Understand the interface between general practice and hospital practice including referral procedures and problems.	<input type="checkbox"/>				
Understand the importance of systems and procedures for delivering health care including computerised systems.	<input type="checkbox"/>				
Understand the difficulties of providing continuing care for patients with chronic ill-health in the community.	<input type="checkbox"/>				
Recognise the potential of general practice as a resource for research and audit.	<input type="checkbox"/>				
Understand that on one level general practice is a business.	<input type="checkbox"/>				

Are there any other objectives which you would like to see included?  
Please list below.

---



---

AIMS OF PRACTICE ATTACHMENTS      FEASIBILITY IN YOUR PRACTICE

By the end of the attachment the student should have:

	feasible	not feasible
Observed at least 1 hour of surgery per day with the tutor or another partner.	<input type="checkbox"/>	<input type="checkbox"/>
Conducted at least 10 consultations in the surgery personally and reported back to tutor.	<input type="checkbox"/>	<input type="checkbox"/>
Attended at least 15 home visits.	<input type="checkbox"/>	<input type="checkbox"/>
Attended at least three emergency consultations either at home or in the surgery.	<input type="checkbox"/>	<input type="checkbox"/>
Obtained experience of out of hours visits for at least two sessions.	<input type="checkbox"/>	<input type="checkbox"/>
Spent at least one session with other members of the practice staff to gain some insight into their purpose and function as members of the primary care team.	<input type="checkbox"/>	<input type="checkbox"/>
Spent at least one session with members of practice attached staff e.g. district nurse, to gain some insight into their purpose and function.	<input type="checkbox"/>	<input type="checkbox"/>
Spent at least two sessions at other clinics held in the practice e.g. health promotion, antenatal etc.	<input type="checkbox"/>	<input type="checkbox"/>
Followed and written up at least 5 short cases seen in surgery.	<input type="checkbox"/>	<input type="checkbox"/>
Followed and written up at least one chronic case in each of three age groups:	<input type="checkbox"/>	<input type="checkbox"/>
- Child	<input type="checkbox"/>	<input type="checkbox"/>
- Adult	<input type="checkbox"/>	<input type="checkbox"/>
- Elderly	<input type="checkbox"/>	<input type="checkbox"/>

AIMS OF PRACTICE ATTACHMENTS      FEASIBILITY IN YOUR PRACTICE

By the end of the attachment the student should have:

	feasible	not feasible
Followed at least one patient from home or surgery to hospital and back and written it up.	<input type="checkbox"/>	<input type="checkbox"/>
Kept a log diary of experience obtained.	<input type="checkbox"/>	<input type="checkbox"/>
Developed, completed and written up a simple research or audit project.	<input type="checkbox"/>	<input type="checkbox"/>
Performed the following practical procedures:	<input type="checkbox"/>	<input type="checkbox"/>
- Sphygmomanometry	<input type="checkbox"/>	<input type="checkbox"/>
- Otoscopy	<input type="checkbox"/>	<input type="checkbox"/>
- Ophthalmoscopy	<input type="checkbox"/>	<input type="checkbox"/>
- Venepuncture	<input type="checkbox"/>	<input type="checkbox"/>
- Cervical cytology		
Observed or assisted with three of the following practical procedures:		
- Suturing of lacerations	<input type="checkbox"/>	<input type="checkbox"/>
- Proctoscopy	<input type="checkbox"/>	<input type="checkbox"/>
- Minor surgical procedures	<input type="checkbox"/>	<input type="checkbox"/>
- Child assessment	<input type="checkbox"/>	<input type="checkbox"/>
- Electrocardiography	<input type="checkbox"/>	<input type="checkbox"/>
- Vaccination	<input type="checkbox"/>	<input type="checkbox"/>

Are there any other aims you would like to see included? Please list below

-----  
 -----  
 -----

Thank you very much for completing this questionnaire.

## APPENDIX 9

EVALUATION OF FOUR WEEK ATTACHMENTS IN GENERAL PRACTICE

The Department of General Practice including the G.P. tutors are interested in your views about the teaching you have received in your four week attachment. As this is a new course and you are the first year of students to have participated in it your opinions are particularly important because many of the components of the course have been experimental. Therefore feel free to express your opinions as honestly as possible so that we can develop and improve the course for the future. Any replies you give will be quite confidential and information will be fed back to the tutors in an aggregated de-identified form.

The aggregated results of the opinions of your year will be available in The Department of General Practice in approximately one year if you would like to see them.

SECTION 1 - DEPARTMENTAL TEACHING

Please rate each of the components of the departmental teaching on the following 5-point scales for interest and relevance.

5-POINT SCALES

1-very interesting, 2-interesting, 3-neutral, 4-boring, 5-very boring  
1-very relevant, 2-relevant, 3-neutral, 4-poorly relevant, 5-irrelevant

A. LECTURES

INTEREST      RELEVANCE

- 1. The consultation
- 2. Geriatric screening
- 3. Information technology + audit
- 4. Health promotion and screening
- 5. Hypertension screening + management
- 6. Bereavement counselling
- 7. Practice management
- 8. Training in general practice

	<u>INTEREST</u>	<u>RELEVANCE</u>

B. PROBLEM BASED LEARNING

What improvements to the course do you suggest?

What other comments do you have?

SECTION 2 - PRACTICE ATTACHMENT

For each component of the practice attachment estimate the number of hours you spent on it and whether this was too short, too long or about right and rate interest and relevance on the same 5-point scale as previously.

	<u>NUMBER OF HOURS</u>	<u>TOO LONG/ TOO SHORT/ ABOUT RIGHT</u>	<u>INTEREST</u>	<u>RELEVANCE</u>
1. Observed consultations with the tutor or another partner.				
2. Conducted consultations personally and reported back to tutor.				
3. Attended home visits.				
4. Attended emergency consultations.				
5. Obtained experience of out of hours visits.				
6. Spent time with other members of the practice staff.				
7. Spent time with members of practice attached staff e.g. district nurse.				
8. Attended other clinics held in the practice e.g. health promotion, antenatal etc.				
9. Written up five short cases.				

NUMBER TOO LONG/ INTEREST RELEVANCE  
OF HOURS TOO SHORT/ ABOUT RIGHT

10. Followed and written up chronic cases of

Child

Adult

Elderly

11. Followed a patient from home or surgery to hospital.

12. Kept a log diary of experience obtained.

13. Taken part in the research project.

14. Observed practical procedures.

15. Performed practical procedures.


What improvements to the practice based part of the attachment do you suggest?

What other comments do you have?

Rate whether you feel that the attachment enabled you to reach its stated objectives -

1- very well, 2-well, 3-neutral, 4-poorly, 5-very poorly

OBJECTIVE

SCORE

1. Understand the importance of the doctor-patient relationship.

--

2. Understand the importance of good communication in the delivery of primary health care.

--

3. Understand the role of general practitioners as decision maker and gatekeeper for other providers of health care.

--

4. Understand the importance of ethical considerations.

--

5. Recognise which illnesses present commonly in general practice and their epidemiology.

--

6. Appreciate how the health of a patient can affect his/her role as part of a family.

--

7. Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.

--

8. Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.

--

9. Understand the place of health promotion and prevention of problems.

--

10. Appreciate the importance of effective collaboration between general practitioners and other health professionals who deliver primary health care such as district nurses etc.

--

11. Understand the interface between general practice and hospital practice including referral procedures and problems.

--

12. Understand the difficulties of providing continuing care for patients with chronic illhealth in the community.

--

**APPENDIX 10**

In the light of your experience of the attachment(s) please re-rate the objectives of the attachments.

<u>OBJECTIVES</u>	Very Imp.	Imp.	No Pref.	Unimp.	Very Unimp.
1. Understand the importance of the doctor-patient relationship.	<input type="checkbox"/>				
2. Understand the importance of good communication in the delivery of primary health care.	<input type="checkbox"/>				
3. Understand the role of the general practitioner as decision maker and gatekeeper for the providers of health care.	<input type="checkbox"/>				
4. Understand the importance of ethical considerations.	<input type="checkbox"/>				
5. Recognise which illnesses present commonly in general practice and their epidemiology.	<input type="checkbox"/>				
6. Appreciate how the health of a patient can affect his/her role as part of a family.	<input type="checkbox"/>				
7. Recognise the consultation as the basic method of providing health care in general practice - the consultation taking many forms e.g. in the surgery, at home, on the telephone and at night.	<input type="checkbox"/>				
8. Recognise the contribution of social and psychological factors in the problems presented by patients in general practice.	<input type="checkbox"/>				
9. Understand the place of health promotion and prevention of problems.	<input type="checkbox"/>				
10. Appreciate the importance of effective collaboration between general practitioners and other health professionals who deliver primary health care such as district nurses etc.	<input type="checkbox"/>				
11. Understand the interface between general practice and hospital practice including referral procedures and problems.	<input type="checkbox"/>				
12. Understand the difficulties of providing continuing care for patients with chronic illhealth in the community.	<input type="checkbox"/>				

What other comments do you have about the objectives?

---



---



---

In the light of your experience could you reassess the feasibility of the content and tasks set for the attachments and tick whether you think they are useful.

	Feasible	Useful
Observed at least one hour of surgery consultations per day with the tutor or another partner.	<input type="checkbox"/>	<input type="checkbox"/>
Conducted at least 10 consultations in the surgery personally and reported back to tutor.	<input type="checkbox"/>	<input type="checkbox"/>
Attended at least 3 home visits.	<input type="checkbox"/>	<input type="checkbox"/>
Attended at least 3 emergency consultations either at home or in the surgery.	<input type="checkbox"/>	<input type="checkbox"/>
Obtained experience of out of hours visits.	<input type="checkbox"/>	<input type="checkbox"/>
Spent at least one session with other members of the practice staff to gain some insight into their purpose and function as members of the primary health care team.	<input type="checkbox"/>	<input type="checkbox"/>
Spent at least one session with members of practice attached staff e.g. district nurse, to gain some insight into their purpose and function.	<input type="checkbox"/>	<input type="checkbox"/>
Spent at least two sessions at other clinics held in the practice e.g. health promotion, antenatal etc.	<input type="checkbox"/>	<input type="checkbox"/>
Written up five short cases seen in surgery.	<input type="checkbox"/>	<input type="checkbox"/>
Followed and written up one chronic case in each of the following		
Child	<input type="checkbox"/>	<input type="checkbox"/>
Adult	<input type="checkbox"/>	<input type="checkbox"/>
Elderly	<input type="checkbox"/>	<input type="checkbox"/>
Followed a patient from home or surgery to hospital and written it up.	<input type="checkbox"/>	<input type="checkbox"/>
Kept a log diary of experience obtained.	<input type="checkbox"/>	<input type="checkbox"/>
Taken part in a simple research or audit project.	<input type="checkbox"/>	<input type="checkbox"/>
Observed or performed various practical procedures.	<input type="checkbox"/>	<input type="checkbox"/>

What other comments do you have about the set content and tasks?

---



---

Thank you very much for answering this questionnaire.

APPENDIX 11

STUDENT QUESTIONNAIRE

SEX

(PLEASE CIRCLE)

M

F

AGE

COUNTRY OF BIRTH

\_\_\_\_\_

DO YOU HAVE ANY RELATIVES WHO ARE MEMBERS OF THE MEDICAL PROFESSION?

(PLEASE CIRCLE)

YES

NO

STATE THEIR RELATIONSHIP TO YOU

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CIRCLE IF YOU HAVE -

A PREVIOUS DEGREE

AN INTERCALATED DEGREE

NO OTHER DEGREE

PLEASE LIST ANY PRIZES OR DISTINCTIONS RECEIVED DURING YOUR MEDICAL COURSE

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PLEASE LIST ANY RESITS YOU HAVE HAD SO FAR

\_\_\_\_\_

\_\_\_\_\_

PLEASE GIVE THE THREE COURSES YOU HAVE ENJOYED MOST AS A MEDICAL STUDENT SO FAR

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

PLEASE GIVE THE THREE COURSES YOU HAVE ENJOYED LEAST AS A MEDICAL STUDENT SO FAR

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

PLEASE GIVE YOUR FIRST THREE POSSIBLE CAREER CHOICES

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

WOULD YOU CONSIDER GENERAL PRACTICE AS A CAREER?

(PLEASE CIRCLE THE APPROPRIATE CHOICE)

1.       VERY LIKELY
2.       LIKELY
3.       POSSIBLY
4.       UNLIKELY
5.       VERY UNLIKELY

	Agree Strongly	Agree	Don't Know	Disagree	Disagree Strongly
1. General Practice is a suitable setting for learning:					
Examination technique	<input type="checkbox"/>				
General Medicine	<input type="checkbox"/>				
General surgery	<input type="checkbox"/>				
Psychiatry	<input type="checkbox"/>				
Communication skills	<input type="checkbox"/>				
2. An attachment in general practice is as important as an extensive period in general medicine.	<input type="checkbox"/>				
3. General practitioners enjoy a high status among their peers in other medical specialities.	<input type="checkbox"/>				
4. Doctors usually enter general practice as a career because they have been unable to succeed in other specialities.	<input type="checkbox"/>				
5. Doctors choose general practice as a career because they want to treat the whole person.	<input type="checkbox"/>				
6. Doctors choose general practice as a career because they want to practice family medicine.	<input type="checkbox"/>				
7. Doctors choose general practice as a career because they want to have an easy life.	<input type="checkbox"/>				
8. Doctors choose general practice as a career because they want to earn a great deal of money.	<input type="checkbox"/>				

1. Irritable bowel syndrome:

- a. Rectal bleeding is a recognised feature.
- b. The incidence of colonic carcinoma has been shown to be increased.
- c. The abdominal pain is typically related to the ingestion of food.
- d. The pain is typically in the right iliac fossa.
- e. The typical presenting age is above 50 years.

2. Post-coital contraception using the combined oral contraceptive:

- a. Is available free of prescription charges.
- b. Must be given within 24 hours of intercourse.
- c. Has been shown to cause nausea and vomiting.
- d. Is suitable as a long-term method of contraception if given on a regular basis at the time of ovulation.
- e. Has a suitable alternative in the form of an intra-uterine device inserted 5 days after unprotected intercourse.

3. The following have been shown to indicate developmental delay:

- a. Lack of eye fixation at 6 weeks.
- b. Not walking at 15 months.
- c. No definite words by 2 years.
- d. Not sitting alone at 7 months.
- e. Not speaking two-word sentences by 3 years.

4. Chronic otitis externa:

- a. Is typically associated with hearing loss.
- b. Is typically unilateral.
- c. Is associated with seborrhoeic dermatitis.
- d. Is associated with psoriasis.
- e. Is best treated with systematic antibiotics.

5. When considering the ocular problems of diabetics:

- a. The finding of persistent albuminuria is typically associated with retinopathy.
- b. Retinopathy has been shown to progress more rapidly during pregnancy.
- c. The incidence of blindness has decreased since the advent of laser photocoagulation.
- d. Macular oedema is a recognised finding.
- e. Laser photocoagulation requires a general anaesthetic.

6. Ethical principles dictate that a doctor:

- a. Should divulge the H.I.V. positivity of a patient to the patient's spouse.
- b. Should divulge details of suspected child abuse to a social worker without the parent's consent.
- c. Report a colleague for unprofessional conduct.
- d. Obtain the patient's consent before notifying an infectious disease.
- e. Has the absolute right to determine to whom a patient should be referred for a second opinion.

7. The practice nurse:

- a. Legally the practice nurse must be a registered general nurse.
- b. Remuneration of 70% of her salary by the Health Board is independent of the number of other staff employed by the practice.
- c. Cervical smears done by a practice nurse do not qualify for an item of service fee.
- d. Immunisations done by the practice nurse do qualify for an item of service fee.
- e. Professional indemnity for the nurse is not required if she is employed by a general practitioner.

8. When claiming payment at the higher level a general practitioner must have given:

- a. 90% of children aged two complete course of diphtheria, tetanus and poliomyelitis immunisation.
- b. 70% of children aged two pertussis immunisation.
- c. 80% of children aged two MMR immunisation.
- d. 80% of women age 20-60 a cervical smear during the previous 5.5 years.
- e. 60% of women aged 20-60 a cervical smear in the previous 5.5 years.

9. A normal grief reaction would be indicated by:

- a. Inability to express any emotion in the week following death of a spouse.
- b. Suicidal thoughts 4 weeks after bereavement.
- c. Prolonged absence from work three months after bereavement.
- d. A feeling that the dead person is still present one month after their death.
- e. Insomnia six months after the funeral.

10. Myalgic encephalomyelitis:

a. Lack of demonstrable exercise-induced muscle fatigue excludes the diagnosis.

b. Loss of short-term memory is typical.

c. Night sweats are a typical finding.

d. The majority of patients show Coxsackie IgM antibodies.

e. The ESR is characteristically elevated above normal values.

## APPENDIX 12

PLEASE GIVE THE THREE COURSES YOU HAVE ENJOYED MOST AS A MEDICAL STUDENT SO FAR

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

PLEASE GIVE THE THREE COURSES YOU HAVE ENJOYED LEAST AS A MEDICAL STUDENT SO FAR

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

PLEASE GIVE YOUR FIRST THREE POSSIBLE CAREER CHOICES

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

WOULD YOU CONSIDER GENERAL PRACTICE AS A CAREER?

(PLEASE CIRCLE THE APPROPRIATE CHOICE)

1.       VERY LIKELY
2.       LIKELY
3.       POSSIBLY
4.       UNLIKELY
5.       VERY UNLIKELY

	Agree Strongly	Agree	Don't Know	Disagree	Disagree Strongly
1. General Practice is a suitable setting for learning:					
Examination technique	<input type="checkbox"/>				
General medicine	<input type="checkbox"/>				
General surgery	<input type="checkbox"/>				
Psychiatry	<input type="checkbox"/>				
Communication skills	<input type="checkbox"/>				
2. An attachment in general practice is as important as an extensive period in general medicine.	<input type="checkbox"/>				
3. General practitioners enjoy a high status among their peers in other medical specialities.	<input type="checkbox"/>				
4. Doctors usually enter general practice as a career because they have been unable to succeed in other specialities.	<input type="checkbox"/>				
5. Doctors choose general practice as a career because they want to treat the whole person.	<input type="checkbox"/>				
6. Doctors choose general practice as a career because they want to practice family medicine.	<input type="checkbox"/>				
7. Doctors choose general practice as a career because they want to have an easy life.	<input type="checkbox"/>				
8. Doctors choose general practice as a career because they want to earn a great deal of money.	<input type="checkbox"/>				

1. Benzodiazepines:

- a. Longacting compounds have been shown to cause more dependency problems than shorter acting compounds.
- b. Lorazepam has been shown to be an effective anti-emetic in patients receiving chemotherapy.
- c. Epileptic seizures have been shown to occur on withdrawal.
- d. On withdrawal, rebound anxiety takes two weeks to develop.
- e. The majority of long-term users will have symptoms of withdrawal.

2. Cryotherapy with liquid nitrogen:

- a. It has been shown to be suitable treatment for seborrhoeic keratosis.
- b. It is contraindicated for treatment of molluscum contagiosum.
- c. Hypopigmentation is a recognised complication.
- d. Blistering has been shown to be reduced by the use of strong steroid creams.
- e. Painful blisters imply secondary infection.

3. At six weeks of age:

- a. Hip dysplasia is more easy to detect than at birth.
- b. If present, squint is detectable.
- c. Typically the infant should fixate on the face of the examiner.
- d. Hearing defects are typically detectable.
- e. Infants who sleep prone have been shown to be more advanced at lifting their heads.

4. Secretory otitis media in children:

- a. Resolution occurs without treatment in the majority of cases.
- b. Typically there is a history of preceding acute inflammatory otitis media.
- c. Radial blood vessels of the eardrum exclude the diagnosis.
- d. Pain in the ear excludes the diagnosis.
- e. The eardrum is typically concave.

5. The following groups of patients are exempt from prescription charges:

- a. Hypertensives.
- b. Thyrotoxicos.
- c. Asthmatics.
- d. Rheumatoid arthritics.
- e. Men aged 60 years who have retired on grounds of illhealth.

6. Following the Gillick case the General Medical Council has ruled that a doctor:

- a. Needs the consent of the parents if the pregnancy of a girl under 16 years of age is to be terminated.
- b. Has the discretion to inform the parents that a girl under 16 years of age has consulted him requesting a termination even if he decides not to carry out the therapeutic abortion.
- c. Needs the consent of the parents to prescribe oral contraceptive for a girl under 16 years of age.
- d. Has the right to inform the parents that a girl under 16 years of age has consulted him requesting oral contraceptive.

e. Has the right to assess the child's maturity and ability to understand the treatment before prescribing the oral contraceptive.

7. When carried out within general practice the following activities can be considered examples of secondary prevention.

a. Supervision of diabetics.

b. Hypertensive case finding.

c. Education of cigarette smokers.

d. Obesity clinics.

e. Cervical smear clinics.

8. Agoraphobia

a. Women are more commonly affected than men.

b. The mean age of onset is 30 - 40 years.

c. There is a typical history of neurotic disorder in childhood.

d. The majority of sufferers experience depersonalisation.

e. Attacks have been shown to be less likely in places where there are a lot of people.

9. The following are true:

a. A general practitioner with 2000 patients can expect to see four new cases of bronchogenic carcinoma each year.

b. Male and female patients are seen in roughly equal proportions in general practice.

c. A general practitioner with 2000 patients will see approximately one new patient with a brain tumour every year.

d. 80% of patients with asthma develop the condition in the pre-school years.

e. The incidence of urinary tract infection in pre-school children is in the region of 2%.

10. The following are true:

a. A social worker is attached to every general practice.

b. Community midwives are obliged to visit new members until the 10th day after the baby is born.

c. Health visitors have a duty to look after children under 5 years old.

d. Doctor's receptionists are not obliged to keep patient information confidential.

e. All general practices must employ a practice manager.

## APPENDIX 13

PATIENT QUESTIONNAIRE

We are going to have a senior medical student working in this practice for a period of four weeks during the next year. The student will sit in with the doctor during part of their time in the practice. We are interested in how you would feel about seeing your doctor while a medical student is present in the consulting room. We would be grateful if you could fill out this questionnaire giving your views. Your replies will be completely confidential as you cannot be identified from this questionnaire.

AGE \_\_\_\_\_

SEX

M/F

PLEASE TICK ONE BOX IN EACH OF THE FOLLOWING QUESTIONS

Have you ever seen your doctor in the past while a medical student was present in the room?

YES

NO

Do you think that medical students should receive some training in general practice?

YES

NO

Would you be prepared to see your doctor while a medical student was present?

For any problem

For some problems

Not at all

Would you be prepared to see a medical student alone before you saw your doctor?

For any problem

For some problems

Not at all

Thank you for completing this questionnaire. Please return it to the receptionist.

## APPENDIX 14

PATIENT QUESTIONNAIRE

Your general practitioner has a senior medical student present with him today for teaching. We are interested in whether or not you would be prepared to allow the student to remain in the consulting room when you see your doctor and we would be very grateful if you could fill out this questionnaire before you go in to see your doctor. When you have completed the questionnaire please return it to the receptionist. Your reply will be completely confidential as you cannot be identified from this questionnaire. Please indicate to the receptionist if you prefer not to see the doctor with a student in the room.

AGE \_\_\_\_\_

SEX M / F

Are you prepared to see your doctor today while a senior medical student is present in the consulting room?

YES

NO

If you answered no to the above question please give your reasons below.

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Thank you very much for completing this questionnaire.

## APPENDIX 15

PATIENT QUESTIONNAIRE

You have just seen a medical student with your doctor. We are interested in how you felt about this. We would be very grateful if you could fill out this questionnaire giving your views. Your replies will be completely confidential as you cannot be identified from this questionnaire.

AGE \_\_\_\_\_

SEX M / F

PLEASE TICK ONE BOX IN EACH OF THE FOLLOWING QUESTIONS

Do you think that medical students should receive some training in general practice?

YES      NO  
     

How did you feel about seeing your doctor while a medical student was present?

Happy about it with no reservations   
 Happy on the whole but with some reservations   
 Uncomfortable   
 Not at all happy

Do you feel that you discussed your problems

More                      The same                      Less  
                                           

than you would have done if the student had not been present?

Would you be happy to see your doctor again while a student is present?

For any problem                      For some problems                      Not at all  
                                           

Would you be happy to a student alone before you saw your G.P.

For any problem                      For some problems                      Not at all  
                                           

Thank you very much for completing this questionnaire. Please return it to the receptionist.

## APPENDIX 16

AUDIT OF DIABETIC CARE

Patient Number	Sex	Age	Type of Diabetes	Smoking	Compln	Weight Kg	Visual Acuity	Fundus Examn	BP	Foot Examn
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

**KEY****COMPLETE FOR THE MOST RECENT RESULT IN THE LAST YEAR.**

SEX: MALE = 1, FEMALE = 2

AGE: IN YEARS

TYPE OF DIABETES:      DIET ONLY = 1  
                                   ORAL HYPOGLYCAEMIC DRUGS = 2  
                                   INSULIN DEPENDENT = 3

SMOKING:                YES = 1  
                                   NO = 2

COMPLICATIONS:      CARDIOVASCULAR = 1  
                                   OCULAR = 2  
                                   NEPHROPATHY = 3  
                                   NEUROPATHY = 4

WEIGHT: IN KG.

VISUAL ACUITY:        CHECKED = 1  
                                   NOT CHECKED = 2

OPTIC FUNDUS:        NORMAL = 1  
                                   BACKGROUND RETINOPATHY = 2  
                                   PROLIFERATIVE RETINOPATHY = 3  
                                   NOT DONE = 4

BP: SYSTOLIC BLOOD PRESSURE / DIASTOLIC BLOOD PRESSURE

FEET:                    EXAMINED = 1  
                                   NOT EXAMINED = 2

## APPENDIX 17

EVALUATION OF DIABETIC AUDIT PROJECT

Please rate the diabetic audit project part of the course as follows :

## DIABETIC AUDIT PROJECT:

PRACTICAL EXERCISE OF COLLECTING INFORMATION	Very Interesting	Interesting	Neutral	Boring	Very Boring
	<input type="checkbox"/>				
FEEDBACK	Very Interesting	Interesting	Neutral	Boring	Very Boring
	<input type="checkbox"/>				
PRACTICAL EXERCISE OF COLLECTING INFORMATION	Very Relevant	Relevant	Neutral	Poorly Relevant	Irr- Relevant
	<input type="checkbox"/>				
FEEDBACK	Very Relevant	Relevant	Neutral	Poorly Relevant	Irr- Relevant
	<input type="checkbox"/>				

Please state whether or not you agree with the following statements:

	Agree Strongly	Agree	Neutral	Disagree	Disagre Strongly
I already knew a lot about audit before this course.	<input type="checkbox"/>				
I know more about audit after doing this course.	<input type="checkbox"/>				
Clinical audit is not a suitable subject for inclusion in the course.	<input type="checkbox"/>				
This audit project was a waste of time.	<input type="checkbox"/>				

## APPENDIX 18

MARKING SCHEDULE

Long cases	50%
Tutor's Report	50%

**LONG CASES**

16 marks for each of three long cases = 48 marks  
+ 2 discretionary marks

Patient details	1/2
Summary of relevant facts in history	1 + 1/2
Summary of examination	2

Social history	2
Effect of illness on patient	2
Problem list	2

List of treatments	1
Discuss prospective care	2
Give detailed prognosis etc.	3

**TUTOR'S REPORT**

5 marks for attendance

5 =	perfect
4 =	1 day off
3 =	2 days off
2 =	3 days off
1 =	4 days off
0 =	> 4 days off

	V. GOOD	GOOD	AVERAGE	POOR	V. POOR
Section 2	8	6	4	2	0
Section 3					
Section 4					
Section 5					
Section 6					

+ 5 discretionary marks	=	Overall mark
	=	Comments
	=	Known strict Tutor

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