Apprenticeship or university course? : a study of change in one medical school

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Apprenticeship or University Course?
A Study of Change in one Medical School

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Abstract

Medical education in Britain derives from two traditions: the university, and the system of trade apprenticeships. For most of the 20th century, Western countries have used 'Flexnerian' style curricula where these practical and theoretical elements are separated, the early years focusing on scientific study in a university, the latter on clinical practice in health care settings. Studies of medical students have revealed the importance of the 'hidden curriculum', and some authors have suggested that medical education acts primarily as a form of professional socialisation.

My research is a longitudinal case study of a single medical school from 1995-2000. During this time the school introduced a new curriculum and merged with another medical school. The study aims to explore the changing nature of the education provided, and the culture of the school as perceived by students and clinical teachers. The research was carried out using ethnographic methods and a grounded theory approach to explore the everyday concerns and experiences of students and teachers, and the work of curriculum committees.

A complex pattern of changing trends in the nature of teaching emerged, encompassing areas such as the location and clinical contextualisation of the teaching, the level and nature of planning and co-ordination, and the role of the teacher. These represented a readjustment in the balance and interaction between the apprenticeship and academic aspects of the course. The study also reports on the culture of teaching and learning, including perceptions of inclusion or exclusion, issues relating to recognition of and support for teaching, and the teaching atmosphere. Students and teachers appeared to hold different conceptualisations of education, and this contributed to tensions between the two groups. The study provides insights into the workings of a medical school during a period of change, explores the reasons for the changes, and raises questions about the purpose and future structure of medical education.
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Introduction

Medical education is perceived by the public as a long and arduous process. It is also revered, partly due to television documentaries such as that following students of St Mary's Hospital Medical School, and the ever popular medical dramas. These contribute to the image of clever and caring students, working long hours, dealing with sick and dying patients, and having to cope with arrogant and aggressive consultants amidst their own personal crises.

There is a mystique surrounding medical education, as there is around medicine itself, but I believe that much of this is unnecessary. Doctors are important to society, the system that produces them is expensive, and it is in the public interest to know how it works. The issues can and should be understood by informed lay people.

In this study I use ethnographic methods to explore the every day working and concerns of the doctors and medical students in an inner city medical school. The study was undertaken over a five year period, during which an immense amount of change was underway. During this time the school introduced a new curriculum, merged with another medical school and introduced a second new curriculum. This took place against a backdrop of political, technological and social changes which were affecting the organisation and functioning of the health service and consequently of the medical school. Through the research, I explored and analysed the changes within the school from my perspective as a lay person, and drawing on my previous experience as a school teacher.

During the early part of the 20th century, medical students 'walked the wards' with the eminent doctors of the day and learnt 'on the job'. They were apprentices, who gradually took on the culture of their chosen profession and eventually succeeded to the place of their masters. The concept of an apprenticeship is highly valued by doctors today and they often allude to its importance. However, I found that this system had gradually become more difficult to sustain, and other models of education were competing for a place. This tension, and the ways in which it was being played out in different aspects of the education, became a central theme of my study.

Downey said that 'A school teaches in three ways: by what it teaches, by how it teaches, and by the kind of place it is.' My study encompasses all these areas in progressive levels of detail. I look broadly at what was being taught, in more depth at how it was taught, and in greatest depth at the climate in which the teaching and learning was taking place. Through this, I hope to illuminate some of the trends and changes which have been taking place not only in this medical school, but perhaps more widely across medical education.

Young doctors are the product of a system: changing the system will change the nature of that product. I hope that this study will contribute to a better understanding of the changes which
are taking place in medical education, and of their implications for doctors, medical students, patients and the public.

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The thesis is organised in four main sections. In the first, I provide the historical and cultural context for my study through an examination of the development of medical education, analysis of the relevant literature, and discussion of the national context for my study.

In the second section I introduce King's College Medical School in London, where I undertook the research, and describe the methodology I employed. This was not a classic ethnography, but a form of insider research, in which I used a range of methods to explore the culture, trends and perceptions of those within the school.

My findings are presented in the third section. I first cover aspects of the content, methods and structure of teaching, and then explore the teaching and learning climate. Within each area, I include in depth consideration of particular issues, as well as a general overview of my findings.

In the final section, I draw together the various strands which I have explored and examine their relationship to each other. I discuss the implications of the changes I describe for other medical schools, and analyse how my findings relate to previous work in the area. Finally, I evaluate the contribution of the study to the literature on medical education.

References

SECTION A: Background

Introduction

An interest in the professional and organisational culture of medicine and medical education was the starting point for my research. Cole and Engeström describe culture as 'history in the present'. They suggest that a cultural environment contains 'the accumulated knowledge of prior generations' in 'historically conditioned systems of relations among individuals and their proximal, culturally organized environments.' The sense of history at King's College School of Medicine (KCSM) was tangible in various ways: in the building itself, the family connections of some practitioners, the portraits on the walls, and in the tradition inherent in many practices. In seeking to understand various aspects of the culture which I encountered, I invariably found clues in exploring their historical roots.

In this Section I set out the background to the study by exploring and analysing the historical, technological, political and social developments which have affected medical education. This will necessarily be a brief and selective account, constructed to highlight key themes and issues relevant to my study.

I start in Chapter 1 by outlining the early history and development of medical education in the West (i.e. Western Europe, and, as it developed, North America). From its early roots in Ancient Greece, I describe how the current medical profession evolved, and how its training, and relationship with government, has developed. I examine the challenges medical education has faced, and the various ways in which medical schools have responded through new forms of curricula and other developments. I then undertake a focused review of the sociological literature on medical education. I analyse a number of major studies that provide accounts of medical schools at different periods, and identify the key themes and issues which emerge. I also review the wider literature, identify gaps and limitations in its coverage, and relate these to the aims of my study.

I proceed, in Chapter 2, to describe and analyse the specific context in which my research took place. The decade prior to the start of the study was one in which developments in the political and economic climate in Britain led to profound changes in the delivery of NHS care. I analyse the trends in health care practice and higher education policy, and their implications for medical education. I also describe the structure of and influences on medical education in Britain prior to the start of my study in 1995.

This Section forms the backdrop to my investigation, and is designed to provide an overview of the context in which my study took place.
References

Chapter 1
The History, Structure & Culture of Medical Education

The development of medical education

In this section I provide a brief account of the history and development of medical education, based on accounts by Bonner,1 Downie & Charlton,2 Youngson,3 Poynter,4 Mitchell,5 Hardy6 and Rhodes.7 I aim to illuminate how the medical course came to be in its current form, and to indicate the range of curricula currently in operation.

Although I will say little about the ancient history of medicine or medical education, it is worth noting that the roots of current practice and traditions lie in ancient Greece. Socrates (c. 470-399 BC) and others developed a method of rational enquiry requiring observation, careful recording and classification. Then known as natural philosophy, this was the basis for what we now call science. Socrates' contemporaries, Plato and Hippocrates, founded an academy and a medical school respectively.

The Academy, influenced by the Sophists, focused on intellectual proficiency and the cultivation of the mind. Dialectic argument or conversation was used to develop powers of logic and reason, and to search for truth. (Recent studies of teachers in higher education have shown that their aims are not so divorced from these early aspirations,8 although their success in achieving them appears patchy).9

Hippocrates is best known for his oath, which associated the practice of medicine with certain moral values, many of which are still relevant today. Values encompassed in the oath included respect for rational enquiry, a duty to help the sick, to refrain from doing harm and to maintain confidentiality. Also included was the need for teaching and learning for those apprenticed to medicine, but not for others - an early sign that medicine was to be practised only by a special group of people. The oath precluded practitioners from carrying out surgery, this being seen as a craft practised by a different group of people, and not suitable for gentlemen. This signalled two other traditions still influential today: the separation of mind and body, and the distinction between physicians and surgeons. Such dualistic divisions became embedded in Western thought, with one aspect of each dichotomous pair often more highly valued than the other. Another example was that of reason and emotion, a distinction to which I will return much later.

From these early roots, the practice of medicine and the education of its practitioners developed across Europe. Through the centuries there was a great diversity of beliefs about illness and differing approaches to treatment, including, for example, herbalism, hydropathy and homeopathy. Healing services were offered by a range of people, including many women, who competed for customers.
Until the mid-19th century there was no single defined path for training and licensing doctors, and it was not clear how this would develop. In fact, the current medical profession evolved from medieval times when there was a tripartite division of doctors into physicians, barber surgeons and apothecaries. These groups had differing roles, came from different backgrounds, and undertook varying sorts of preparation for their work.

Surgeons and apothecaries came from the tradesmen class and had a primarily practical training. Neither group went to university, both moving from school to learn their trade through apprenticeships. Surgeons operated on 'outward diseases' and apothecaries dispensed drugs. Apothecaries later started to diagnose and prescribe, becoming a kind of early general practitioner. In the 16th century, both groups could be granted a license to practice through the church, which was responsible for regulating who could treat the sick. The status of the apprenticeship professions gradually improved. Surgeons separated from their union with barbers, and formed the Company of Surgeons in 1745, later becoming a Royal College. In 1815, the Apothecaries Act set minimum requirements for study, and allowed the London Society of Apothecaries the right to examine and license general practitioners.

Physicians practised 'internal medicine'. This involved taking detailed histories from patients, and using these and their observations to make diagnoses and prescribe drugs. Physicians came from the gentleman class and often received a liberal education, studying subjects such as classics and philosophy before moving on to medicine. Oxford and Cambridge universities, for example, required students to hold a Bachelor of Arts degree before studying medicine. Until the late 18th century, medicine remained primarily an intellectual subject, based on the study of ancient texts, conducted in Latin, and confined to a small elite who met the social and class tests for university entry. Edinburgh and Glasgow were the foremost universities for medical study in Britain, open to a more diverse clientele, and producing many more physicians than elsewhere. London gradually grew in importance and by the 1830s had become pre-eminent.

Prior to the 17th century, there was little clinical training for physicians across Europe, reading being the expected form of preparation. The drive for practical training coincided with the huge increases in anatomical knowledge in the 18th century, and by 1800 the need for such training was all but universally recognised. In 1842, clinical examination of a patient was introduced into the assessment system for the MB award in Cambridge and rapidly spread to other medical schools (although this was still a minor part of the examination). Charity funded hospitals were built at Oxford and Cambridge as well as many more in London, providing the means for students to gain practical experience through apprenticeships, which were mostly private arrangements with teachers.

The role of hospitals started to change. In medieval and renaissance times, they had been places of refuge providing care for the poor, orphans, widows and others in need. In the 18th century they were increasingly medicalised and started to become centres for teaching and
research. Wealthy patrons endowed hospitals, thereby gaining social and religious rewards, whilst patients were expected to be obedient and docile.

The London hospitals became the centre of the apprenticeship system, with pupils learning from, and eventually taking over, the practice of medical and surgical staff. Some practitioners took on several pupils and started to teach them in groups. Hospitals started to supplement this clinical teaching with lectures, becoming early medical schools. However London did not have a university, so students had to apply to universities elsewhere to gain their qualifications. Universities gradually became less important as a site for medical training as teaching became more business oriented and competitive.

The division between surgeons, physicians and apothecaries started to break down. There were many surgeon-apothecaries, and both medicine (i.e. the 'internal medicine' practised by physicians) and surgery were considered necessary subjects for study by most practitioners. By the 1840s a new division was beginning to emerge between hospital doctors, who tended to be academically trained physicians and surgeons based in large centres, and the rural general practitioners. In the 19th century, large numbers of hospitals were founded by medical men seeking to establish themselves in the profession and to gain social status. The 'medical (or biomedical) model' of illness which favoured biological explanations of disease, was gaining favour over other models. Disease was increasingly seen as governed by complex universal rules which could be discovered, classified, understood and treated by scientific methods.

This growth in scientific knowledge and research, and the increased number and changing role of hospitals during the middle and latter half of the 19th century, were important in the development of the medical profession. Prior to that, there had been acceptance of a diverse group of healers with varying conceptualisations and treatment of illness. During the 19th century, the developing hospital and clinic based 'medical model' started to gain precedence, and government legislation regulated entry to the medical profession. The latter move implied recognition of the importance of the medical role in society, the special knowledge and skills required, and the need for practitioners to be selected and trained. It also put responsibility for regulation in the hands of doctors themselves. Thus, during the 19th and 20th centuries, medicine was gradually accepted as a profession alongside the long standing professions of law and the clergy.

By the 19th century, medical education was provided by a range of institutions including universities, private colleges offering part time courses, and medical corporations. Licenses could be obtained after examination by one of nineteen universities or medical corporations. However these bodies had widely differing assessment criteria. Admission criteria also varied greatly from those favouring a well rounded education to those looking for a scientific background. Concern about the lack of conformity in standards led, in 1858, to a Medical Act being passed in parliament. This established the General Medical Council which had the right to visit medical schools, inspect their examinations and refuse to recognise a license if it considered standards too low. However the Act failed to deliver the required reforms and a
further Amendment Act was passed in 1886. By the end of the 19th century, medical education had become more co-ordinated, with full time curricula, usually of about four years, offered by universities or teaching hospitals. The private colleges gradually died out.

The requirement for a liberal education, or evidence of the study of arts, languages, etc. prior to acceptance to study medicine gradually diminished. An increasing emphasis on laboratory science took its place, originating in Germany in the 1850s. By the 1870s, advances in knowledge about the physical and chemical make up and functioning of the body had led to a range of new tests, instruments and techniques for studying patients. The beginnings of bacteriology had also demonstrated the potential for improving health. Physicians relished the new authority that science had brought to their work. However many doubted the relevance of experimental science to medical practice, and were reluctant to surrender their dominance in the curriculum. Despite this, the inclusion of laboratory training in medical education became increasingly accepted, and universities re-emerged as the site of medical training.

This trend was catalysed in the United States and Canada by an influential and highly critical review of medical schools by Flexner in 1910, which highlighted the importance of studying the basic sciences. The report accelerated the development of a staged professional education with a clear separation between the basic and clinical sciences (correlating with the university based and apprenticeship parts of the course). A royal commission in Britain endorsed this approach which became the pattern for medical education across North America and Europe.

In Britain, the medical course lengthened to five years in 1892 and to six years in 1920 in an attempt to deal with the increasing amount of scientific knowledge. A three-stage training became the norm. This comprised:

1) a one year pre-medical science course covering physics, chemistry and biology (the 1st MB).

2) a two year pre-clinical science course comprising the 'basic medical sciences' of biochemistry, anatomy, pharmacology and physiology (the 2nd MB) - taught by lectures and laboratory work, including dissection of the human body.

3) a three year clinical course leading to graduation (in London, to the award of the MB BS - Bachelor of Medicine and Surgery). This consisted of a series of attachments to medicine and surgery and their sub-specialties, in which students acted primarily as apprentices.

The aim of this education was to produce a uniformly trained general practitioner, competent in both medicine and surgery and able to practice independently from the day of qualification.

Thus, during the 19th century, the relationship between medical practitioners, the government and the public, was formalised, and the education of doctors standardised. A course with three
distinct phases was established: the first two focusing on science and based in schools/universities, the third focusing on medical practice and based in hospitals (at this time, still private institutions). This pattern of education however was challenged during the later part of the 20th century, and new forms of curricula were developed.

Curriculum developments
The Flexner style discipline based course had been established to solve the perceived problems of medical education in the United States at the beginning of the 20th century. However, this style of course was not without its own problems, and these gradually came to light over the succeeding decades. Students were often demotivated by the lack of patient contact in the pre-clinical course, and had trouble applying the science they had learnt when they were eventually confronted with real clinical problems. This was perhaps unsurprising since the pre-clinical course was defined and taught by scientists who were themselves often unaware of its clinical application. In addition, the continuing expansion of knowledge was leading to severe factual overload, which tended to promote rote learning rather than understanding in students. There were also concerns that the human side of medicine was being lost in the proliferation of science. Many young doctors were choosing to specialise, rather than going into general practice, which has always formed the bedrock of health care.

A number of new approaches were developed to address some of these issues. One was to replace the single discipline science courses with systems based curricula, in which teaching was organised around body systems, such as the renal or cardiovascular system. These courses were planned by interdisciplinary committees and it was intended that they would prevent students from compartmentalising their knowledge. The clinical attachments could be similar to those in discipline based courses (i.e. based around a single medical specialty), or could be organised around body systems, drawing on more than one specialty. Some schools extended the principle of integration across the course and attempted to integrate science and clinical work, thus removing the pre-clinical/clinical divide. Another feature of these curricula was the use of district general hospitals and local general practices as sites of learning, as well as the main teaching hospital. The newer British medical schools, such as Southampton, Nottingham and Leicester were established along these lines.

The systems based curricula addressed some of the problems of relevance and motivation, but had more limited success in reducing the factual overload. A more radical solution was developed, and introduced in the 1960s at McMaster University in Canada. This was a method of small group, guided self directed learning, based around the analysis of (usually written) clinical problems. These problem based curricula were intended to assist retention and application of knowledge by promoting learning in the context of real life cases which would fall outside the confines of individual disciplines. The process was designed to help students improve their clinical reasoning and problem solving abilities, and develop the skills required for 'lifelong learning'. In line with new ideas about effective learning, the emphasis was on a student-centred approach, rather than the teacher and subject centred approaches of the other two curriculum types. Clinical skills training and early patient contact were also included.
Since these early trials, problem based learning has been adopted in whole or part by over sixty schools worldwide, including, most recently Manchester, Liverpool and Glasgow in Britain.

In traditional courses, the medical model of illness had been prominent. In the newer style courses, the biopsychosocial model tended to be favoured. The social movements of the 1960s and '70s had reasserted the importance of humanism in medicine. There was a recognition that physical sciences alone were insufficient to understand health and disease and an increasing emphasis was placed on understanding psychological and social influences. There was a swing back towards the idea of a more liberal education. Medical schools introduced social sciences into the curriculum, and established departments of general practice to ensure that primary care was taught.

Many of the problem based schools rejected the strong scientific training of the discipline based courses in favour of a community orientation. This arose partly from a shortage of general practitioners in some Western countries, and partly from the needs of developing countries for a greater emphasis on public health and disease prevention. In community based or community oriented schools, the identification of, and provision for, local health needs in the area in which they are based, is the priority for teaching. There is less emphasis on 'high tech' solutions, and more on primary health care and working in partnership with local people and agencies.

In the 1980s and '90s, a number of skills areas were identified as insufficiently covered in curricula. Trends in the delivery of health care appeared to have limited the opportunity for students to gain clinical skills through their every day experiences on the wards. Communication skills had not been explicitly taught (although clearly part of the 'hidden curriculum') because it had been assumed that doctors already possessed them. The development of new technologies had highlighted the importance of ethical issues, and information technology was becoming widely used in health care. Many schools began teaching clinical and communication skills in the classroom. 'Skills laboratories' were established where students could learn and practice on mannequins, actors or simulated patients, before using their skills on real patients. This provided more formal, structured teaching in a safe environment. Formal teaching on ethics and information technology were also introduced into medical curricula.

These developments were influenced by an increased interest and involvement of medical schools in educational research. This was established in the United States in the 1960s, and led to greater knowledge and discussion about the educational process. Initially there was resistance to the idea in Britain despite students' representations about the need for such study. Since then there has been a gradual growth of interest in the subject, but it is only recently with the requirement for curriculum change and greater accountability (which I discuss in the next chapter) that the need for educational expertise has become more generally recognised.
An important finding from educational research was the fundamental impact which the assessment system has on learning. Traditional medical assessments had included essays, multiple choice papers, 'long cases' - involving presenting a patient which the student had clerked, and vivas. These assessments tested students' rote knowledge and presentation skills, but provided no direct assessment of students' clinical skills. Also, with the exception of the better devised multiple choice papers, the assessments tended to be unreliable and subject to bias. New assessments were designed and validated, including new styles of multiple choice questions, incorporating patient management problems; and new clinical examinations known as OSCEs (Objective Structured Clinical Examinations). In these, students were for the first time directly observed performing clinical skills, and assessed by multiple examiners marking to defined criteria.22

**Growth of postgraduate medical education**

Alongside the developments in undergraduate medical education, came a growth in postgraduate education. The pre-registration year was introduced in the 1950s following the Goodenough Report of 1944.23 It required graduates to undertake two six month posts in medicine and surgery prior to registration with the GMC. After this, house officers became senior house officers for two years, and then entered a specialty as a registrar. Registrars and senior registrars undertook fairly unstructured apprenticeships under the guidance of the consultant to whose firm they were attached. They took on progressively more advanced work, whilst at the same time studying for postgraduate examinations. Until the recent Calman reforms (which will be described in more detail in the next chapter), it could take anything up to 10 years before they could complete the examinations and thus become a member of the appropriate Royal College. This represented a very long period of study, a minimum 13 years post-school education to become a consultant. It was only when doctors became consultants or general practice principals that they were expected to be able to practice independently and exercise clinical responsibility.

Following developments in postgraduate education, there has been a more recent increase in expectations that doctors should undertake continuing medical education. This has been formalised into a credit ratings system whereby doctors can demonstrate that they have attended relevant training. To date it has not been necessary for doctors to prove continued fitness to practice, although the GMC is currently developing methods of re-accreditation as part of a drive to maintain standards and public confidence.24

**Studies of medical education**

I have so far described the development and structure of medical curricula in Britain so that the curriculum at KCSM can be seen in context. I have as yet said little about the workings of the curricula, or the experiences of those involved in teaching or learning within them. In this section, I will first review and critique the major studies of medical education which have explored the social and educational processes of medical schools. I will then analyse the current state of the literature and identify gaps and omissions.
Studies of medical schools date back to the 1950s when sociology was emerging as a discipline and starting to investigate and critique social institutions. Merton et al's 1958 study of Cornell, Pennsylvania and Western Reserve Universities medical school was the first major study of its kind of medical education. The research was in the functionalist tradition, providing a description of how the school prepared students to become doctors. At that time, sociologists tended to accept professions' self-definition of their unique qualities and entitlement to special status. A set of traits including altruism, performing a useful social function, having a strong ethical code, and requiring a body of specialist knowledge were thought to justify special status in society. This led to increased power and influence, and the associated financial, social and political rewards, including privileges such as self regulation. Professional education was viewed uncritically as a way of providing students with the specialist knowledge, skills and attitudes they would need to practice medicine. Merton's study did however identify dysfunctional aspects of the process, and was influential in highlighting the latent as well as manifest functions of the school. It showed how aspects of the curriculum were conveyed implicitly rather than explicitly, so that students came to assume certain attitudes and values.

Later studies of medical schools were in the symbolic interactionist tradition, which examined the everyday practice of the players involved, and described how they constructed their worlds. Becker et al's 1956 study at Kansas Medical School, entitled 'Boys in White', is the best known of these. Through interviews and participant observation, Becker and colleagues sought to understand how student culture developed during the years at medical school, focusing on students' decisions about what and how to study. They described a succession of differing 'perspectives' through which students progressed. This showed how students' initial idealism was tempered by the realisation that they could never learn everything, and adapted in a series of collective agreements on how they should study. By the end of the course they had learnt to focus on meeting the expectations of their teachers and preparing for how they would be assessed.

This led sociologists to see medical education primarily as a form of professional socialisation, i.e. a way of ensuring that newcomers learnt to act within the norms and parameters of accepted practice, rather than simply gaining the requisite skills and knowledge. However, Becker saw student culture as separate from medical culture and thus appeared to underestimate the power of the teachers to influence student culture. This criticism has been addressed in later studies by Sinclair and others, who have sought to show how medical schools instill the norms and values of the profession in their students. This process of 'socialisation' is related to the educational concept of the 'hidden curriculum', which describes values or practices which are not explicitly taught, but are nevertheless learnt, often subconsciously.

A number of studies have revealed aspects of the hidden curriculum in medicine. Alongside the insights into student culture which Becker et al achieved, they also identified two overarching values held by the doctors. These were Responsibility (the exercise of responsibility for patients) and Clinical experience (knowledge and expertise gained by direct
Sinclair is a doctor turned anthropologist, who returned to medical school as a participant observer at University College London, and produced an account of the training. He proposes a set of 'medical dispositions', influenced by Bourdieu's concept of 'habitus' (an individual's set of culturally acquired dispositions). Sinclair accepts Becker's value of Responsibility, but separates Clinical experience into Knowledge (incorporating book knowledge which he maintains is important throughout the training), and Experience, which is acquired through clinical practice. Using and developing other aspects of Becker's work, he also proposes dispositions of Idealism, Co-operation (between students), Economy (doing what is necessary to pass exams) and Status. In discussing status, he highlights the differences between specialties, and the ways in which doctors maintain status differences within the hierarchy. Unlike Becker, Sinclair suggests that the dispositions he identifies are characteristic of medical culture in general, rather than just of student culture. Furthermore, he suggests that they are not a sequential set of attitudes, but are evident throughout medical life, assuming importance in different ways at different times and for different groups of people.

The value of Sinclair's study however is limited, as are the earlier studies, by drawing solely on a single medical school/teaching hospital, and it is an open question as to how relevant they are to medical practice more generally. Mumford provides a rare comparative study in her account of the socialisation of new doctors in two contrasting hospitals. She explored the similarities and differences in values between a university teaching hospital and a community hospital, and showed how the socialisation process acted to attune new recruits to the cultural setting within a particular hospital.

These and other studies have provided insights into the complex, often subtle process of professional socialisation, and into the ways in which students learn to adapt and survive in medical school. For example, the ritual nature of some of students' experiences (such as in the dissection room and introductory sessions) have been highlighted as ways in which values rather than knowledge are inculcated. Other studies have explored how messages are transmitted through physical and organisational structures and day to day work routines. Anspach for example has shown how psychosocial aspects are stripped from case presentations, confirming the priority given to science over emotion. Bloom has shown how medical school structures privilege research over teaching, whilst Alexanderson et al have examined gender bias in medical text books.

A particular aspect of medical socialisation is how students learn to deal with illness, death and dying, pain and suffering, and other emotionally difficult situations. Early studies identified the development of a 'detached concern' in which students were expected to be able to distance themselves from the emotional aspects of what they were doing, in order to maintain the appearance of concern without actually feeling it. More recently Hafferty has described this
process as 'emotional socialisation'. He undertook a detailed analysis of first year medical students' early encounters with death and dying, including their experiences in the dissection room, at a hospice, and of a patient's death. He describes how students were expected to work on dead bodies, but not to talk about how they felt, nor, for the most part, to have their anxieties acknowledged by staff. They learnt to distance themselves from the cadavers used in dissection, and not to exhibit signs of discomfort or stress. In doing so, Hafferty suggests, they took on the 'rules' of emotional detachment from patients. Contrary to previous studies which located the clinical years as the beginning of a students' socialisation, Hafferty suggests that the process starts early on, even before students start dissection — a process he calls 'anticipatory socialisation'.

Other skills which students develop to cope with the demands of medical school include those of 'impression management'. They learn to make a positive impression on their superiors or patients, an important part of which involves developing a confident persona. This process has been charted by Sommers et al, who, in a detailed study of clinical teaching episodes, describe strategies which students used to provide an appearance of competence which they did not necessarily possess.

There have also been studies which help to form a picture of the conditions under which students learn and doctors teach. Two related findings have been the high levels of stress experienced by students and junior doctors, and the incidence of mistreatment or 'student abuse'. Various contributing factors have been suggested, including heavy workload, poor conditions of work, discrimination and harassment, and feeling under constant evaluation from more senior staff. In terms of mistreatment, there has been a growing literature from the United States detailing students' experiences of being shouted at, humiliated and sexually harassed. These studies have been largely based on student self-reporting through questionnaire surveys, and there has been a lack of ethnographic, observational or other qualitative studies in this area.

**Analysis of themes and omissions in the literature**

What is striking from the limited accounts of medical education is how much the culture of medicine appears to constrain and dictate the behaviour of students, and how little it has changed in the last 5-6 decades. Unfortunately there has been a dearth of studies investigating the newer style courses in the way that the clinical courses of the 1950s and '60s were studied. Although there have been accounts of some new courses, descriptions of their educational rationale and in some cases, sound efforts at evaluation, there has been a lack of sociological analysis. More research to compare the processes and impact of different curricula is needed.

A review of research into the medical school as a social institution by Jefferys and Elston in 1989 noted that there had been little to follow up the early studies of the 1950s and '60s. In particular, there was little from outside the USA. Dimitroff and Davis carried out a similar review of articles from 1975 to 1994 and found that the most frequent topics related to
curriculum, teaching and student assessment, and comprised evaluations or studies to compare educational methods. They noted that the areas of deficit identified by Levine et al in an earlier review from 1974 had endured until the present. There was a dearth of studies addressing the socialisation process and the teaching hospital as a social institution.\textsuperscript{45} Jeffreys and Elston argued that the development of such studies in Britain had been hindered by the perception of sociology as a left wing, anti-establishment discipline.\textsuperscript{46} Cribb and Bignold suggest that research traditions in medicine also hinder such studies.\textsuperscript{47} They argue that 'given the dominance of natural science-based models of research, the business of self-understanding is more likely to be classified as 'common sense', or even self-indulgence, than to be incorporated into the worthy category of 'research'. ' They discuss how the limited sociological research into medical education that exists demonstrates the importance of the 'hidden curriculum', and the need for more reflexive medical schools. It is perhaps relevant that, in researching this study, I found that the medical school library housed only one of the major sociological studies of medical education (Sinclair's), and few books of any kind relating to education.

Another omission in the available literature is studies describing relationships between the various players within medical education and between medical education and society. There has been a tendency to focus on one group of players (particularly students), or on one aspect of education (such as idealism). Thus the power dynamics within schools are little documented. Light regrets the lack of studies analysing how the power structure affects the educational process and calls for more research.\textsuperscript{48} He holds that 'even though medical schools will not want it, they will benefit most from a professional evaluation of how their power structure affects their programs.' Bloom provides an exception in his study of Downstate New York medical school, which is unusual in exploring issues from both the students' and doctors' perspectives.\textsuperscript{49}

The age of most of the best known studies also limits their relevance to schools today which have a very different group of students (despite which, there are many similarities). The historical restriction of medical education to an elite and relatively homogenous group has changed, but the diversification of the medical student population has been little studied. The proportion of women in medicine has traditionally been small, but since the 1970s the rate has increased, until by the 1990s women were entering medicine in approximately equal numbers to men. There have been historical accounts of the struggle of women to enter medicine, and more recent accounts charting their patterns of employment and career paths compared to those of men.\textsuperscript{50,51} However there has been little apart from occasional individual accounts to explore how this change has affected life at medical school. Merton's and Becker's studies were undertaken at a time when the student population comprised almost exclusively white middle class men (as the title 'Boys in White' captures). Sinclair's study is the only one to be set in a diverse student body, but he acknowledges that it too focuses mostly on white male students, since, being one himself, they were easiest for him to access.\textsuperscript{52} He is thus able to give good descriptions of rugby club events, but has little information on what other students might be doing 'off stage'.
A similar but more recent change in terms of ethnic background, and to a lesser extent in maturity and social class, has now taken place, and the government are funding special schemes to facilitate this. Again, some statistics of the change have been charted - for example, British studies have shown that ethnic minority students are disadvantaged in selection for medical school, and in application for medical posts - but there has been little if any exploration of their experiences in medical school.

There has been a body of work in schools, and, to a lesser extent in higher education, which has explored how class, gender and race impact upon the experiences of students and practices of teachers. Starting with Becker's early work on social class, this has grown to include feminist critiques of education, and studies of the impact of ethnic, racial and cultural differences. Some of the issues identified, such as the impact of teachers' expectations on student achievement, and the development of identity, confidence and self-esteem are clearly relevant to medicine, and merit study in this context.

This points to a further area in which there have been few studies: that of medical teachers - the doctors who teach as part of their jobs. Dimitroff & Davis compared their literature review with one of general higher education research, and found that reference to faculty issues, administration and governance occurred much more frequently in other higher education settings. This may be because doctors' educational role seems to have been largely taken for granted. (The UK Audit Commission, for example, undertook a study of the role of doctors, and, despite including two teaching hospitals in their sample and frequent references to postgraduate training requirements, barely mentioned teaching).

This is potentially a rich area for study. Medical teachers are atypical of teachers in higher education in that they are first and foremost medical practitioners who teach undergraduates alongside their everyday clinical role. The presence of patients complicates the usual teacher-student relationship, and doctors' influence over students' careers alters the usual teacher-student power differential.

I have not sought to cover all the literature on medical education in this review. There are, for example, many studies of professional expertise, describing for example, how doctors form diagnoses and how experts' performance differs from that of novices. There has also been detailed research about the possible processes involved in knowledge acquisition. I have not covered these areas as they are of limited relevance to study, and, where relevant, such studies are discussed in the context of my findings.

In summary, it became clear that there were a number of gaps in the research literature which I could attempt to address in my research. I noted particularly the lack of studies exploring:

1) the whole school system, especially the role, experiences and perceptions of doctors who teach
2) the perspectives of women and ethnic minority students who make up an increasing proportion of the intake

3) the British experience (most studies have been carried out in the United States where there are major differences in health care organisation and policy)

4) the interplay between medical education, government and society. Studies to date have tended to portray medical schools as closed systems, providing little reference to any interface with society. Many studies were carried out over short time periods, during which there may have been fairly static relationships within medical schools, and with government and the public. Thus the opportunity to link the larger and smaller pictures may have been missed

5) new approaches to medical education. There have been few if any ethnographic style studies of problem based learning or community oriented schools. These could provide a fascinating contrast to the studies of traditional schools, illuminating the extent to which the culture in such schools differs, and the effect this has on student life and learning.

Clearly these are huge areas, which a single study could not hope to fully address. However they provided a context in which I could consider my aims, and plan a methodology which would attempt to explore at least some of these issues. These will be described in detail in Section B. Before that I analyse in more depth the specific context in which my study was to be undertaken.

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Chapter 2
The British Context of the Study

Having reviewed the major developments in medical education in the West, I now provide a more detailed analysis of the context in which my study was undertaken.

I start by describing the political and social climate which existed at the start of my study in 1995, which stemmed from the General Election of 1979, and the election of a Conservative government under Margaret Thatcher. Her government was to oversee social and economic changes, and reforms to the NHS which had a profound impact on health care and medical education. The effects of these policies were much in evidence at the beginning of my study.

I then outline the funding system for medical education in Britain. This is relevant because it has implications for doctors and departments which teach students, and limits the potential for change.

Finally I describe two major recent reports which have been very influential in relation to undergraduate and postgraduate medical education in Britain. Throughout the chapter I discuss the implications of the various political, social and economic factors which I describe.

The national context: an era of reform

During the 1980s, a period of major change and reform took place in both the NHS and higher education sector, under the Conservative government. These were part of a wider reform in public services, governed by political beliefs such as the efficiency of a free market system to run public services and a desire to improve their accountability and responsiveness to the public.

The health service reforms

In the NHS, costs were rising quickly as an increasing range of treatments became available and the number of elderly people requiring care expanded. This provided a challenge to the philosophy of limiting public spending and reducing taxes. In 1988, a government working party was set up to review the management of the health service in response to the pressures outlined above. A year later, Working for Patients was published, followed in 1990 by the NHS and Community Care Act. The introduction of an internal competitive market was proposed and implemented despite strong opposition from the medical profession, and without a pilot scheme.

The principle of the internal market was that the purchasers of health care were separated from the providers. District health authorities' role changed from providing health care to determining need and commissioning care. Hospitals were given incentives to form self-
governing trusts, and to bid for contracts from the health authority commissioners. Large
general practices were offered incentives to become fundholders, managing their own budgets
and purchasing secondary care. They had to forecast their service needs, define the quality
standards required and contract with hospital trusts to meet them. The trusts competed with
each other for patients, primarily on the basis of cost. It was expected that this competition
would bring about improvements in efficiency and patient responsiveness. However, concern
that the system would be destabilized by a true market environment, led to a policy of 'steady
state' which prevented district health authorities from substantially altering existing contracts.3

The second major influence on health care delivery in London was the government's decision
to implement the proposals of the Tomlinson Report.4 Asked to examine the health service,
medical education and research, Tomlinson recommended major changes. He asserted that
London was over-provided with hospitals, and proposed that some should merge or close to
allow investment in regional hospitals. The number of inpatient beds was reduced and more
resources were put into developing community care.

This was in line with a more general policy of transferring care from hospital to the
community. Major advances in technology, such as new surgical and anaesthetic techniques
and new and improved pharmaceutical products, led to an expansion of available treatments
and allowed quicker recovery and discharge of patients. The result was reduced numbers of
patients on the wards, and shorter lengths of hospital stay.5 6 More health care was undertaken
in general practice, community clinics or the patient's home, so that only the most serious cases
went to hospital at all. The amount and complexity of knowledge required to practise medicine
continued to increase, leading to greater specialisation within medicine and in the professions
allied to medicine. Gradual shifts in roles within and between the health care professions took
place, and there was a trend towards multidisciplinary teams which could encompass a wide
range of skills. Hospitals became increasingly specialised, particularly teaching hospitals,
where a policy to develop centres of excellence resulted in their offering a narrower range of
increasingly specialised services to a wide geographical area.

The Tomlinson Report also concerned medical education. Drawing on a report by the
independent 'King's Fund',7 it proposed mergers for most of the London medical schools. The
rationale was to concentrate expertise and link all schools to university science departments.

Other trends evident in the 1980s and '90s were increasing government direction in health
policy (e.g. publication of 'The Health of the Nation' in 1992 containing the first national
targets for health)8 and a growth in consumerism (e.g. publication of 'The Patient's Charter' in
1991 which set out the standards which patients could expect from the health service).

Reforms in higher education
During the 1980s and '90s, higher education was subject to similar drives to increase efficiency,
competition and accountability. The proposals were encapsulated in the 1985 Green Paper The
Development of Higher Education into the 1990s,9 and the subsequent White Paper Higher
Education: Meeting the Challenge in 1987. The thrust of these was that higher education was expected to become more responsive and make a greater contribution to national economic development, find more of its funds privately, and become more efficiently managed. A range of performance indicators were developed, based on the recommendations of the Jarratt Report.

For research, accountability took the form of the Research Assessment Exercise (RAE), which was designed to relate financial support to universities to the level of their research grants and publications. Departments or research groups were graded on a five point scale, and their research income from HEFCE subsequently increased or reduced according to their score. The first RAE took place in 1989, and the second in 1995, with slightly modified criteria and rating scales. The formula was tightened so that departments had to improve their rating in order to maintain their previous level of funding, and the general increase in standards meant that the available funding was spread more thinly.

In 1991, the division between universities, polytechnics and further education colleges was abolished. New funding councils were established for England, Wales and Scotland, each with its own quality assessment unit. In addition, a UK quality audit unit was established through the Higher Education Quality Council, responsible for 'quality assurance, including regular auditing of the ways in which institutions discharge their responsibilities for standards and quality'. A rolling programme of assessment of each university discipline was initiated, in which departments were rated on 'fitness for purpose' against their own objectives. These ratings were made public and intended to assist students in choosing their courses.

Since the 1960s, and particularly after the 1987 White Paper, a huge expansion in the number of students in full time higher education occurred, whilst funding was strictly limited. The government aimed to increase participation to about one third of young people, in line with other industrialised nations. This expansion was expected to be achieved through lower unit costs, and there has been a steady increase in the student : staff ratio since 1974. Between 1974-5 and 1987-8 the proportion of exchequer funding fell from 90% to 74% of total recurrent income. Universities were expected to obtain an increasing proportion of their income from student fees, a move designed partly to increase consumer (student) power and thus make universities more responsive. Since then there has been a decreased reliance on block grants, whilst income from overseas student fees, industry and research foundations have all risen.

The government also wanted a say in what was being taught in higher education, and there was an increasing emphasis on the development of 'transferable skills' in areas such as communication and information technology. There was pressure from employers and outside bodies to incorporate such training, although this was resisted by lecturers in many disciplines who considered it inconsistent with high level academic study.
Implications of the reforms for medical education

The 1980s and '90s marked a new era in the relationship between the state and public services. Professional power and status were challenged as the government asserted its right to determine policy. The introduction of the NHS reforms was significant for the way in which doctors' views were overridden. Despite the substantial power of the medical profession, its opposition to the reforms resulted in only minor modifications. Higher education also underwent substantial change, its traditional independence and liberalism being superseded by greater state involvement, aimed particularly at increasing economic competitiveness.15

There were marked similarities between the developments in health and education as professionals were forced to become more responsive and publicly accountable. In both cases, other groups in society, such as employers, taxpayers, patients and students themselves, were seen to have a legitimate interest in their business. There were greater demands from, and control by government, which represented a challenge to the traditional autonomy of the professions.

The changes also led to power shifts within health care. The introduction of a primary care-led health service gave GPs responsibility for commissioning services for their patients, and was intended to produce a redistribution of services to better reflect local epidemiology. This represented a major shift of power away from hospital consultants who had traditionally been able to develop their own areas of interest almost irrespective of local need. Within hospitals there were also power shifts as managers (medical and non-medical) were appointed, and decisions once the preserve of clinical staff were affected by considerations of cost, business strategy and their effect on performance indicators.

The reforms had important implications for medical teaching. The introduction of the RAE created pressure on academics to concentrate on research rather than teaching, since teaching was not assessed or rewarded in the same way. (It was not until some time later that the teaching quality assessment was introduced, and it was not directly linked to funding). In medicine this confirmed the dominance of research over teaching, which had always been the path to promotion and success. It created particular demands on doctors, coming at the same time as the NHS reforms which were leading to greater accountability for clinical work.

Doctors were under pressure to see more patients in the same time as clinical 'productivity' was starting to be recorded, and there were increased administrative and managerial duties. There were fewer beds and greater pressure to get patients in and out of hospital quickly. Thus inpatients tended to be very ill, and fully occupied undergoing treatment or investigative tests whilst in hospital. They were therefore less available and less suitable for students to practice their skills on. As the number of patients declined there was an increase in the student to patient ratio which made it more difficult for students to find patients willing to see them. Patients also became more aware of their right to refuse consent for medical students to take part in or observe their consultations. Thus there were fewer opportunities for students to develop a relationship with patients and observe the course of their illness.
Legal changes limited the number of hours junior doctors could work, and guaranteed them protected time for their own postgraduate education. Thus junior doctors had less time for teaching, and the impact of their reduced hours and protected teaching time was that consultants too were more stretched.

The organisation of medical practice also changed so that the traditional ward team was more fragmented. Junior doctors were often attached to medical or surgical firms rather than to individual consultants. The practice of 'outliers' (patients put on wards of a different specialty to their own condition to maximise bed use) required doctors to care for patients spread around different parts of the hospital. The old pattern of a ward full of one firm's patients and a more or less resident house officer to whom students could relate no longer existed. All these factors made it more difficult for students to find a base on the inpatient wards, the traditional home of undergraduate teaching. The growing specialisation of services also meant that many patients in teaching hospitals were unsuitable for undergraduate teaching.

Many schools attempted to overcome these difficulties and to give students a more realistic picture of health care through increasing students' exposure to community based services and district general hospitals. However this was limited by the funding arrangements which lacked flexibility as funding was integrated into the clinical service and could not be easily transferred. Within teaching hospitals however there was some relocation of students towards outpatient facilities, since many conditions were now treated entirely in outpatients or as day cases.

In one regard however, medical education was relatively sheltered from the pressures on higher education. The number of students entering medicine was set by a manpower planning committee at the Department of Health, based on predicted NHS workforce requirements. This allowed both numbers and funding for medical places to remain relatively stable compared to other subjects. Thus, clinical medicine (but not the pre-clinical course) largely escaped the effects on per capita funding felt by other university departments.

These various changes and pressures had not gone unnoticed by the medical establishment, and two reports were to have a profound impact on British medical education:

**Undergraduate level**

In December 1993, the GMC issued new guidelines on undergraduate medical education in a report entitled 'Tomorrow's Doctors'. The report outlined external factors and internal problems which meant that changes were required. In particular it highlighted the continuing over-emphasis on factual knowledge, which, it suggested, dulled students' ability to benefit from the 'truly educational' aspects of the course. It rejected the Flexnerian style course in favour of integration of the basic and clinical sciences, and recommended a new balance between the apprenticeship and academic elements of the course. It emphasised the acquisition of essential skills (the training element), the inculcation of professional attitudes (the
socialisation element) and the promotion of curiosity for learning and critical evaluation (the academic element). It recommended the development of a core curriculum to ensure that all students were suitably prepared to practise as house officers, and the introduction of special study modules to allow greater breadth and diversity of study.

The report included 14 major recommendations:

1. To reduce the 'burden of factual information'
2. To promote curiosity for learning and critical evaluation of evidence
3. To inculcate appropriate attitudes in students
4. To supervise and assess the acquisition of essential skills
5. To define a core curriculum
6. To provide special study modules to allow in depth study
7. To have a systems-based core curriculum with integration between the scientific and clinical aspects of the course
8. To emphasise communication skills
9. To emphasise public health medicine
10. To adapt to the changing patterns in health care and include community based learning
11. To use learning methods informed by modern educational theory
12. To adapt assessment methods to encourage appropriate learning skills rather than rote learning
13. To implement effective supervisory structures for curriculum review
14. For the GMC to ensure implementation of these recommendations.

The GMC's previous recommendations along similar lines had received widespread acceptance but little action, and there had been criticism about how effectively the GMC fulfilled its inspection role. This time, funding was made available from the Chief Medical Officer to assist schools in implementing the recommendations, and the GMC initiated a round of inspections to assess their progress.

The newer British medical schools had curricula which already incorporated much that the GMC was proposing, and were required to make only minor adjustments. Traditional schools such as KCSM had to make more substantial changes.

Some schools had already established, and others proceeded to establish, departments of Medical Education to train and support their teachers, assist in curriculum development and carry out educational research projects. These departments housed interested clinicians and/or a new breed of 'medical educationalist' from a range of backgrounds. In some schools, compulsory training for new lecturers was introduced, and some started to offer Masters courses in medical education. There was a renewed interest in the long-standing Association for the Study of Medical Education (established in 1957) which saw its membership expand, and journal editions double.
Postgraduate and Continuing Medical Education

In 1993, Sir Kenneth Calman, the Chief Medical Officer, produced a report which recommended more structured and regulated postgraduate training. The 'Calman Report', as it was known, limited the length of training to five years (required by the European Union) and introduced a single training grade of 'specialist registrar' to replace the two tier system of registrar and senior registrar (Figure 1). The Royal Colleges started to introduce regional postgraduate training schemes which involved formal training and protected time for study as well as the traditional apprenticeship style preparation.

Figure 1. The medical hierarchy, pre- and post- Calman

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<tr>
<th>Old system</th>
<th>Typical timings</th>
<th>New system</th>
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<tbody>
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<td>Consultant</td>
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<tr>
<td>Senior Registrar (SR) ------</td>
<td>3 years +</td>
<td>Specialist registrar (SpR)</td>
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<tr>
<td>Registrar</td>
<td>3 years</td>
<td>Senior House Officer</td>
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<td>Senior House Officer (SHO)</td>
<td>2 years</td>
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</tr>
<tr>
<td>House Officer (HO)</td>
<td>1 year</td>
<td>House Officer</td>
</tr>
</tbody>
</table>

Continuing medical education for consultants also became more formalised in most specialties. A sum of money known as the Post Graduate Education Allowance (PGEA) was set aside to reward general practitioners for completion of a certain number of hours training each year. Hospital consultants gained Continuing Medical Education points for attending training. In both cases, training events had to be registered to count. Provision of such education was the responsibility of the Clinical Tutor, under the auspices of the Regional Postgraduate Dean.

The funding of medical education

As already indicated, the funding of medical education affected the degree of curriculum change possible, and it is therefore important to outline its structure. It is worth first noting that of all university courses, clinical medicine is the most expensive bar veterinary science. The pre-clinical course is funded, as are other university courses, by the Higher Education Funding Council. The funding for the clinical course is more complex: the position at the start of my study is summarised in Figure 2, and shows two main sources. The Higher Education Funding Council provided core funding for teaching and research which was used to support the infrastructure in which teaching could take place (e.g. facilities such as the library, computer centre and teaching rooms) and to employ academic and support staff.
The second source was the Service Increment for Teaching (SIFT): a mechanism designed to compensate health authorities which contained teaching hospitals because they were more expensive than non-teaching hospitals. It was paid directly to hospitals from the Department of Health via the Regional Health Authorities in proportion to student numbers. It was a substantial sum: in London in 1994/5 it amounted to £41,141 p.a. per full time equivalent student.

Officially it was expected to fund the excess clinical service costs incurred by the presence of students. This covered facilities (such as the extra rooms needed for teaching) and staff time (e.g. extra time taken for clinical work because of teaching). District general hospitals did not receive funding for their teaching unless they took more than five 'full time equivalent' students per year. General practices received a small per session payment from the Family Health Services Authority.

It is important to note that at this time the functions, working and funding of the hospital and the medical school overlapped and were not clearly differentiated.

Responsibility for house officers during their pre-registration year rested officially with the university. Funding was provided jointly by the hospital trust and the Regional Postgraduate Dean, a university appointee responsible for implementing the training requirements of the royal colleges. For this, the Dean had funding known as MADEL (the medical and dental education levy) which was used to pay half of junior doctors' salaries and locum costs for their educational time.
Figure 2. Funding of medical education in 1995

- **DEPARTMENT OF EDUCATION** Funds HEFC
- **SGUMDER** (Steering Group on Undergraduate Medical & Dental Education & Research)
- **DEPARTMENT OF HEALTH** Medical Manpower Planning determines number of funded places to be offered. Determines national SIFTR payment per student.

- **HIGHER EDUCATION FUNDING COUNCIL** Determines guide price for pre-clinical and clinical students and numbers of students at each Medical School. Allocates money to Medical Schools.

- **LOCAL AUTHORITIES** Provide tuition fees for students for all home students accepted on first degree.

- **UNIVERSITY**
  - 'living' expenses
  - tuition fees
  - grant

- **MEDICAL SCHOOLS** Receives fees for set number of funded students, plus extra fees from local authorities and overseas students.

- **REGIONAL HEALTH AUTHORITY** Allocates SIFTR info about no.s of students in provider units

- **BRITISH STUDENTS**
  - fees

- **OVERSEAS STUDENTS** Numbers limited by Dept of Health

- **HEALTH CARE PROVIDERS**
  - FHSA Makes payments to general practices involved in teaching
  - SIFTR
  - Joint teaching/clinical/research contracts 'knock for knock'
  - Overseas or other careers

- **KEY**
  - Flow of funding
  - Flow of information
  - Movement of students
  - SIFTR Service Increment for Teaching & Research
  - FHSA Family Health Services Authority
References

5Rosevear GC, Gary NE. Changes in Admissions, Lengths of Stay and Discharge Diagnoses at a Major University-Affiliated Teaching Hospital: Implications for Medical Education. *Academic Medicine* 1989; 64: 253-258.
12HEQC internet page: http://www.nis.ac.uk/education/heqc/working/-html+qualass, September 1996.
Summary of Background Chapters

The history of Western medicine and the development of its educational system provides insights which can help to illuminate the current pattern of medical education. From its early Greek roots, the study and teaching of medicine developed as a university subject, and continued so for many centuries, whilst the practical business of healing was practised in many diverse ways. The widespread acceptance and dominance of the medical profession is relatively recent. Its rise has been associated with the growth of scientific knowledge and the many technological developments that have facilitated greater understanding, prevention and management of disease.

A number of important themes have been highlighted: the dilemma between the relative importance of theory versus practice (a theme common to many forms of professional education); the proper balance between science and the humanities; the relationship between medicine and society; issues of gender and class; the nature of professional socialisation; and the tension between the academic and apprenticeship traditions of medical education.

The Flexner style curricula attempted to encapsulate both a scientific and a vocational training, and set the pattern of medical education for most of the 20th century. It did not however resolve the tensions so clearly described by Bonner in his study of medical education between 1780 and 1945:

'Alone among the professions, education for medicine had come to combine a long period of theoretical study with an intensely practical experience in the observation, handling and treatment of patients. The resulting tension and shifting balance between academic study and clinical training, between theory and practice, between medicine as art and medicine as science, has been the perpetual condition of medical pedagogy since the Enlightenment.'

At the start of my research, these tensions were still in evidence as the medical school attempted to cope with changes in clinical practice, health care management and the ever increasing growth of knowledge. In addition the power balance and relationship between the medical profession, government and society was shifting, resulting in changes such as the diversification of the student body and a new accountability.

In Britain and other countries, new course designs have been introduced which have attempted to shift the balance between the theoretical and practical elements of the course, and between the scientific and humanistic aspects. These represent changes in emphasis in the values espoused by the profession, which in turn may reflect wider changes in society. It is also clear from the sociological analyses of medicine that education serves a number of functions not limited to transmitting knowledge. It can serve to legitimate professional status, exclude outsiders from entry, give credence to the claim for self regulation, and socialise new members into existing patterns of professional behaviour.
Studies of students' experiences at medical schools have shown that there is an implicit as well as explicit curriculum. They have shown how students gradually adapt and assume the norms and values of medical culture in order to get by in medical school. For this reason some authors have seen medical education primarily as a process of professional socialisation.

I have in this section identified a number of themes which will recur later on and throughout the study. These include issues around power and status, the values espoused by medical practitioners, and different models of learning and teaching.

In the next Section I introduce the medical school which I studied, and describe how I went about my research.

References

SECTION B

The Research Setting and Methodology

Introduction

In this Section I introduce the medical school which I studied, and describe the methodology I employed.

In Chapter 3, I provide an outline description of the medical school, its associated teaching hospital and the staff and students therein. This will provide the background information necessary to interpret my findings. I include two types of information: 'impressionistic' data to give a sense of the school environment, and descriptive data to fill out the impressions with relevant facts and figures.

I start with a pen portrait, through which I aim to portray the atmosphere of the hospital and medical school as it was when I wrote it in 1996, near to the start of my study. As will become obvious, considerable change took place during the research, and I therefore provide an update on developments four years later towards the end of my study. Both sections are written in the present tense, referring to the time at which I wrote them.

The next part of the chapter provides factual information about the teachers, students, curriculum and medical school management as it was at the start of my research. The changes which occurred will be described in later chapters.

Finally I outline the two major changes which occurred during my study: the introduction of the new curriculum, and the merger of KCSM with another medical school.

I proceed in Chapter 4 to describe the methodology I employed for my study. I outline the aims and design of the study, the rationale and theoretical background for my choice of methods, and the range of practical and ethical challenges which I encountered.
Chapter 3
Introduction to the Medical School

Impressions

The teaching hospital in 1996

King's College Hospital is an old building in grand Georgian style, dating back to 1913. The main part of the hospital is four storeys high and you enter through a large columned doorway. There have been many changes and additions recently, but the building retains its long stark corridors and heavily built wards. At the moment it resembles a building site, as, after many years of neglect, it has recently seen much investment. There is a new day surgery centre, a new genito-urinary centre, a new intensive care unit, and the major rebuilding of the vastly overstretched Accident & Emergency Department is nearly complete. The old nursing college has recently been emptied, knocked down and is being rebuilt as the education centre of the medical school. The new areas have a different character to the old, with softer lines, softer colours and more thought to comfort. The older areas too are changing as brightly coloured murals have been painted on some walls and new colourful signposting has been erected. Special units are tucked away within the hospital, funded by charitable grants, and in varying styles reflecting the time they were established.

The hospital has probably never been busier, and walking down the corridors you pass an odd mixture of: workmen in their white overalls carrying pieces of equipment; hospital porters pushing trolleys or wheelchairs; smartly dressed hospital staff walking briskly from place to place with name badges containing the new logo; medical students in their white coats shuffling here and there; and the mostly elderly patients and their visitors, looking rather lost despite the new 'help desk' and improved array of signposting in various languages. The languages attempt to cater for the multi-ethnic community which the hospital serves. Amongst patients and staff, the various ethnic groups are strangely delineated, with Africans and Afro-Caribbeans only really represented amongst patients and domestic staff, Asians comprising about half the medical students, and doctors and managers predominantly white. There are also gender differences with doctors still predominantly male, nurses female, but medical students and managers (except at the very top) about equally divided.

The difference between old and new evident in the building is also reflected in the way the organisation works. The hospital management is forging ahead with new buildings, new ways of doing things and new staff. It has taken on the values of the Thatcher age - 'efficiency' (monetary rather than clinical), image promotion, hard headed business management, and marketing - the customer as king. There is a 'Re-engineering Department', recently renamed 'Transformation', and the nearby walls display long white pieces of paper covered in yellow post-its, brown bits of paper and arrows indicating flows of patients or information or whatever else is to be transformed. Management-speak rules. The newly enlarged reception area and
help desk boast a proud array of leaflets - the patients charter, hospital magazine, and maps to help you find your way around. The walls display bar charts showing how the hospital is measuring up to its targets on waiting times, etc. Clinical work is more highly organised and audited, but the queues of patients sitting in their coats in Outpatients and Accident and Emergency remain, seemingly oblivious to what is going on around them.

This is the scene in which teaching and research also compete for a place. Research is very important as King's College is now one of the highest research income earning universities, and the Wellcome Building and SmithKline Beecham Technology Project are testament to its success. The researchers are of two kinds - hospital clinicians who must do research in order to climb the promotion tree, and the 'jobbing' researchers who are taken on for specific projects and have little or no clinical role or job security.

And teaching - of course teaching goes on because it is a teaching hospital and this is very important for its status. But teaching doesn't seem to have a high profile. I get the impression that it doesn't quite fit into this new way of working. It once had an important place in the scheme of things, but when the clinical work and organisation changed, teaching didn't. It still goes on, but is often ad hoc, and depends largely on enthusiastic but unrewarded teachers to make it work.

Addendum, March 2000
Re-reading the above whilst re-drafting, it sounds quite dated now. Things have moved on. Thatcherism came, made its mark, and went. The internal market has faded. Some signs remain, but others have gone. The logos and help desk are still there, and there are more signs to direct people. The columned entrance is no longer guarded by a swinging wooden door, but by automatic glass doors, shielding those inside from the weather. The Re-engineering/Transformation department has gone, together with its flipchart sheets and post-its.

The canteen is now a 'Restaurant'. It doesn't cater for so many people so it's harder to find a seat, but you can admire the new tables and curtains while you're waiting to sit down. Similarly the car park outside has been revamped. It doesn't take as many cars, but there are flower beds and trees at the corners, and more entrances and exits so that cars can move in and out quicker. There is more emphasis on the environment. Staff complain about style over substance. The atmosphere is more commercial, but there are more services. There has been a phenomenal amount of new buildings, converted buildings, and new investment in what previously looked like a hospital past its prime. Now it is burgeoning with improvements.

The hospital corridors are crammed with noticeboards. These include specific noticeboards for senior house officers, the Postgraduate Centre, the union UNISON and the hospital's Staff Development Unit. The headings mean little however as notices seem to be put up indiscriminately. The selection includes details of research presentations, a Certificate in Management course, training timetables, courses on Dealing with violence and aggression, evidence based medicine, NVQ assessor training, a talk on sickle cell disease, a haematology
seminar timetable, thyroid talk, presentation on the results of an equality survey, talk about primary care groups, day on Overcoming Addiction, stress free living course, men and spirituality day. These are mostly in house events.

There are also general notices about the national lottery, yoga classes, salsa classes, accommodation wanted/offered, a disco, nursery places, woman's refuge, bomb watch, holiday offers, London RSPB group, and Crimestoppers. There are requests for help: funding for children's neurosurgery, a volunteer for an African HIV/AIDS charity, hospital volunteers, former blood transfusion patients for a 50 year anniversary, patients for research, attendees for a concert in aid of motor neurone disease research, and owners of journals to donate to a hospital in Jerusalem.

In the main corridor, past the help desk is a display and model about the redevelopment of the hospital site. Further along is a travel agent, cashpoint machine, shop selling snacks and magazines, and some coffee and snack machines. On a second corridor, I pass a laundry store, Medical Research Gift Shop, and flower shop. At one end are new murals, some colourful, some in shades of sepia, containing scenes from markets, cafes, streets, a disco and the hospital. At the other end, away from where patients go, the corridor deteriorates and it feels like the back of beyond. The casing of pipes has not extended this far: there are large pipes visible in the ceiling, and the floor has manhole covers every few feet. This is the forgotten realm, housing the art and photography department, and a few other anonymous units.

The medical school, then and now

When I started the study, the then 'new' medical school was situated in a 1930s concrete and glass building tucked in at the back of the hospital. You went up a small flight of steps to find the post room, and the porters were to the left. To the right were a series of uniform offices which housed Personnel, to the left a similar series housing the Accounts Department. On the upper floors were offices for the laboratory sciences, medicine and surgery.

Opposite this was another building, the 'old' medical school which housed the registry, a lecture theatre and the library. The lecture theatre was in traditional stepped style, with wooden rows, seats, and ledges on which students could rest their books and take notes. They bore the signs of student graffiti, perhaps carved out during an uninteresting lecture. Next door was the student canteen: a large room, rather like a school hall, with a stage and piano at one end, kitchen at the other, and in between a series of functional tables and chairs. Opposite the canteen were two lecture rooms, and further along the corridor, the library. This was an oblong, wooden room with a series of wooden alcoves around the walls which housed the books. In the middle were some tables and chairs, and the racks of journals. Overlooking this was a balcony around 2/3 of the room on which were housed past copies of journals. It was clearly overcrowded. Office space was out of sight, but if you went for training in library systems, you would be taken up two flights of stairs to a small room called the 'Pepper Pot' which had previously housed the animals used for experimentation.
Between these two buildings, a road turned into a cul de sac, at the end of which was the hospital mortuary. In the space between the library building, the 'old' medical school building and the back of the hospital, were three portacabins on the site of an old tennis court. These acted as overflow space for the most recent additions to the school: the General Practice, Public Health and Psychological Medicine Departments. From the portacabins, staff could watch the hearses come in to collect the dead bodies and take them away from the hospital.

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A new 'education centre' for the medical school opened in 1997 just around the corner from the hospital, and bearing the name of the biscuit manufacturer that sponsored it. The centre is a modern three-storey building, with a quadrangle in the middle and an E-shaped front. Just before a member of the Royal Family arrived to officially open it, trees and shrubs appeared in the quadrangle, and flower beds were planted at the entrance. There are also wooden benches and tables in the quadrangle, and in summer the area is crowded with people having an al fresco lunch.

As you enter the building past a grassy border, there is a desk with security staff to the right. There is a pass entry system, and staff and students have identity badges which are personalised to allow them to enter different parts of the building. To the left is the Postgraduate Centre: a suite of rooms for postgraduate training, and further on the canteen: a much smarter affair than in the old medical school. Upstairs, and incorporating part of the ground floor too, is the information centre, comprising the library and computer facilities. This is huge in comparison to its old home, and there is a feeling of space and light. On the second floor are the Deans' offices, registry, personnel and accounts, and a series of teaching rooms. These are well equipped with white boards, overhead projectors, flip charts, furniture, and in the larger ones, televisions and videos. A couple of rooms have video links so that students can be recorded in a mock consultation, and relayed to another group of students. The rooms vary in size to allow break out groups from lectures. There are also two large lecture theatres. The top floor houses the newly formed Department of Medical and Dental Education, and the Department of General Practice. The 'old' medical school buildings which previously housed these facilities were retained and now house other medical school departments.

The education centre is only around the corner from the hospital, but its atmosphere is a world away. There is an air of calm and orderliness. Students and staff wander in and out, protected from patients and the public who are barred since they have no identity cards. It feels secluded from the real life world of medical practice which carries on in all its messiness in the hospital just across the road.

This has been a dramatic change. When I started the study the medical school was tucked out of sight (out of mind) round the back of the hospital in a collection of concrete buildings by the morgue. Now, it has a large, imposing centre standing shoulder to shoulder with the hospital, surrounded by grass, trees and shrubs. There is a feeling that someone cares about what happens here.
Factual information about the school

I will now provide some factual information about the medical school, staff, students, the curriculum and the teaching hospital.

The medical school and teaching hospital

Both the hospital and medical school date back to the mid-19th century but were on a different site in central London for the first sixty or so years. Links with the University date back to a similar time, although the medical school split away and only reunified in 1983. The most recent history of the school, published in 1991, charts a continuing saga of change and development from its earliest days.1 Reading this, nothing seemed new - the constant cost pressures, fundraising efforts, administrative and management changes, sale and acquisition of sites and buildings, new buildings, scientific advances - all have been going on throughout the school's existence, whilst a gamut of personalities have come and gone, made their mark or disappeared without trace.

Medical school management in 1995

The medical curriculum was delivered within two Schools of the University - the School of Medicine & Dentistry, and the School of Life Sciences, which included the Division of Basic Medical Sciences. What I refer to as 'the medical school' or KCSM in this study was actually only managerially responsible for the clinical part of the course. The basic science course was separately managed within its own School. The implications of this are explored in depth in my findings, particularly in Chapter 7.

I conducted my study within the School of Medicine which provides the clinical education. The School is led by a Dean, elected triennially by his peers. He then appoints sub-deans responsible for particular areas. When I started the study, there were sub-deans for undergraduate education, the pre-registration year, postgraduate education and research. There was also a committee structure governing these and other areas, namely: Admissions Policy, the Pre-Registration (house officer) Year, Research Co-ordination, the Undergraduate Curriculum, Higher Degrees, Health and Safety, and the Animal House (known as CBU to confuse anti-vivisectionists). All committees included both NHS and medical school employed staff, and reported to the Faculty Board which was open to academic staff only.

Until 1998, the School was managed by a 'Delegacy'. Unlike other Schools in the College, it had a considerable degree of discretionary authority and was allowed to manage its affairs more or less autonomously within overall College policy.

The school and hospital had a very close relationship, and were still interdependent in many ways (see section below on the teachers). However this had started to change following the introduction of the internal market and greater accountability for funding.
**The hospital management**

The hospital had recently become a trust, and was led by a Chief Executive, responsible to a Management Board. The management structure comprised a series of Care Groups, each containing a number of different departments. Within each care group was a hierarchy of doctors, with small numbers at each level. This overlapped with the medical school hierarchy of professors, senior lecturers and lecturers. Figure 3 shows an example of the hierarchy in part of a care group, with medical school staff shown in bold.

**Figure 3. Specialty Care Group structure, as at February 1997**

<table>
<thead>
<tr>
<th>Care group</th>
<th>Manager</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clinical Director</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Department X Firms (sub-specialties)</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Consultants</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Senior Registrars (SRs)</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Lecturers</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Registrars</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior house officers (SHOs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House officers (HOs)</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

**Funding**

The SIFT funding which the hospital received amounted to about 15% of its annual income, and was its second largest single source of income after the local health authority. A contract had been introduced between the hospital and medical school in respect of this funding which set out what the hospital was expected to provide. Traditionally SIFT had gone directly into general hospital funds and had not been targeted specifically to support teaching. The medical school was working with the hospital to identify a funding formula so that it could be more fairly and transparently targeted to care groups according to their teaching load.
The teachers

Medical students were taught mainly by the following groups:

1. Basic science teachers. These were university lecturers who taught on undergraduate science programmes including medicine. They included anatomists, physiologists, biochemists, pharmacologists and sociologists. The majority were not medically qualified.

2. Doctors in the teaching hospital. They comprised two groups:

i. NHS doctors. These were doctors employed by the NHS who had honorary contracts with the medical school. Consultants were expected to teach undergraduates for one session (half a day) a week.

ii. Medical school doctors. These were doctors employed by the medical school on academic contracts, who had honorary clinical contracts with the hospital. Officially they had two sessions for undergraduate teaching, two for postgraduate teaching, research and administration and six for clinical work.

Doctors employed by either organisation had honorary contracts with the other, and both groups undertook clinical work, teaching and research, although priorities might vary. Money did not change hands between the medical school and hospital in respect of these staff as the costs were assumed to be equivalent, or 'knock for knock'.

In 1999 I supervised a student to carry out a study of the demographics of doctors in the main teaching hospital. Data were obtained from the Human Resources Office for 1,036 of the 1,364 doctors employed (Table 1). The staff for whom data was not available were mostly temporary, honorary staff.

Table 1. Demographic data of doctors employed by King's Healthcare Trust, April 1999

<table>
<thead>
<tr>
<th></th>
<th>Total staff (%), n=1,036</th>
<th>Consultants (%), n=182</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>56.4</td>
<td>77.8</td>
</tr>
<tr>
<td>Women</td>
<td>43.6</td>
<td>22.2</td>
</tr>
<tr>
<td>White</td>
<td>66.6</td>
<td>85.2</td>
</tr>
<tr>
<td>Ethnic minority,</td>
<td>33.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>4.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Chinese</td>
<td>3.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Asian</td>
<td>17.9</td>
<td>6.8</td>
</tr>
<tr>
<td>Other</td>
<td>7.8</td>
<td>6.0</td>
</tr>
</tbody>
</table>
The table shows that men and ethnic minority staff were over-represented in comparison to their numbers in the national population, whilst female and ethnic minority doctors were under-represented amongst consultants in comparison to their overall representation on the staff. Data were also collected for each specialty. The percentage of ethnic minority doctors in the different specialties varied, from pathology which was markedly the highest at 52.7, and surgical specialties at 42.1, to the lowest which were anaesthetics at 16.5 and radiology at 18.4%.

4. Other staff. Approximately 90 GPs from the local area also taught on the course, plus doctors in the district general hospitals to which students had attachments. Students also received some teaching from other hospital or medical school staff such as nurses, professions allied to medicine, technical and laboratory staff and research staff.

The students

The annual intake at KCSM was about 120 students. Students were admitted based on their UCCA forms, A' level grades of ABB, and an interview.

The student demographics had been changing in recent years. A study carried out by a colleague provided data on a group of 375 doctors who graduated between 1985-90 (and thus started their course from 1979-85) and 422 students who started their course from 1994-7. Both samples had over 80% response rates. In the 9-15 years between these samples the demographics had altered as follows:

Table 2. Demographic trends in students at KCSM, 1979 - 1997

<table>
<thead>
<tr>
<th>Demographics</th>
<th>1979-85 sample</th>
<th>1994-98 sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=375 (80.8%)</td>
<td>n=518 (88.6%)</td>
</tr>
<tr>
<td>Men</td>
<td>49.1</td>
<td>49.6</td>
</tr>
<tr>
<td>Women</td>
<td>50.9</td>
<td>50.4</td>
</tr>
<tr>
<td>White</td>
<td>90.0</td>
<td>46.3</td>
</tr>
<tr>
<td>Ethnic minority</td>
<td>10.0</td>
<td>53.7</td>
</tr>
<tr>
<td>Socio-economic group (by father's occupation):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I&amp;II</td>
<td>82.0</td>
<td>78.6</td>
</tr>
<tr>
<td>III&amp;IV</td>
<td>14.7</td>
<td>16.2</td>
</tr>
<tr>
<td>V</td>
<td>0.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Other (e.g. armed forces, unclassified)</td>
<td>2.7</td>
<td>4.2</td>
</tr>
</tbody>
</table>

These figures demonstrate that the number of women had remained about level at just over 50% of the intake, the sharp rise in women entrants to medicine having occurred before the first sample. There had been a marked change in the ethnic background of entrants between the two samples, with ethnic minority students outnumbering white students in the more recent sample. The vast majority of these were second generation Britons of South Asian origin.
The socio-economic groups from which medical students came had changed only marginally over the 9-15 years. Over 3/4 of students in the latest sample were still from professional and intermediate groups, with less than 1/5 from skilled or semi skilled groups.

In comparing the demographics of the study body with those of the hospital doctors, it can be seen that the hospital had a higher proportion of men and of white doctors, reflecting the composition of students when the older doctors had trained.

**The undergraduate course at KCSM**

Up until September 1996, KCSM had a traditional, discipline based curriculum (Figure 4). The pre-clinical course contained no early clinical contact although there were informal arrangements by which some clinicians contributed to symposia or other relevant teaching. The course was based on the basic medical sciences of anatomy, biochemistry and physiology, and was taught primarily by scientists at the university site, separate from the hospital. The course was largely lecture and laboratory based. At the end of the second year, students who had performed well could elect to intercalate a BSc by spending an extra year specialising in one area of science. About 50% of students did this.

**Figure 4. The KCSM 'old curriculum'**

<table>
<thead>
<tr>
<th>Year</th>
<th>Main subject areas (+ number of weeks on clinical firms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>2nd year</td>
<td>Biochemistry</td>
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*Intercalated BSc option*

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<tr>
<th>1st clinical year (rotations)</th>
<th>Surgery (2x8)</th>
<th>Medicine (2x8)</th>
<th>Orthopaedics and Rheumatology (8)</th>
<th>General Practice, Public Health &amp; Psychological Medicine (8)</th>
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</thead>
<tbody>
<tr>
<td>2nd clinical year (rotations)</td>
<td>Obstetrics and Gynaecology (16)</td>
<td>Psychiatry (8)</td>
<td>Neurology (3)</td>
<td>Ophthalmology (1)</td>
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<tr>
<td>3rd clinical (final) year</td>
<td>Elective (8)</td>
<td>Surgery (8) (rotations)</td>
<td>Medicine (8) (rotations)</td>
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The clinical course consisted of a series of rotations around different specialties within the main teaching hospital, in general practices and in local and regional district general hospitals. In order to limit the number of students attached to each group of doctors and their associated
patients, students were divided into small groups of 5 to 10 students. They were attached in rotation to a series of different departments to learn about the various specialties. In the first clinical year, students also spent one day a week as a whole group studying pathology.

Each group of students was known as a 'firm'. This is a word that can be confusing for those unfamiliar with medicine because of its multiple uses. It is also used to describe the students' attachment for a given length of time, and to describe the group of doctors working within a particular specialty or sub-specialty. Thus a firm of students (say, six students) would be attached to a clinical firm (e.g. the vascular surgery consultants and their junior staff) for one firm (e.g. their eight week junior surgical firm)!

The clinical 'years' were of different lengths: the first year lasting from September to the following November, when students took the first of their two major assessments: the pathology examination. (Students were also given a grade for each firm). The second year ran from November until the following September, after which students went on their elective: a two month period during which most students gained experience in a foreign hospital. This was considered the start of the final year which ran through until students' final examinations in June.

Students who passed their final examinations entered the pre-registration period, during which they were employed as house officers. This comprised two six month periods, one in surgery and one in medicine, often undertaken in different hospitals. The school had a 'matching scheme', whereby graduates were allocated jobs within the teaching hospital and associated district general hospitals. This system provided places for about 90% of graduates, the remainder having to apply direct to hospitals outside the scheme. Most KCSM graduates tried for places on the scheme initially unless they had particular reasons to want to move away from the area. Allocation was on the basis of students' choice, performance in medical school, and selection by consultants. Information made available to consultants when choosing their house officers included a ranked listing of students' aggregate firm grades and their sporting, union, drama or other activities undertaken in medical school.

Five curricula and a merger

I have so far described the school and hospital as they were at the start of my study. During my research, two major events occurred, which I will outline here, further details being provided, where relevant, in the findings.

The first major change was the introduction of the new curriculum, following the GMC's recommendations. It was introduced for the new year 1 cohort in 1996 and was due to work its way through the years until the first group qualified in 2001. This plan was modified due to the merger of the school, in August 1998, with the United Medical and Dental Schools of Guy's and St Thomas' (UMDS). This had been recommended by Tomlinson, and the government provided substantial funding for rebuilding as part of the deal. UMDS was a larger school, with an annual intake double that of KCSM. It had itself been formed by the merger of two
smaller schools some years previously, and had introduced a new curriculum prior to KCSM. It still had its own pre-clinical school, being one of the few medical schools which had no formal link to a university.

Once the merger was agreed, discussions started about a new joint curriculum. The process was complex, but in short, the 'old' and 'new' curricula in both schools continued running whilst a new 'joint' curriculum was planned (Figure 5). This was introduced simultaneously into Years 1-3 from September 1998. The other cohorts of students continued with the curriculum on which they had started. During the first year of operation, the schools ran a parallel curriculum, with students still based at the school to which they had applied (i.e. there was no movement of students between the sites of the former schools). A year after the merger, in 1999, a new basic sciences teaching building was opened, which provided facilities for the year 1 and 2 course for the complete new school of 360 students a year. At the same time, the students in years 3-5 started to rotate around sites for different parts of the course. Thus, from 1999, I have called it the 'merged' curriculum.

Figure 5. Curricula taken by new cohorts of students

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<tr>
<td>KCSM</td>
<td>Old</td>
<td>New</td>
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<td>Joint</td>
<td>Merged</td>
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<td>UMDS</td>
<td>New</td>
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<td>New</td>
<td>Joint</td>
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I will now summarise the curricula which existed during my study and define the way in which I shall refer to them in the text.

The old curriculum refers to that in operation for cohorts of students starting at KCSM up to and including September 1995, and ending in 2000 when the 1995 intake completed their final year of studies. This was the only curriculum running when I started my study and ran throughout. I refer to students on this course as pre-clinical, or first/second/final clinical year students.

The new curriculum refers to the curriculum which was phased in at KCSM for cohorts starting in year 1 in 1996. Three cohorts of students started this curriculum, but none finished it as it was superseded by the, not dissimilar, joint curriculum. I refer to students on these and subsequent curricula as year 1/2/3/4/5 students.

The joint curriculum was that introduced following the merger in 1998. It followed the same general principles and pattern as the KCSM new curriculum, with minor changes in the sequencing, teaching methods and assessments. There was a transition phase where the two schools curricula were considered to be running 'in parallel', with students taught on separate sites, using different methods, but to the same core curriculum. Some additional teaching was
carried out on both sites so that by 1999, students had had the same experience and could be taught together.

The merged curriculum started in September 1999, with a common Guy's, King's & St Thomas' entry, and students moving between sites for their teaching.

Further details about the curriculum development process will be given in my findings, particularly in Chapter 8. In the next chapter I describe the aims and methodology of my study.

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3Clack GB, Head JO, Eddleston LWF. Attrition in Medicine. A research project to investigate the reasons why a substantial minority of doctors have either left the profession or now regret their career choice. King's College London; 1998.
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Chapter 4
Methodology

Introduction

Hafferty, in describing why he undertook his study of medical students' early experiences of death and dying, cites his own personal experiences in the area, and states that:

'Every research undertaking has a personal and natural history that spans a great deal more territory than is commonly acknowledged in published statements of methodology and technique.'

I would concur with this statement, since an individual's interests and proclivities regarding research may have deep roots in their upbringing and life experiences. Whilst not pretending to cover the entire story here, I shall, in this chapter, aim to describe the rationale for my study and justify the methods by which I have carried it out. Here, and throughout the study, I aim to elucidate how my background and interests shaped the research.

In the first part of the chapter, I set out the origins, aims and design of the study. I provide the rationale for my choice of research approach, together with the necessary theoretical background. The research was conducted in my own organisation and this provoked practical and ethical challenges. I discuss the issues that arose in relation to insider research, and describe how I attempted to address them. I then consider how my background and personal characteristics may have impacted on the data collection and analysis.

The nature of the research I undertook meant that data collection, analysis and writing were all interwoven. Here, and in the appendices, I describe the range of methods used, my strategy for the selection and triangulation of data, and details of the data gathered. I describe how I analysed the data, and attempt to portray how I refined my research focus during the early analysis. I explain how certain themes emerged from the data, and how these were developed and explored in later stages. I describe the writing process, and explain the rationale for the presentation of the study. Finally I critique my methodology.

Origins of the research

My initial interests were in two main areas. In my job as a lecturer at the medical school, I was looking at how changes to the health service were affecting medical education, and how the education system might be adapted in response. This issue was high on the agenda at the time as the effects of the NHS reforms, which introduced the internal market, were starting to be felt. In addition, the General Medical Council had recently published its recommendations on undergraduate medical education which advocated more outpatient and community based
teaching in response to health service trends. I was interested to explore how the changes in health care delivery were affecting teaching from the perspective of the doctors and students.

My second main interest, which had developed during two management courses I had undertaken, was in organisational culture. I was interested in culture because of the effect I believed it to have on the productivity, learning, and job satisfaction of those working within an organisation. I was fascinated by the culture of the Department in which I was working, which was very different from other work contexts I had experienced. I had also become aware of differences between the organisational cultures of the hospital and medical school, and between the teaching cultures in general practice and the teaching hospital. I also perceived differences between the values and actions of medical teachers in general compared to those of the community of school teachers of which I had been a part.

I therefore set out to explore the medical teaching culture at KCSM. I felt that a case study of one school would allow me to explore areas in depth, and would be most practical given the part time nature of my research. I needed to draw some parameters around the area of investigation, taking into account my research aims and interests, the gaps I had identified in the literature, and my existing knowledge of the medical school. I decided to focus the initial study on the clinical course, particularly the major clinical specialties. The parameters I set were to study:

- undergraduate rather than postgraduate teaching
- the clinical rather than the basic science course
- doctors and students during their time on the main hospital/medical school site, i.e. not in district general hospitals, general practices, or social or other activities outside the course
- the mainstream medical and surgical teaching and support specialties, rather than psychiatry, psychology or public health.

Although I focused primarily on these areas, I did, in each case, collect some data on the alternative(s). This served as a comparison and was intended to highlight the characteristics of my main area of study.

**Study design and rationale**

Because I wished to explore the micro-world of medical education, I needed to use research methods that would facilitate an in depth understanding of what was happening. I wanted to elicit certain 'facts' about the changes taking place in medical teaching and learning, but more importantly I wanted to explore the perceptions, opinions and experiences of those involved. I considered doing an interview study. However I felt that this would limit my data to artificial situations which might produce a distorted picture, and would miss the opportunities I had to collect more naturalistic data.
Hammersley and Atkinson describe naturalistic methods of enquiry as based on the theory that:

'as far as possible, the social world should be studied in its natural state, undisturbed by the researcher. Hence, 'natural', not 'artificial' settings like experiments or formal interviews, should be the primary source of data. Furthermore, the research must be carried out in ways that are sensitive to the nature of the setting.'

Given my position as a lecturer in the medical school, I already had access to relevant information and activities in the course of my work. This put me in a good position to gather data in a variety of natural settings. Whilst recognising that this would present particular moral and ethical dilemmas (which I discuss later), I felt that I should capitalise on my position, and therefore decided to attempt an ethnographic study of the medical school. Ethnographic research is defined by Spradley as 'the work of describing a culture.'

I shall now explore the meaning of culture, and the nature of ethnographic research in more depth.

**Culture and ethnography**

There are many definitions of culture, and a large number of elements have been identified by theorists, including: artefacts, language (e.g. jokes, metaphors, stories, myths and legends), behaviour patterns (e.g. rites, rituals, ceremonies and celebrations), norms of behaviour, heroes, symbols and symbolic action, beliefs, values and attitudes, ethical codes, basic assumptions and history. Some of these may be seen as fundamental - for example, basic assumptions and values; others, such as ceremonies, as more superficial manifestations of these core values.

A definition which I found useful was that of Drennan:

'Culture is 'how things are done around here'. It is what is typical of the organization, the habits, the prevailing attitudes, the grown-up patterns of accepted and expected behaviour.'

This definition highlights how culture is evident in the everyday workings of a particular organisation. It also suggests, by the term 'expected behaviour' that culture is something into which newcomers are socialised, a theme to which I shall return later.

To study a culture requires a close engagement with a particular community. This type of research has its roots in anthropology where field workers live with the community under study and attempt to understand it from the perspective of the participants. In the process, they draw on many sources of data, including observation of behaviour, symbols and rituals; cultural artefacts; and oral evidence including language, stories and everyday conversation. Originally such studies tended to focus on remote, foreign tribes or civilisations. It was later recognised that there were cultures and sub-cultures within every society that could equally well be studied. This became an important part of sociology, with researchers studying a wide range of communities and social institutions in their own vicinity. This sometimes involves researching a culture of which one is already a part. In doing so, ethnographers attempt to stand back from the culture and describe it from a position of 'strangeness'. More latterly, with the growth of
management education and research, organisational culture has become a frequent subject of study.

Hammersley and Atkinson describe ethnography as a set of methods which involve the ethnographer:

'participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, asking questions - in fact, collecting whatever data are available to throw light on the issues that are the focus of research.'

My approach

My study was not a classic ethnography, in that, although 'living' within the medical school, I had my own distinct role which was neither that of student nor doctor. I therefore lived 'alongside', rather than 'with' a group of students or doctors.

I was able to collect some data during my normal work, and to supplement this with additional activities organised specifically for research purposes. Through my work I already had regular contact with doctors and students which included:

- co-ordinating a teaching firm, involving regular liaison with doctors and students
- teaching on courses for both doctors and (separately) students
- taking part in student assessment
- attending curriculum committee meetings
- carrying out evaluations of courses.

I planned to make field notes during or after such events and from informal meetings with students or doctors. In addition, I planned to organise other forms of data collection, particularly interviews, in order to explore areas which could not be accessed in this way. Details of the data collection are provided later.

I wanted to avoid pre-determining what might come out of the study, and therefore decided to take a grounded approach. This meant that initially I tried to keep an open agenda and to allow themes and theories to 'emerge' from the data. Strauss and Corbin define a grounded theory as:

'one that is inductively derived from the study of the phenomenon it represents. That is, it is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon.'

From previous work I was already aware of current issues in the medical education literature, and of some of the concerns of students and doctors. Clearly, it would have been impossible for these not, in some way, to influence what I saw. As Vidich and Lyman state:

'The observations of the ethnographer are always guided by world images that determine which data are salient and which are not: An act of attention to one rather than another
object reveals one dimension of the observer's value commitment, as well as his or her value-laden interests.9

I recognised that my interests, personal characteristics, and previous experiences would affect my collection and interpretation of data in ways which I consider below.

**Personal history: impact on data collection and analysis**

The participants in any social situation each play a part in the construction of meaning from it. I was aware that, in addition to the impact of my work role, my personal characteristics, biases, opinions and past experiences would affect each encounter. They would affect the nature of the relationship I was able to develop with the other participant(s), the data I collected and my interpretation of it. The characteristics which I brought to the research role included being white, female, middle class, non medical, a professional background in school teaching and a particular experience of medicine. Through my discussion in this section, and further references where appropriate in the analysis, the reader should be in a better position to interpret my findings.

As I have discussed in the background section, the majority of senior staff within KCSM were white and male. Amongst the junior ranks and students there was a high proportion of Asians (who were over-represented in the medical school relative to their numbers in the country) and a small proportion of other groups including black African or Caribbean (who were under-represented, despite their high representation in the local population). Women were similarly under-represented in the higher ranks of medicine but well represented further down. In this context it was important to consider how being white middle class (the 'norm') and female (the 'other') affected the data I collected.

Ball has discussed claims that women can be more empathetic interviewers, who may be deliberately deployed to elicit information from older men.10 I was certainly aware on occasions of attempting to 'charm' information from the doctors I was interviewing, who indeed were mostly older men. With a couple of exceptions, I felt that the doctors were fairly relaxed with me, and I was sometimes surprised at how open they were. It is nevertheless likely that in a male dominated environment, there are things which would never be said when a woman is present and aspects of the culture which I would never witness. The personal characteristics of the researcher will always be a limitation in such a study, but I felt that my study would offer a balance to the majority of studies in this area which have been carried out by men.

Being white probably limited to some extent the data I was able to draw from ethnic minority interviewees. I was keen to include a good representation of such interviewees as I hoped to draw out issues of particular relevance to them. Nevertheless I recognise that a researcher from an ethnic minority would probably have drawn different, possibly fuller data from such individuals, and that such a study is overdue. (For the purposes of the study I shall use the term 'ethnic minority' to refer to non-white students or staff).11

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I always attempted to maintain a 'friendly' neutral stance when observing or interviewing people for the first time. When I got to know doctors better, it was more difficult to hide my views, and my 'politically correct', pro-equal opportunity stance was once commented on as an irritation by a doctor. Conversely this may have helped if it was picked up by students who were generally more sympathetic to this view.

My personal attributes combined with my role in the school naturally affected the power balance in the research relationships. I felt that my comparatively low status in relation to most doctors helped in that I was not seen as a threat. This may have allowed doctors to be 'off guard' and to act fairly naturally. Being non-medical was useful in this, particularly as it meant that I could feign ignorance about issues on which I wanted to hear people's views. The disadvantage was that I almost certainly missed things which would have been understood or picked up by someone with a better knowledge of the terminology and an inside knowledge of medical practice.

In my interviews with students and particularly with doctors, it became clear that not being a nurse was important in allowing them to express their views openly. Historically there have been issues of contention between nurses and doctors at both the macro and micro level, and several doctors and students referred in negative terms to individual nurses or to the profession in general. Several interviewees asked specifically if I was a nurse, and seemed to relax when I said no. Having been a teacher appeared to be something which both groups could accept as relatively neutral.

Students' openness in the interviews was no doubt affected by my role as a member of staff which put me in a more powerful position than them. However being non-medical meant that I was not a 'normal' member of staff and therefore slightly outside the hospital hierarchy.

In terms of prior experience of medicine, I come from a non medical family and my main experience prior to joining KCSM was as a child, suffering severe asthma attacks which required several hospital stays. There was little other illness in my family. When I started at KCSM, I worked with GPs and on a mental health project, and so had some insight into these specialties. Immediately prior to and during my study I was working mainly with surgeons and their students, and to a lesser extent with other hospital doctors.

Thus, by the time I started my research I had met and worked with many doctors, medical students and other NHS and medical school staff. This meant that I already spoke and understood some of the language and had learnt to fit into the culture to an extent. I had become aware of some of the cultural norms and values although I still made and continue to make 'mistakes' which reveal me to be an outsider. I had seen and heard about aspects of doctors' work which gave me some understanding of its demands and difficulties. I had also encountered attitudes in some doctors about, for example, pay and status that I found distasteful. I therefore entered the research with a mixture of respect and cynicism for the doctors I would be researching. I did not feel in awe of the professors or consultants that I
interviewed, and I only once felt that I was prevented from asking or getting answers to the questions that I wanted.

Probably the most influential personal history that I brought to the research was my professional training and experience as a teacher. Having worked in the school system I had a fairly strong set of values and beliefs about 'good teaching'. These were partly derived from my training and background. Most however came from my practical experience as a teacher seeing what worked and what did not, and developing, within a community of teachers, beliefs and values about teaching and learning. As a novice teacher, one is not necessarily aware of one's own system of beliefs until it is challenged. The schools I taught in provided this challenge. The first was in a council estate in North East London, where the working class culture of most parents quite often came into conflict with the middle class culture of most teachers. The second school was in an Islamic, South East Asian country. Here a very different teaching and societal culture existed, and I was constantly surprised by how the expectations and behaviour of the local teaching staff differed from my own.

My own educational value system was brought into further relief on entering the medical school and coming into contact with another different set of expectations and values. Rather than describing these differences here, I will discuss them as they arise in the text where I have recognised that my interpretation has been affected by my teaching background. This background also affected my selection of themes, as I will discuss later.

It is worth adding that in addition to my teaching experience, I have been employed as an administrator in a voluntary organisation concerned with the law, and as a temporary secretary in a number of banks and other commercial offices. I therefore had experience of a variety of work contexts which informed my work, and as mentioned earlier, I had undertaken courses in management which had sparked my interest in organisational cultures.

In addition to the impact of my personal characteristics, there was the added issue of being an insider to the organisation I was studying.

Issues around insider research

When I started my research, I had been employed at the medical school for nearly 4 years initially as an administrator, later as a research co-ordinator, and latterly as a lecturer/educationalist. Studying one's own organisation brings with it particular opportunities and constraints, and a number of practical and ethical issues which I will now discuss.

Entry and access
Entry is the term used to describe the process of a researcher getting into the setting(s) s/he wishes to study. Access is the way in which s/he is able to effect useful data collection by self presentation and through gaining the trust and confidence of those being studied.
In insider research, entry into the organisation as a whole is already effected. There may nevertheless be issues around gaining consent for the research to be undertaken. Within the medical school there was a strong emphasis on research, although of a different nature to that which I wished to attempt. The majority of medical research is a scientific endeavour to reveal the 'facts', carried out according to strict procedures, ideally the randomised control trial. It is primarily quantitative and undertaken on the 'other' - patients, drugs, treatments, new technology, etc., rather than on the doctors themselves and how they contribute to the process. This type of methodology was clearly not appropriate for my study, and made determining how to secure approval for the research more difficult. I was worried that the methodology might be insufficiently understood to be acceptable. Secondly I felt that, were it understood, there might be fear that I would expose sensitive issues. Both these dilemmas were also encountered by Sinclair in his study at University College London. He describes how he was allowed access to the pre-clinical course only if he agreed to use a questionnaire:

'this was seen as the only way to draw valid conclusions, as well as being necessary to control for differences among students.'

In the clinical course however he was specifically barred from using a questionnaire as it was felt that this might interfere with another study already underway. Unlike me, Sinclair was medically qualified and this raised objections that he would obviously understand everything and might therefore be critical of the teaching. Had he not been a doctor, so the argument went, it would have been pointless since he would not have understood what was going on.

Fortunately, the culture of my own department differed from others in the school and had a greater openness to qualitative research. I discussed my research plans and early pilots with my manager, who was in a senior management position relating to the clinical undergraduate course, and with my head of department. Both supported my work and agreed that I should proceed, although it was not clear whether they were in a position to give formal approval on behalf of the school since there was no established procedure. Nor was it clear whether further agreement from other senior managers - even if deemed by them to be 'formal approval' - would satisfy the test of ethical acceptability. As I proceeded with the initial stages of research, making a more formal application became increasingly difficult since it risked the study having to be jettisoned suddenly, perhaps on the say of one individual in the school. It was agreed that it would be best to build understanding of the research, and to further establish acceptance, by a continuous process of openness. I gave presentations on my work to various departments, interviewed some senior figures, and referred to my research in relevant committee meetings or other fora. Thus I ensured that senior figures were aware that I was carrying out research within the school. (See further discussion of informed consent below under 'Overtness of the research').

As a member of staff, I could naturally access many social and educational contexts, such as committees, teaching sessions, the canteen, library, secretariat, etc; and documents such as student evaluations, committee minutes, reports, the student notice board etc. I also had
existing relationships with relevant people: doctors, students and other medical school staff, who could facilitate access to social situations of which I was not usually a part.

This was helpful in gaining access, but also signals how extra care needs to be taken by inside researchers in assessing their effect on the data. I will now discuss this issue in more depth.

**Combining work and research roles**

My job involved working with doctors to improve the education that students received. This involved assisting doctors to develop the courses they offered, initiating new courses, training doctors to teach, and advising curriculum committees on educational issues. When researching one's own organisation, there will be times when work roles and research roles clash, if only because there is not time to do both at once. I always gave priority to my work role when present primarily for that reason (i.e. in participant observation) and to my research role when I had arranged specific events for that purpose. However a more vital consideration was how the different roles might impact on and affect each other:

**Impact of work role on the research:** It was important to consider how existing social relations (e.g. the way in which I was perceived in my work role) would impact on the data collection. For example, individuals may have filtered or biased what they said in order to express views which they considered would be acceptable to me. Denzin notes that:

> 'Respondents in the interview situation frequently answer questions in terms that they perceive as having the greatest degree of social desirability. That is, the respondent attempts to present a credible and knowledgeable self to the interviewer. In the course of presenting a self [...], the respondents may selectively distort, mask, or lie about their attitudes on any given question.'

Doctors in my sample, for example, may have exaggerated the amount of preparation they did or the amount of enjoyment they got from their teaching, or may have kept quiet about views which they felt would not be acceptable to me. Students may similarly have wished to portray themselves in a good light. Sometimes I had evidence from other sources which I could triangulate with this, but sometimes I did not and had to use my judgement in interpretation.

For these reasons one of my criteria for selecting interviewees and arranging observations was that I had a balance of people I already knew and those I did not. It was easy to find people whom I did not know because of the high turnover of staff and students, and because at the start of my study as I was fairly new to the job. With those I did know, or knew of me, I endeavoured to be aware of the history of the relationship when collecting and analysing the data. Hammersley and Atkinson contend that:

> 'Minimizing the influence of the researcher is not the only, or always even a prime, consideration. Assuming we understand how the presence of the researcher shaped the data, we can interpret the latter accordingly and it may provide important insights.'

Indeed I felt that the reaction to myself and other educationalists did reveal certain attitudes and perceptions that were relevant to the culture I was exploring. I discuss this again in relation...
specifically to interviews, and in the discussion of triangulation, which was another way of attempting to overcome any potential distortion in the picture I was building up.

Another effect of my role in the organisation was that some doctors welcomed the opportunity to make their views known, and to suggest ways in which they thought I should bring my influence to bear. Some doctors and students highlighted particular problems and asked whether I would be feeding back my findings to the medical school. Occasionally they asked for information relating to the medical school. Some were pleased to take part because they saw it as a sign that the medical school was finally recognising that their views mattered.

I was very surprised about some of the things individuals were prepared to discuss, for example, issues around race and the use of intimidation in teaching. I put this down to two factors. Firstly, as previously discussed, I was in a less powerful position than most of the doctors I interviewed and therefore not a threat to them. Secondly, doctors, as members of a consulting profession are used to being consulted about things. In a teaching hospital in particular, many of them are consulted by colleagues and the media as well as the public, and are used to presenting their views at meetings and conferences. To get to this position they have to be confident and this may be carried into areas other than their own specialty. Some interviewees were very outspoken. Only occasionally were they concerned about the confidentiality of their views. One interviewee asked me to switch off the tape recorder while he expressed his lack of confidence in some of those charged with the curriculum development. Another asked for reassurance that it was confidential, and expressed the view that doctors were being 'watched' more and more. One doctor appeared particularly defensive and was difficult to engage in conversation.

As my research progressed I perceived a slight increase in cautiousness on the part of doctors in discussing their views. One possible reason for this may have been an increasing awareness that there was such a thing as educational theory, which it was starting to be expected that doctors should know about. The lead-up to, and introduction of the new curriculum was the first time that many doctors had been asked to review their teaching and consider new ideas. In addition I became better known in the school as these developments took place. However, even those interviewees who had seen me in a curriculum committee, or knew me as a course organiser, knew comparatively little about my role.

Several interviewees asked about my background or role during the interview. This was usually to check out how much I knew about something and thus how they needed to mediate their comments, for example one interviewee asked me to clarify my existing knowledge of an organisation and reports related to medical education.

The various issues I have raised indicate the need for caution in interpreting the interview interview data, and for triangulation with other methods.
**Impact of the research role on work:** My research gave me a better understanding of students' and doctors' perspectives and of the school structures, both of which helped me in my work role. Thus, some elements of my research became analogous to 'action research' because of the combination of work and research roles.

Action research is a methodology often used by practitioners in a field who wish to change or develop their own practice through the use of inquiry, reflection, evaluation and theory. Within this overall framework, the emphasis may vary between the instrumental, practical or emancipatory. My study was not designed as action research, as I was not specifically investigating my own practice. Naturally, however, the data I collected and the understanding I gained influenced the way I carried out my work, for example, the nature of the contributions I made to committee debates, my discussions with influential staff and the way I ran educational sessions. In turn, my contributions may have affected the changes underway in the medical school in some small ways. I would not want to overplay this however since I was only one of a large number of people who contributed to decisions about the course.

I was also aware of the danger that my research role might hinder my ability to do my job if doctors felt that they were constantly being 'researched'. For example they may have been less willing to discuss their problems openly if they felt that I would be noting everything down. This raised the question of how open I should be about my research, a dilemma I discuss in the section on ethical issues.

**Making the familiar strange:** Another issue in ethnographic research is the need to 'render the familiar strange and the strange familiar'. Atkinson describes how difficult this can be in settings such as hospitals, about which all adults within a culture would have a broad knowledge. This problem is even more acute in one's own workplace where one has also become accustomed to, and probably internalised many of the norms and values of the organisation.

In my case this was only partly true. As a member of staff, I was part of the medical school. However I was not a member of the particular culture of students and doctors that I was studying, and still felt in many ways like an outsider. This was due firstly to having come from a very different background from most other medical school staff. I did not have a medical background and had not previously worked in medical education or in the health care system. Additionally I was attached to the general practice department which itself was outside the main hospital culture which I wanted to study.

Although I had learnt to 'fit in', more or less, many of the practices and attitudes I encountered seemed strange without effort. Nevertheless, as time went on it did require more effort to see the obvious. I used various strategies to distance myself from the culture including presenting my work to outside audiences, discussions with other non-medical staff, reading about education in other contexts, and observations of teaching in other settings. Sometimes these
activities threw new light on certain areas and helped me to question and strengthen my interpretation.

**Maintaining distance:** Woods describes a problem for qualitative researchers of getting the right balance between 'involvement, immersion and empathy on the one hand, and distance, scientific appraisal and objectivity on the other. He notes that the more one understands others’ perspectives, the more difficult it is to avoid being taken over by the subjects ('go native'). In particular, ethnographers are often accused of romanticising their subjects. Again, this is an even greater problem in insider research as one naturally feels a loyalty to, and has, to some extent at least, a shared experience with, one’s colleagues. In my case, I found that researching both students' and doctors' perspectives was helpful in preventing me from identifying too closely with one group. Although my sympathies tended towards the students because of their relative lack of power and control, nevertheless, hearing the views of doctors, and my own experiences of teaching medical students, provided a balance.

**Ethical issues**

A number of ethical issues arose during the course of my study because of the nature of insider research and the particular situation I was in.

**Overtness of the research**

This is an issue on which there is a range of views. Bulmer, for example, argues strongly against covert research because it involves deception which goes against the principle of informed consent. Many sociologists are also opposed to any form of covert research because of the potential damage it can do to their reputation. Punch however suggests that gaining informed consent is not practical in every context. He holds that the researcher need not always be 'brutally honest, direct and explicit' about their work, but should not directly lie, steal documents, engage in disguise or break promises made. Woods describes a tension between the public's right to know and the subject's right to privacy, and suggests that researchers may experience crises and review some of their own basic assumptions in the process of determining their approach.

Because I collected data in work situations, in which I was already a legitimate participant, my research role was not always overt. I sometimes felt uncomfortable about playing a dual role, particularly when colleagues were not aware of my research. However there were practical and other difficulties about always being overt. I therefore adopted a mixed approach to informed consent. On the one hand, where I arranged observations or interviews, I always sought permission directly from the individuals concerned. On the other hand, I did not routinely seek permission for data gathered in normal work situations. There were several reasons for this; firstly, as discussed above, that always being overt might hinder my ability to do my job effectively. Secondly, I was unclear whether the 'offer' of consent would be a realistic one. Since I could not 'un-see' or 'un-hear' things which happened during the course of my work, my analysis would undoubtedly be informed by these. However, if I were not able to use these experiences in writing up the study, it might be difficult to provide evidence for my assertions.
Thirdly, there were practical problems in gaining informed consent for everything I might
notice in the course of my work. Logistically it would not always be possible to ask everyone
for consent (for example when I attended a faculty board meeting). Even if I sought
permission specifically for particular events, say regular committee meetings, it would be
unlikely for it to be constantly at the front of participants' minds. To stick to the spirit of
informed consent it would be necessary to constantly remind people about the research. Apart
from the impracticability, this might also suggest that they had something to hide and thus
inhibit proper discussion of the issues.

My approach was always to be open about my research where I was undertaking specific tasks
for it. Where it coincided with my work role, the level of explicitness varied according to my
judgement of the situation, but I was careful not to intentionally mislead anyone or lie about it.
In some cases where I was asked to undertake work in relation to my job which I thought might
be directly relevant to my research, I discussed this explicitly with the individuals concerned.
In making decisions I took into account the purpose and intended dissemination of my research
(e.g. the limited circulation of a PhD thesis).

The distinction between overt and covert research is not always as clear cut as it sounds.
Homan describes how the distinction may be:

‘no more than a snippet of information uttered at the outset of research and likely to be
forgotten forthwith.’

Denzin describes how sociologists may take either absolute or relativist stances with regard to
their research ethics. Ethical absolutists argue that there are universal rules which apply
across all sociological activity, whilst relativists hold that individuals should consider each set
of circumstances individually and follow their consciences. I would tend to agree with the
latter view since circumstances vary so greatly and cannot always be predicted, whilst
recognising the possible dangers inherent in this.

I also considered two further issues: whether informed consent could be gained after the event,
and the effect which publication of the data could have for those studied. Gaining consent after
the event can only relate to the way in which the data is used. I felt it would be useful to
discuss draft chapters or sections with doctors and students as part of the verification process,
and to include their responses where relevant. I also offered the Dean and senior staff the
chance to comment on the draft thesis. I did not however wish to give them a right to control
what I published, nor did they expect it. The effect of publication on those studied is
considered under the section on anonymity and confidentiality.

Being critical/judgmental
Many of the ethical problems I encountered were due to concerns about the data I was
collecting. To someone with my educational background and beliefs, there appeared to be
areas for concern in medical education which were not widely known outside. I found it
difficult not to make value judgements about things I saw or that people told me. I felt guilty
about collecting data from people whose trust I had gained, which if publicised might have negative repercussions for them. This issue has been noted by others studying school environments, including Becker who states that:

'All research on schools has overtones of evaluation. We can't help that. Even if we don't intend our work to be evaluative, the people we study will take it that way, for the good reason that everyone else does and will hold them responsible for whatever we find out that anyone thinks untoward.'

In trying to deal with this, I had to consider a number of competing interests: that of the medical school, the public interest and my own interest. The medical school interest was important because, within the format required of a PhD thesis, it seemed impossible to disguise the identity of the school I had studied. This would in any case be difficult because of the small number of medical schools in the UK and the necessity to include sufficient information to set the context within which readers could interpret the study. As a member of staff I had a loyalty to the organisation, and particularly to individual staff within it. I was also aware of public interest considerations such as the right to know about the quality of publicly funded education and the quality of doctors qualifying from British medical schools. The fact that I believed there to be areas for concern served to make the public interest seem more important and my own position more difficult. Finally my own interest was to complete a thesis of sufficient quality, preferably still to have a job at the end of it, and to satisfy my own conscience.

I adopted two approaches, although neither of them completely solved my dilemma. One was to try to explore my areas of concern in interviews, so that I understood the interviewees' position better. The best example of this is my exploration of the use of intimidation in teaching (described in Chapter 11). Whilst unacceptable to me, through talking to doctors I was able to elicit their rationale, and better understand the context in which this was considered acceptable. Talking to students also led me to appreciate that the situation was not as black and white as I had at first thought. By exploring and presenting the issues in a disinterested fashion, I felt that I had fulfilled a duty to be fair to those involved. There were also some issues on which I changed my opinions during the course of my research as I discovered more about them, and this made my dilemma easier.

The second approach was to attempt to identify the causes of problems, and to assess where the responsibility for them lay. As I progressed with my research, I felt more and more that the problems I identified were caused not by individuals but by the system within which they were working. Very often, I felt that the school was constrained by the way in which medical education is set up, and by the culture of the medical profession. Thus I started to see the school and the individuals within it as the product of a system over which they individually could sometimes have comparatively little influence. This made me feel better, but meant that the issues were more serious!

My concerns were also eased by the introduction of the new curriculum at KCSM, and the fact that a great deal of work was put into trying to solve some of the problems that I was
identifying. Thus, as time went on, I could describe not only the problems, but also how they were being tackled by the School. Assessment was one example of this. There were known problems with validity and reliability in the old curriculum, but during my research considerable attempts were made to address them, both locally and nationally. Again, this helped to ease my concern that I would be portraying too negative a view of an organisation to which, as a member of staff, I felt some loyalty.

Methodology

Having described various issues affecting the research, I now describe in more depth the methodology which I employed. In line with a grounded approach, I used an iterative process of data collection, analysis and reading, in which the various activities all informed and were interwoven with each other. I was therefore involved in various elements of the work in parallel throughout the study. For the sake of clarity however, I will describe the processes separately, and provide details which are not required within the text as tables and appendices. In Table 3, I provide an overview of the tables and appendices which relate to the three main (overlapping) phases of the research: data collection, data analysis, and the interpretation and validation of the findings. Each table and appendix is also referenced more specifically in the text below.

Data collection

As described earlier, my data sources were of several kinds. Firstly there was data gathered during my everyday participation in the life of the school, which included field notes and documentation from:

- undergraduate and postgraduate teaching sessions
- undergraduate assessments
- evaluation activities
- teacher training sessions
- curriculum committee meetings
- informal contacts.

Secondly, I organised a series of individual interviews with staff and students. These were designed to elicit students' and doctors' experiences and perceptions of the course and the medical school.

As I started to analyse the data and identify various themes and issues, I made decisions about further data collection. In order to address perceived gaps in my understanding, for example, I decided to expand the range of data collection methods, and set up some focus groups and some observations or shadowing of doctors. Also, in the course of my job, I became more involved in teaching and assessing students, which provided further data.
Table 4 gives a chronological summary of the research, showing the main phases and types of data collection in relation to the curriculum developments and external assessments of the school. Full details of what and how data was collected are provided in Appendix 1, and the interview schedules are included in Appendix 2.

Table 3. Research phases and supporting information

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<th>Supporting information</th>
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<td><em>Table 11.</em></td>
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<td><em>Table 12.</em></td>
<td>Evaluation and other student related activity</td>
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<td><em>Table 13.</em></td>
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| **Data Analysis** | **Table 5.** Triangulation of data analysis |
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| Appendix 3. | Sample coding of interview transcription |
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| Appendix 14. | Diagram to show relationship between six main themes |
Table 4. Data collection sequence, and milestones in the medical school

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NB. This diagram shows main data sources only. For full details see Appendix 1.
**Triangulation**

One of the reasons for using this variety of data collection methods was to 'triangulate' the data. Triangulation is the use of multiple research strategies to investigate the same phenomena. Denzin describes its advantages as follows:

"Each method implies a different line of action toward reality - and hence each will reveal different aspects of it, much as a kaleidoscope, depending on the angle at which it is held, will reveal different colours and configurations of objects to the viewer. Methods are like the kaleidoscope: Depending on how they are approached, held and acted toward, different observations will be revealed."28

Thus using a variety of strategies can reveal different insights, as well as providing a way of compensating for the limitations of any one method of enquiry. (The particular characteristics of data produced by different methods will be discussed later).

Denzin describes four different types of triangulation: data triangulation - the collection of data from different people, at different times and in different settings; investigator triangulation - the use of different observers; theory triangulation - using multiple theoretical perspectives to analyse the same data; and methodological triangulation - using multiple methods of investigation.29 Below I outline the ways in which I triangulated my data, referring as appropriate to relevant tables, appendices, and further discussions in other parts of the text.

In terms of methodological and data triangulation, I had access to a wide range of data sources, and used a variety of research methods and informants (see Appendix 1, Tables 11-16). I tried to ensure good representation of different types of people, settings and time contexts within each data source. These are described in more detail in Appendix 1 where I also discuss my sampling strategies, specifically the selection of observations and interviewees. The degree of triangulation for particular themes was a factor in shaping the focus of the study. In general, those themes which emerged and were supported by data from a range of sources tended to become the more central ones, whilst those obtained from fewer or more similar types of data were viewed as less central. However, this also depended on the subject, since I recognised that some themes would only surface in particular types of data collection. For example, I never heard students' views on the effects of race and gender on their experience in medical school raised in curriculum meetings or during teaching sessions. This did not mean that it was not an issue, simply that it would only be raised in certain circumstances such as anonymised questionnaires or private discussions with someone they felt they could trust.

In terms of theory triangulation, I explored a range of perspectives relevant to the material, which helped me to consider different interpretations. This has been particularly useful where there have been differences in perception between students and doctors. I have been informed by theories from various fields including education, sociology, feminism and management.

In terms of investigator triangulation, I involved colleagues and others outside the school in commenting on my coding, analysis and interpretation. I will describe this in more detail in the section on 'Data analysis and interpretation', and in Table 5, and Appendices 7 and 8.
Developing the research focus

When I started the research, I had a broad idea of the areas I wanted to explore, but no specific hypotheses or firm ideas about how I would eventually present the data. Earlier I have described the parameters which I determined at the start of the study, and these developed and focused at various stages during the research. Ball describes how analytical insights derived from early analysis are used to make decisions about future data collection:

'Natural or conceptual categories emerge from the on-going analysis of data as especially significant or problematic. Data collection, then, actually may be organized around these emergent categories. This may be part of a secondary process of 'progressive focussing' whereby other sorts of data are no longer being collected.'

I found that certain themes started to emerge from the data early on. One of the first was doctors' complaints about students no longer 'being on the wards'. Having identified this as an issue of concern, I then explored students' views on the same subject. This led me to focus some of my research on areas of conflict or contention between different groups, a strategy which Spradley suggests is useful in studying any society.

I also focused on what seemed to be 'hot issues' for either doctors or students. For students, there were several related to their confusion and frustration over various discontinuities in the course. These were issues that frequently came up in committees, and on which I subsequently undertook some related research. A number of codes and categories related to the idea of a lack of cohesion in the course, which became one of the major themes. With doctors, it soon became clear that teaching was an almost invisible role in many senses, and that there were communication issues between the medical school and its teachers. I began to sense a feeling of isolation in both students and doctors, and this led me to explore in more depth a number of themes which I loosely grouped under the category 'lack of respect'. This included issues such as lack of information, communication, and one by which I was particularly intrigued: the use of intimidatory teaching techniques. This area related to my original aim to explore the culture of medical teaching and became an important focus of my research.

On the other hand, I decided not to pursue another area on which I had gathered some initial data: aspects of student learning. Although a wide variety of issues relating to this came up in the early interviews, there was relatively little said about each one. I was interested in students' views and perceptions of the teaching and learning atmosphere, and what motivated them to learn, consonant with my aim of exploring the culture of medical education. However I decided not to pursue their chosen methods or theories of learning medicine. I felt that to study this in the depth required to add anything to the existing literature would require a more focused study using different research methods, and probably a researcher with greater medical knowledge.

As I was collecting and analysing my data, I read around relevant areas. One of the key words which kept cropping up in my interviews with doctors was 'apprenticeship'. It seemed to be a concept very close to their hearts, and key to their views about medical education. I thought I
understood what they meant by an apprenticeship, but it was actually a long time before I gave it serious thought. At a PhD student support group about two years into my study, one of the students suggested that I read a book on apprenticeships by Lave and Wenger. On doing so, I immediately felt that this had provided important analytical insights.

Up until that point there had been many things that puzzled me about the course, coming as I did from a school teaching background. For example, I couldn't understand why students should be given no official holiday but allowed to take four weeks off at any convenient time, when they would miss teaching. I couldn't understand how there could be no written aims or objectives. I couldn't understand how doctors could get away with intimidating students, and many other things. When I started to read about traditional apprenticeships being a method of ensuring a supply of labour, and passing on a particular ethos and way of life, many practices at the medical school started to make sense. Reading the book helped me to see how my own conceptualisation of education differed from the apprenticeship model. This proved to be a turning point in my analysis, and provided a key conceptual framework with which to illuminate some of my findings.

Another important influence was reading William Foot-Whyte's methodology for his well-known study of an Italian sub-culture in Chicago in the 1950s. He commented that it was the length of engagement that had provided him with unique insights. This led me to concentrate more upon the changes which were taking place, rather than on describing a static situation which had been my original plan. I started to think more about the bigger picture to which the detail I had been studying contributed. Thus my research gradually focused around a number of key themes.

**Data analysis and interpretation**

From early on in the study I started to analyse and interpret the data. These two processes are often subsumed under the term 'analysis', which Strauss describes as a question of 'how to capture the complexity of reality (phenomena) we study, and how to make convincing sense of it.' He describes how the processes of induction, deduction and verification are used to generate new ideas from the data, hypothesize about implications and to confirm, amend or deny emerging concepts in order to build theory.

In this section I will describe and distinguish between the processes, although I concur with Wolcott's suggestion that description, analysis and interpretation should be regarded as varying emphases rather than discrete processes. In the following section I will describe in more depth how I analysed and interpreted the data.

**Analysis:** The analysis phase involves breaking data down into manageable chunks, and coding and categorising them. This clearly involves a degree of interpretation as the coding process cannot be value-free - it, as much as the data collection, will be affected by the perspective of the individual undertaking it. Nevertheless, the researcher can employ strategies that help to ensure that the analysis is supported by the data - i.e. stays 'close to the data'. These include
maintaining a conscious awareness/reflexivity about the analysis, and forms of triangulation
such as checking interpretations of events with others present, and comparing others' codings of
the same data.

**Interpretation:** Interpretation involves a more explicit attempt to go 'beyond' the data
themselves, to suggest meanings, and to relate what has been analysed to a wider arena. Ely *et
al* describe it as:

>'drawing meanings from the analyzed data and attempting to see these in some larger
context. Interpretations arise when patterns, themes, and issues are discerned in the data
and when these findings are seen in relation to one another and against larger theoretical
perspectives - our own newly emergent views or those to be found in 'the literature'.

Below I describe the processes I used in analysing and interpreting the data. This is
supplemented by Appendices 3, 4, 5, and 6, which provide further details and samples of the
data and coding.

**The analytic process**
I started by transcribing my field notes from observations, meetings and informal events. All
the interviews with doctors and students were tape recorded and these were also transcribed.
The next stage was to read and code paper copies of the interviews. I went through each
transcription underlining key words or phrases and making notes in the margins. I started to
identify themes in the data and questions which needed answering.

Although this process generated some useful ideas, I was not convinced that my method of
coding and analysis was sufficiently rigorous, and decided to learn to use the NUD*IST
computer package for the analysis of qualitative data and theory building. I entered my
transcriptions and started the coding process again, informed by, but not confined to my
previous codings. I assigned provisional code names to the issues and concepts raised in each
interview and labeled data on a line by line basis (see Appendix 3 for a sample).

After making a start on the interview data, I then added my field notes from observations of
teaching, shadowings and participant observations in committee meetings, teaching and
assessment sessions and staff training sessions. As I was doing this I noticed that many new
codes were required because the different types of data tended to spawn different themes.

This raised the issue of how to deal with different types of data. There were three main types:
observational data, including participant observation; interview data, including individual
interviews and focus groups; and documentation. These have different characteristics,
strengths and weaknesses which I had to be aware of in the analysis.

Interview data can be a good source of information about people's experiences, opinions, views
and emotions. It should help the researcher to understand the meanings which people attribute
to their experiences and to the world around them, but will not necessarily be an accurate,
'objective' reflection of that world. For example, in interviews, I heard doctors' espoused
teaching theories and descriptions of their teaching methods, which may or may not have been a ‘true’ representation of their actual practice. Baker highlights the joint production of data by interviewer and interviewee, and suggests that interview responses should be treated as ‘accounts’ more than reports. I found that students and doctors often appeared to be thinking things though as they talked, and may have rationalised past actions in a way that was not conscious at the time.

Observational data can be a useful record of what people actually do in practice, but will be filtered through the lens of the observer, and may of necessity and/or design be highly selective. It may also be limited in what it can reveal about participants’ motives, previous experiences and opinions. Also, particularly in non-participant observation, the researcher’s presence may alter the normal dynamics of the situation. At KCSM, some contexts presented more difficulties than others in relation to my obtrusiveness and thus the ‘naturalness’ of data I could obtain. In observing lectures for example, I could fairly easily merge into the crowd, but it was harder in more intimate settings, such as the clinical teaching which normally involves only 1-8 students and forms a major part of medical students’ education. In these situations my presence was almost certain to change the usual dynamics of the situation. Hammersley and Atkinson comment:

‘The problem of reactivity is merely one aspect of a more general phenomenon that cannot be eradicated: the effects of audience, and indeed of context generally, on what people say and do. All accounts must be interpreted in terms of the context in which they were produced.’

Thus, my presence in such settings does not make the observations invalid, but does mean that data has to be interpreted cautiously.

Documentation may provide a useful record of decisions, arrangements and activity, unfiltered by the researcher. However documents too are ‘social facts’ produced according to particular conventions rather than transparent representations of what actually happens, and cannot be treated as firm evidence of what they report. I tended to use documentation for checking and following up themes identified through the observational or interview data. In particular I used it as evidence of what was on the ‘agenda’, i.e. what was discussed in committees, and to compare the ‘paper curriculum’ with the accounts of students’ and doctors’ experiences.

Thus the different types of data provided a greater range of perspectives on the phenomena under study than could have been obtained by a single method. However caution needs to be exercised in analysing them to prevent a naive, unproblematic aggregation of data. Silverman suggests that different methods should be used to help understand why people account for things in a given way in a particular context, rather than to adjudicate between competing versions. It was not my intention to check whether or not individual interviewees’ descriptions fitted ‘the facts’ of their past actions. I was more interested in the descriptions and rationalisations themselves, and what they revealed about students’ and teachers’ perceptions and attitudes. However I did triangulate data from different sources at a thematic level (i.e. I used data from different sources to validate and elaborate emerging themes), and took this into
account when deciding which themes to pursue. Throughout the analysis and writing up, I endeavoured to be aware of the context from which data had come, and to make it clear in the writing up whether events had, for example, been observed by the researcher or reported by participants.

Returning to my coding, I considered developing a new coding system for the observational as opposed to the interview data. However I decided that this would be confusing, since many of the original codes were also applicable to the new types of data, and thus provided triangulation. I concluded that it would be best to use the same coding framework for all the data, but to add new codes as necessary. I subsequently re-analysed the interviews to check whether any of the new codes were also relevant to them.

At the end of the study I checked the kinds of data allocated to each code and found that approximately 15% of codes had either wholly interview type data or wholly observational data. These tended to be either codes which had few references, or those relating specifically to students’ or teachers’ feelings. Other codes, and some themes, tended to have been derived primarily from specific types of data, and this will be described in each chapter of the Findings.

Using the computer facilities, I gradually defined and refined the codes and moved information between them. Some were discarded or merged with others. Some were split into sub-codes. Codes were then grouped into a number of categories, so that gradually a hierarchy was established (see Appendix 4 for a sample theme, showing the categories, codes and data sources). The process of coding, and developing the coding system continued as further data collection was undertaken and new transcripts added.

Although aware of the criticisms and limitations of using a computer package for qualitative data analysis, I personally found it a very useful tool, and felt that my analysis was much more systematic and rigorous as a result. It helped me to clarify definitions and descriptions of codes and to assign codes more consistently and reliably. For example, the programme’s search facilities could be used to search all documents for key words or phrases so that I could check that these were coded appropriately. It also facilitated analysis and interpretation as all the data under a particular code could be scanned using the browser facility (see Appendix 5 for a sample code and its data).

I found these processes useful in clarifying my thinking, and building up a picture of the important themes. I started to delineate the various dimensions of codes to gain a more in depth understanding. I added summaries of important documents or literature, and coded them using the same system to aid analysis and writing. I added memos to the codes to record ideas, interpretations, further questions, preliminary analyses and relevant references.

Where the computer was less helpful was in looking at relationships between codes. Although, technically it was possible to represent some of these on the programme, I found it simpler to work on paper. From early in the analysis I sought to consider possible elements of cause and
effect, or more complex relationships between the codes, and to represent them diagrammatically.

While doing this, I identified further data gathering required and focused my subsequent field work accordingly. For example, one of the themes which emerged from my interviews with doctors was the conflicting priorities with which they had to cope. I realised that I did not have a clear picture of doctors' everyday working lives, and how the various aspects of their job fitted together. Subsequently I arranged to shadow some doctors to gain a better understanding of how their various roles interwove in practice.

Describing the process of analysis is difficult because although some of it, such as the computer coding can be easily described, other aspects are more intuitive. At the early stages of my work, my codes were largely descriptive, and I felt that I was just getting to know and organise the data. Later I started to aim for more analytical codes. Various strategies and activities were useful in this, including grouping several codes together, studying in more depth certain interviews that I considered particularly revealing, talking informally to people about my ideas, listening to presentations from outside the medical profession, and reading other people's work. Sometimes inspiration came at unlikely times; at other times I searched endlessly without success. Throughout the process, the individual codes were subject to change as new data were entered and analysed. This need for revision slowed considerably towards the latter half of the research.

**Investigator triangulation**

To address the issue of investigator triangulation I used a number of approaches within the constraints of producing an individual doctoral study (Table 5).

To assist with validating the data coding, I asked other people to read and comment on individual interview transcripts or parts thereof. I then discussed their thoughts and findings with them and compared my analysis to theirs. This helped to confirm where my codings were reasonable, to raise questions about the meaning of some codes, and to suggest new codes appropriate to the data. To assist in triangulating my interpretation and presentation of the findings, I presented aspects of the research within my Department, in the School where I was supervised for my doctoral work and at relevant conferences (Appendix 7). In these presentations I encouraged discussion and comment from the audience, which sometimes provided useful insights or new ideas. I also held informal discussions about my emerging ideas with some informants outside the medical school (e.g. doctors from other schools, other health care staff). Finally, in the latter stages of the work, I gave draft chapters to a number of colleagues and research subjects for comment as to their plausibility. This is discussed further in the section on Writing and Validation (below).
Table 5. Triangulation of data coding

<table>
<thead>
<tr>
<th>Data reference</th>
<th>Data type</th>
<th>Triangulator</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>tchr-int5</td>
<td>Interviews with consultants</td>
<td>Supervisor</td>
<td>As part of the supervision process</td>
</tr>
<tr>
<td>tchr-int16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tchr-int22</td>
<td>Interview with professor</td>
<td>Fellow PhD students</td>
<td>During a workshop on data analysis</td>
</tr>
<tr>
<td>st-int33 and 34</td>
<td>Interviews with year 3 students</td>
<td>Colleague in School of Education</td>
<td>As part of a process to develop a new research proposal</td>
</tr>
<tr>
<td>stfocus-gp106</td>
<td>Focus groups with year 1 students</td>
<td>Colleague 1 in Dept of General Practice</td>
<td>Focus groups were undertaken as part of an evaluation and jointly analysed</td>
</tr>
<tr>
<td>stfocus-gp107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>st-int1</td>
<td>Interview with year 3 student</td>
<td>Supervisor</td>
<td>As part of the supervision process</td>
</tr>
<tr>
<td>tchgobs80</td>
<td>Observation of teaching by senior registrar</td>
<td>Supervisor</td>
<td>As part of the supervision process</td>
</tr>
<tr>
<td>yr3-5mtg56</td>
<td>Observation of curriculum committee meeting</td>
<td>Fellow PhD students</td>
<td>During a workshop on observational methods of data collection</td>
</tr>
<tr>
<td>inf-yr3st54</td>
<td>Informal discussion with year 3 student</td>
<td>Colleague 2 in Dept of General Practice</td>
<td>As a reciprocal arrangement since she is researching in a similar area</td>
</tr>
<tr>
<td>st-int20</td>
<td>Interview with student</td>
<td>Colleague 2 in Dept of General Practice</td>
<td>As a reciprocal arrangement since she is researching in a similar area</td>
</tr>
</tbody>
</table>

*Each piece of data was given a unique reference (comprising letters indicating the source and type of data and a sequential number), except for informal contacts which were grouped together since many were quite short.

The structure of the data coding system

By the end of the study I had generated over 200 codes, a figure which indicates the breadth of the issues covered. In order to progress the analysis, the codes were gradually organised into categories and then into themes. This was not always easy, as some codes could belong to more than one category or theme. For example, the 'Introductions' code which was about the kind of introductions given to students on their firms, could have gone under Teaching Practice. However I decided to put it under Teaching Atmosphere because on analysing the content of the data, it seemed to relate more to how students were or (more often) were not prepared for the firm and the effect of this on their learning, than to how doctors planned and executed their introductions.

Table 6 shows, in the left hand column, the categories and number of codes within each category. A full list of codes, organised into themes, is provided in Appendix 6. The right hand column shows how the themes relate to chapters in the Findings. In Part I of the Findings, I discuss the content, methods and structure of teaching, drawing primarily on the Teaching Practice, Course Cohesion and Teaching Structure themes. These themes were derived primarily from observational data and documentation, and to a lesser extent from interview data. In Part II, I discuss the teaching and learning atmosphere, based on the Teaching Atmosphere, Doctors as Teachers, and to a lesser extent, Student Perspectives, themes. These
<table>
<thead>
<tr>
<th>Categories + number of codes within them</th>
<th>Main theme, definition &amp; relationship to chapters in the Findings section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching preparation</td>
<td>Teaching practice</td>
</tr>
<tr>
<td>Patient involvement</td>
<td>- the practice of medical teaching, e.g. methods of teaching and assessment.</td>
</tr>
<tr>
<td>Decision making (3)</td>
<td>Basis of chapters 5 and 6.</td>
</tr>
<tr>
<td>Teaching methods (9)</td>
<td></td>
</tr>
<tr>
<td>Assessment (9)</td>
<td></td>
</tr>
<tr>
<td>Teaching quality (1)</td>
<td></td>
</tr>
<tr>
<td>Apprenticeship (3)</td>
<td></td>
</tr>
<tr>
<td>Formalisation</td>
<td></td>
</tr>
<tr>
<td>Teaching communication (4)</td>
<td>Course cohesion</td>
</tr>
<tr>
<td>Continuity (1)</td>
<td>- the cohesiveness of the course.</td>
</tr>
<tr>
<td>Consistency (2)</td>
<td>Basis of chapter 7.</td>
</tr>
<tr>
<td>Curriculum planning (1)</td>
<td></td>
</tr>
<tr>
<td>Integration (3)</td>
<td></td>
</tr>
<tr>
<td>Teaching-service interface</td>
<td>Teaching structure</td>
</tr>
<tr>
<td>Resources (10)</td>
<td>- the structure in the hospital and medical school through which the teaching is carried out, e.g. resources, management issues.</td>
</tr>
<tr>
<td>Accountability</td>
<td>Basis of chapter 7, contributes to chapters 8 and 10.</td>
</tr>
<tr>
<td>Changes in new curriculum</td>
<td></td>
</tr>
<tr>
<td>Teaching organisation (5)</td>
<td></td>
</tr>
<tr>
<td>Learning support</td>
<td></td>
</tr>
<tr>
<td>Respect for students (14)</td>
<td>Teaching atmosphere</td>
</tr>
<tr>
<td>Medical culture (9)</td>
<td>- properties/dimensions of teaching - not methods, but overall feeling/atmosphere of teaching.</td>
</tr>
<tr>
<td>Image (that students should project)</td>
<td>Basis of Chapters 9 and 11.</td>
</tr>
<tr>
<td>Student emotions (3)</td>
<td></td>
</tr>
<tr>
<td>Student attendance</td>
<td></td>
</tr>
<tr>
<td>Introductions</td>
<td></td>
</tr>
<tr>
<td>Teaching manner/style (2)</td>
<td></td>
</tr>
<tr>
<td>Teaching priorities (2)</td>
<td></td>
</tr>
<tr>
<td>Student inclusion</td>
<td></td>
</tr>
<tr>
<td>Student complaints</td>
<td></td>
</tr>
<tr>
<td>Student relationships (7)</td>
<td>Students' perspective</td>
</tr>
<tr>
<td>Student learning (20)</td>
<td>- students' experiences in medical school and thoughts about their learning.</td>
</tr>
<tr>
<td>Student relationships (7)</td>
<td>Contributions to Chapters 5 and 9.</td>
</tr>
<tr>
<td>Student learning (20)</td>
<td></td>
</tr>
<tr>
<td>Teaching range</td>
<td>Doctors as teachers</td>
</tr>
<tr>
<td>Resistance to change</td>
<td>- aspects relating to the doctors' teaching role, and their views of this role.</td>
</tr>
<tr>
<td>Identity (5)</td>
<td>Basis of Chapter 10.</td>
</tr>
<tr>
<td>Teacher-med school relationship (7)</td>
<td></td>
</tr>
<tr>
<td>Development of expertise (5)</td>
<td></td>
</tr>
<tr>
<td>Teacher knowledge (4)</td>
<td></td>
</tr>
<tr>
<td>Teaching aims</td>
<td></td>
</tr>
<tr>
<td>Teacher concerns (4)</td>
<td></td>
</tr>
<tr>
<td>Teaching roles (2)</td>
<td></td>
</tr>
<tr>
<td>Teaching commitment</td>
<td></td>
</tr>
<tr>
<td>Teacher enjoyment</td>
<td></td>
</tr>
</tbody>
</table>
themes came primarily from interview data, with some support from observational data and documentation.

**Writing and validation**

Writing was closely bound in with the analysis and interpretation of the data. During the coding process, I recorded ideas, hypotheses, and potential questions for further research on memos at the codes. Then, at a later stage, I generated longer reports and memos combining ideas from a number of codes. In these I started to identify and develop themes, and to clarify further questions to feed into the ongoing data collection.

Towards the latter half of my study, when it had become clear what the major themes were, the focus shifted towards confirming my provisional hypotheses. I aimed to concentrate on the main themes and attempt to reach 'theoretical saturation', which Strauss describes as the stage:

> 'when additional analysis no longer contributes to discovering anything new about a category.'

Some areas I felt very confident about, for example the course cohesion issues to which I have already referred. I had data from a variety of different sources for this (see Appendix 4), and little counter-evidence, that which there was only confirming how unusual deviations from the normal pattern were. Similarly, the 'students on the wards' issue had been raised so many times that I knew that this was a widely and strongly held belief.

Other areas I felt less confident about, for example the teaching and learning climate. Although I had plenty of data relating to this, 'a climate' is something which is perceived and thus there was less in terms of 'hard evidence' to back up the emerging analysis. I therefore took steps to validate my main themes using a range of methods.

Most validation took place through my ongoing immersion in the school. In subsequent observations I tried to be particularly aware of and sensitive to confirmatory or negative data in relation to my key findings. In informal meetings I took opportunities to check out ideas with individuals. The later interviews and focus groups which I conducted tended to be at least in part a checking of emerging themes. I also made presentations to various groups throughout the study (Appendix 7). In the latter part of my writing up I gave draft sections and chapters to various colleagues and informants within the school, as a further form of validation (see Appendix 8). I asked them to check the factual detail, and to discuss with me whether the findings 'rang true' with them. Their comments led to some slight changes in emphasis, but on the whole tended to confirm my belief that I had provided a fair portrait of the school. This gave me confidence that I had reached a reasonable level of saturation in the areas I had selected to cover.

Eventually, I began to develop these into draft sections and chapters, which were discussed with my supervisor. At the same time, I drew up an initial overview of the whole thesis and its
constituent parts. Deciding how to order and structure the thesis was probably the hardest part, and it went through many iterations. The medical school is a hugely complex organisation and everything seemed so inter-linked that it was difficult to know what to put first and how to relate each part to the others. Sectioning themes off into chapters had to be to some extent arbitrary. Several themes could have been placed in more than one chapter, and many paragraphs/data/ideas were moved around from chapter to chapter at different stages as the analysis was developed.

Some aspects of the data are less well represented, particularly the data on student learning theories and methods, which I did not pursue (as described earlier). Data on doctors' preparation for and decision making about teaching is presented briefly because, on the basis of my data, it seemed to be a relatively minor consideration for them. As I discuss in the Findings, most doctors answered questions on these areas very briefly, and were much more concerned to expand on the conditions under which they were teaching. In presenting a fairly large piece of research, one can never cover everything. Ball suggests that 'The rigour of any ethnography rests firmly upon the researcher's awareness of what it is possible to say given the nature of the data that was and was not collected.' Therefore had to make judgments about which areas to focus on, and did this on the basis of issues which seemed important to participants, were in line with my overall aim, and about which I had sufficient data.

Presentation of the thesis

Qualitative researchers vary in their approach to writing up their findings, with some preferring to let the actors speak for themselves, others putting more emphasis on their analysis. Spradley highlights the range of levels at which statements can be made, varying from the universal ('All individuals who study medicine ......') through general and more specific statements about the particular culture under study ('Firms at 'X' usually ......'), to statements about specific incidents ('No students attended the lecture on ....').

Strauss suggests that in grounded theory:

'In general, there is much more reliance [...] on an interweaving of discursive propositions - utilizing the results of coding and memoing - with carefully selected pieces of data. The latter may just be quoted phrases in combination with the theoretical points being made, or very short quotations or fieldnote items following on some systematically made theoretical point. [...] This kind of presentation, unless supplemented with large slices of quotations from interviews and fieldnotes, sometimes seems to disappoint readers brought up in the traditions of "just let the actor speak," or "let the data speak for themselves." Properly done, however, this style of rather tightly interwoven theoretical interpretation and descriptive data meets all of the classical requirements of verstehen, credence, sense of reality, and reader comprehension.'

In writing the thesis I decided to organise it around five main themes (Chapters 6-10), and two sub-themes (Chapters 5 and 11). The sub-themes are included to provide greater depth on topics which were important to doctors or students, and which illustrate broader themes. Wolcott describes this as 'zooming in and out' in order to focus on areas of particular relevance
to the study, a technique which he suggests overcomes the problem of the researcher trying to be 'too objective' and thus treating everything at the same level of detail.49

Within each chapter I first present an account of the data gathered. This is structured around the analytic codes and categories, as shown in concept maps for each chapter (see below). In this account, extracts of the data are included to illustrate or highlight key themes or perspectives. Towards the end, in the Summary and Discussion, I suggest various interpretations of the findings. These go beyond the data itself, in order to discuss patterns and relationships, develop models, identify meta-themes, and relate the findings to relevant literature.

The concept maps link the codes, categories and themes to each other (see Appendices 9-14). The concept map for Chapter 5 is included within that of Chapter 6, and for Chapter 11 within Chapter 9, for reasons described earlier. The fact that some of the codes overlapped, and could have gone in different categories, was used to examine how the categories and themes related to each other and a concept map linking all the main themes together is provided in Appendix 14 and discussed in Chapter 13. Each map also states the main sources of data, and indicates where the analysis moves towards interpretation.

As the final product started to take shape, there were a number of decisions about the style and content to be finalised. Below I describe the decisions I took with regard to the presentation of the material.

**Anonymity and confidentiality**

Initially I intended to use a pseudonym for the medical school so that those outside medical education might not be able to identify it. Because of the details given in various descriptions however, and particularly after the merger, the school became more easily identifiable. I felt that this level of description and detail were necessary to understand the context of the study. In addition, I had already published related work which identified the school. Thus, having discussed the issue with relevant people within and outside the school, I decided to name it.

Having made this decision, it became particularly important to anonymise individuals quoted in the text. This applied in particular to doctors, who were fewer in number and more permanent than the students. There were upwards of a thousand students passing through the school in the course of my research. Nevertheless, because of their comparatively vulnerable position in the hierarchy I have also been also careful to disguise their identities. Where I use names, these are pseudonyms. In most cases I have tried to preserve the gender and ethnicity of the participant through the choice of pseudonym. Occasionally however, where I felt that the individual might be more easily identifiable, or where the statement quoted could be controversial, I have changed these in an attempt to prevent recognition. I have used my judgement in trying to balance the need to protect confidentiality with the need to illuminate participants' perspectives and to give evidence for claims in the text.
Rationale for terms used

Students and doctors: I decided to refer to clinical medical teachers throughout as doctors, and medical students as students. Originally I was going to call the teachers 'teachers' but decided against this as it sets up a teacher-student dichotomy which suggests a particular model of teaching and learning, and a particular relationship between teachers and the taught. These are important issues which are discussed in depth in the analysis, and it would be misleading to use these terms as though they had no connotations. Doctors are first and foremost doctors and perceive themselves as such. Also, because all doctors at KCSM have an educational role, the use of the word doctors does not need further elaboration to suggest this. However there are occasions when talking about students or the medical school that I refer to 'their/its teachers'. I also use the word 'teachers' when referring collectively to basic science, clinical or other medically-related teachers.

The use of the word students is also not straightforward, as doctors themselves are often 'students' too in the sense that they are working for postgraduate qualifications. Where I use students, I am referring to undergraduate students. I will make it clear in the text where I am discussing qualified doctors in a learning role.

The medical school: The term medical school could also be confusing. Although the Basic Medical Sciences faculty teaches most of the first two years, it is not structurally part of the School/Faculty of Medicine (being separately located and managed within the Life Sciences Faculty). The hospital, similarly, is not structurally part of the medical school, although it is the main site of learning for students in their clinical course. When I use the term medical school in the text, I am referring to the Faculty of Medicine based next to the hospital and headed by the Dean. It is directly responsible for planning and organising the clinical part of the course in years 3-5, which involves liaising with medical school staff, NHS staff in the main teaching hospital and associated district general hospitals, and local general practices. This is the common use of the term medical school within the school itself. (During my study, the Faculty of Medicine also took greater responsibility for liaising with the basic medical sciences over curriculum issues).

The curriculum: The term curriculum refers to the whole system of teaching and learning, including the aims, teaching methods, teaching staff, resources and assessments. In chapter 3, I have defined the various curricula that were in evidence during my study. At various places I describe the position at the start of my study when the old curriculum was in place, and the changes and developments which occurred with the introduction of the new, joint and merged curricula.

When talking about the old curriculum, I refer to the clinical years as first, second and third clinical years. When talking about the new curriculum I refer to them as years 3, 4 and 5.

At the back of the study, I have included a glossary of terms which those unfamiliar with medical education may find helpful.
Use of the first person

In quantitative research the passive voice is traditionally used in line with the objective neutrality expected, whilst in qualitative research the first person is often preferred.59 I decided to use the first person throughout the thesis as I felt that this best reflected the nature of ethnographic research in which the researcher is the instrument, and a visible presence.

Quotations

I have included many quotations from doctors and students to illuminate their thinking. Every quotation is individual, but I have tried to indicate where I use them whether they are more or less typical of the larger group. In presenting the quotations I use the following signs:

[....] indicates speech which has been omitted for the purposes of the text
[xxx] indicates words which were inaudible
[specialty] indicates that the interviewee named a specialty (or other specific place/person/thing within the named category), which, for purposes of anonymity I do not include.

Critique of the methodology

In this chapter I have provided an account of the rationale for my methodology, the way in which the research unfolded and the methods of data collection and analysis. I have highlighted at various points some of the strengths and weaknesses of my methodology, and will now elaborate on and discuss these.

The strengths of my methodology lie in my lengthy engagement in the field over a period of five years. In addition, I had been working in the medical school for the previous four years, so that when I started my study I had a reasonable knowledge of the functioning of the school. Through my post I had access to players at different levels, including close contact (in various roles) with students and doctors, access to many relevant committees, and an academic post which gave me sufficient status and legitimacy to gain doctors' co-operation in my enquiries. I had good working relationships with administrative staff, who were useful gatekeepers of information and contacts, as well as providing fresh insights into what really went on. This allowed me to gather a substantial amount of data from a wide variety of sources. I thus had the opportunity to triangulate my findings, and to test out my ideas and hypotheses both formally and informally with colleagues as I developed them.

I was fortunate (as it was not planned) that the timing of my study co-incided with a major period of change in the medical curriculum at KCSM. The introduction of the new curriculum, the subsequent merger and second new curriculum, raised the profile of education within the school and brought about much discussion among doctors and students. This provided an excellent opportunity for research, as the discussions threw into relief the traditional values and principles upon which medical education had run for many years, and illuminated the contrast
with the new ideas and expectations. It provided evidence about the norms and values of the doctors and students which might otherwise have taken longer and been more difficult to collect, or could have remained hidden. It is difficult to know in retrospect how the study would have developed without such major changes. I may have found other areas to explore which were equally fascinating, but certainly the changes provided an interesting, if complex, context for the study.

The scope of my study altered during the research, as it became clear that so many things were inter-related - for example, many themes raised by doctors related to students, the medical school, health policy, higher education policy, the government, public views and so on. Although I had aimed to progressively narrow the focus, I found myself also having to broaden it in certain respects in order to gain a fuller understanding of my chosen themes. On the positive side, this meant that I was able to gain a more complete picture of the working and inter-relationships within the medical school and hospital. It allowed me to explore issues from differing perspectives, thus providing a richer account. Naturally this breadth limited the extent to which I could explore each perspective. This was sometimes a source of frustration, as there were areas which I would have liked to have explored in greater depth. The scope of the study also limited the number of themes which I could report with confidence.

In terms of the methodology employed, there are a number of limitations, and ways in which it could have been improved that I can now identify.

Most of my data came from fairly formal settings such as committee meetings, interviews and observed teaching events. In retrospect I think it would have been useful to have spent more time shadowing individual doctors and students in their everyday work. Those I did carry out were useful, but numbers were limited by practical constraints, including the part time nature of my research. As I could not arrange lengthy attachments with any individual, I could not get beyond being an obvious 'observer'. Thus the information I gained from them was limited. It is hard at this stage to second guess the difference that more prolonged shadowings would have made, but I believe I could have gained more informal and in depth information about intra-doctor and intra-student relationships. This would have given me a fuller context within which to understand the relationships on which my study focuses, those between students, doctors and the medical school. My study is therefore primarily based on the issues which were discussed by students and doctors individually or in groups, and less on the more subtle nuances of behaviour that I might have picked up through greater observation of daily practice.

Another limitation, and one which I consciously made, was not to delve into the private lives of doctors or students. Whilst I recognise that private lives will influence behaviour and perceptions, I was most interested in the interaction between students and doctors, the practices within the school, and students' and doctors' reflections on these.

There were some areas in which, for both practical and philosophical reasons, I did not collect as much data as others. In particular, the junior ranks of doctors, and the more senior clinical
students are under-represented in my study. In the case of doctors, I believed that it was the senior doctors who set the climate of the teaching and influenced policy. Practically too, it was difficult to get time with junior doctors at work and they were not represented on curriculum committees. This had implications because of the under-representation of female and ethnic minority doctors at the higher levels of the hierarchy. The data I have collected from doctors thus relates primarily to the relatively senior, influential, primarily white male doctors, rather than to a cross section of all doctors within the school/hospital. With students, I became interested in the transition from the pre-clinical to clinical course, and thus focused my interviews primarily on third year students. I did not attempt to trace the way in which students developed during the course, or how their views differed by the end of the course. Thus most of the student-derived data is from third years. These decisions should be borne in mind in reading and interpreting the study, and I remind the reader of this at relevant points.

The ethical complexities of insider research were ones with which I had not previously grappled. I now have a clearer idea of the issues involved, and if starting a new project, would be in a better position to make informed choices. Since starting the research I have become part of a joint research group between the Schools of Medicine and Education, which considers proposed medical education projects and comments on ethical and other issues.

The nature of the research I undertook was such that the focus and themes were developed during the process, and thus the research methods also had to develop to accommodate this. With such a study, it is almost inevitable that, with hindsight, one would have done it differently. This is a frustration, but was also a learning process, demonstrating the need, both to plan ahead, and to be flexible in research of this kind.

A note on interpretation
The analysis I present in this thesis is based on the research described in this chapter and the relevant appendices. It should therefore be understood that everything I describe or suggest is on the basis of the doctors and students I interviewed, the teaching and learning contexts I observed, the meetings I attended, the informal feedback I received and so on. For example, when I say 'most doctors', I mean most doctors that I observed in committees, saw teaching, taught on courses or interviewed. When I say 'students seemed to' I mean that the majority of students I witnessed during my study took this line. For the sake of style I do not constantly reiterate these limitations.

The major themes around which the chapters are based are those for which I had good evidence. Within each chapter, there are many sub-themes, and the amount of evidence for each varies. In presenting the ideas I will attempt to indicate my evidence for them, and the level of confidence I have in their accuracy. Thus I will guide the reader as to those claims which I consider to be 'true', and those which are more tentative findings.

My choice of topics and interpretation of the data was clearly guided not only by the research subjects but also by my own interests and background. This in turn was affected by the personal characteristics and experiences which I brought to the research. These have already
been discussed and I will not add to them here, except to acknowledge that, for all these reasons, this is a partial account. In presenting my findings, I attempt to make clear what information has come from students, what from doctors, and what is based on my own observation or interpretation. I hope through this, and the through the details I have provided here, to allow the reader to form his/her own judgements about the rigour of the study.

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SECTION C: Findings

PART I. Curriculum Content, Methods and Organisation

Introduction to Chapters 5-8

'A school teaches in three ways: by what it teaches, by how it teaches, and by the kind of place it is.'

In other words, content, process and social climate are all important in education. What I like about the quotation is the equal role it gives to 'the kind of place it is'. Studies of educational innovations in medicine often describe content and process in detail, but do not always describe the social climate, the 'kind of place it is' - perhaps because this is seen as more difficult to do, or too subjective. I gathered data relating to all three areas during my research, which I present in the following chapters. Much of the data collected was either explicitly or implicitly about the 'kind of place' it was, and this is therefore given more space in the writing than the data about content or method. Of course, in reality, the three areas cannot be so neatly divided. They overlap, influence and affect each other in many ways, and all contribute to the culture of the school.

The findings are presented in two parts: Part I concerns the content, methods and organisation of the curriculum, and Part II the climate for teaching and learning. In both parts the chapters follow a similar format. The first and main part of the chapter is an account of my findings on the theme in question, organised around the coding frame I developed. It includes verbatim quotes from data sources, but these are primarily illustrative as the large amount of data collected requires that the description is primarily a summary of the data at relevant codes. The latter part of each chapter, headed 'Summary and Discussion' is an attempt to draw out the key findings, consider their meaning, and relate them to other findings within the thesis or in other literature. Thus, there is a greater degree of analysis and interpretation in this part of the chapter.

I will introduce Part I of the thesis here, and Part II later.

One of the earliest themes which emerged during my research was doctors' disquiet at the perceived reduction in students' clerking of patients. Patient clerking is a central task within the medical apprenticeship, providing data on which clinical decisions can be made. The perceived lack of clerking by students was a major concern for doctors, and highlighted differing views and priorities between doctors and students about what constituted useful learning activity. In Chapter 5, I explore this issue in detail, using the personal accounts of doctors and students to explore differences in their underlying rationales and espoused models of learning. The data comes primarily from the in-depth interviews with students and doctors, and field notes of curriculum committee meetings.
In Chapter 6, I build on this through a wider consideration of teaching and learning methods at KCSM. This chapter is necessarily more generalised, attempting to give a broad brush view of the nature of, and trends in, undergraduate learning at KCSM, particularly during the early years of the study. The data for this chapter comes primarily from written documentation including minutes of committee meetings and curriculum documentation, and from observations of teaching and committee meetings. The codes on which chapters 5 and 6 are based are shown in Appendix 9.

I proceed in Chapter 7 to explore the educational structure within the school and hospital and the management of the curriculum. This theme emerged from problems identified by students which demonstrated a lack of cohesion within the old curriculum, and revealed further differences in the values and expectations of students and doctors. I explore the implications of the lack of cohesion, and then examine in some depth the reasons for the situation, showing how the students' frustrations related to the internal and external structures of the medical school. This chapter is based on a range of data, including formal and informal interviews with students and doctors, student focus groups, observations of teaching and committee meeting discussions. The codes used in the chapter are shown in Appendix 10.

These first three chapters focus largely on the 'old' curriculum which was in place during the early part of my study. In Chapter 8 I describe and analyse the changes in content, process and structure which were brought in with the new curriculum. I start by outlining the formal timetable in the old and new curricula and identifying the changes between them. I then describe the process of change, and examine how the original aims were modified as the curriculum was developed. I explore how trends in teaching, learning and assessment methods were consolidated in the new curriculum, and examine changes in the management structure. Finally, I suggest reasons for these changes, explore how content and process affect each other, and discuss the implications for medical education. This chapter is based primarily on data from observation of committee meetings, course documentation and interviews with doctors, and the codes used are shown in Appendix 11.

Reference

Chapter 5
Clerking Patients: A Key Issue

Doctors' perception of 'a problem'

The one issue that seemed to come up at practically every curriculum meeting and in nearly every interview with doctors was that students 'did not clerk patients'. It was doctors' single biggest complaint about students. In this chapter I present and discuss data about doctors’ and students’ views, experiences and perceptions around the issue of student clerking.

Clerking patients is a process in which a student or doctor takes a full history from a new or existing patient, performs relevant physical examinations and examines the results of any investigative tests which have been carried out. The information is then analysed to produce a differential diagnosis (a list of possible diagnoses) and a management plan. The management plan outlines the immediate steps which should be taken to care for the patient, including further investigations which should be ordered. The process is also known as 'working up' a patient.

Students were traditionally expected, between them, to have clerked all the firm's patients, and to be able to present them on ward rounds. Most doctors I interviewed still aspired to this kind of model, which is how they were trained. They saw it as vital for students to clerk as many patients as possible, whether or not they eventually presented them to a doctor. They found it very hard to accept that students did less clerking than they had done when they were undergraduates. The following quotation provides an illustration of how important this issue was for doctors:

'Now when I came [here] I suggested the medical students might like to clerk some patients and they might like to write these clerkings down on bits of paper which they might like to put in the notes and I tried to do that for a few years, and I was actually fairly successful at [named place], but anyway you can't do it. They won't do it. They don't do it, full stop. So they don't clerk any patients. This is a problem. There you go. If you don't clerk patients you can't produce high quality doctors. Now they clerk some patients [.....] but they're not as good at it as they ought to be. It's not their very lifeblood.'

Professor, Medicine & Related Specialties

The word 'lifeblood' illustrates the centrality of the clerking process in the mind of the doctor. Although doctors tended to talk about students 'not clerking patients', it was clear from my interaction with them that this meant not clerking enough patients, rather than not clerking any. To doctors, it was obvious that to learn to become a doctor, students needed to clerk many, many patients. Through this they would become familiar with the individual variation between patients and gradually learn to discriminate between normal and abnormal signs and symptoms. They would become adept at talking to and gaining information from patients, and develop clinical acumen: in other words, they would learn the 'art' as well as the science of being a doctor. This was the basis of the apprenticeship system, by which doctors themselves had gained their clinical expertise.
Time and time again I heard how students were no longer 'on the wards', not living the 'life of
the firm', that is, seeing and being a part of the day to day workings of the doctors to whom
they were attached. Sometimes doctors commented that they had offered students the
opportunity to call them and present cases, but none did. They said that students missed a lot
of opportunities for teaching because they were not 'on the wards' when something happened or
when the doctors had a spare moment for teaching. They acknowledged that students were not
always made welcome on the wards, but considered that students should be sufficiently
interested and motivated to overcome these difficulties.

Many doctors saw the lack of clerking by students as reflecting a lack of commitment to their
training and future profession. There was a concern and sadness expressed by a number of,
particularly older, doctors, that standards were slipping. There was thought to be more
cynicism amongst the student body now.

Some doctors had similar concerns about junior doctors, in terms of their lack of clinical
experience and commitment. The reduction in working hours for junior doctors necessarily
meant that they gained less clinical experience than in the past. I often heard complaints about
how much time junior doctors had off. One doctor described facetiously how they had to 'have
three-course lunches and lie in a darkened room!' I heard a number of negative comments
about a 'clocking in and out' mentality prevalent amongst junior staff, which was interpreted as
a sign of decreasing commitment. One doctor commented:

'Fundamentally everything has changed. House officers have changed as well. They see
themselves as part timers, nine to fivers. They don't give all, and I think this has somehow
gone down and infiltrated the psyche of the medical students.'

Senior Registrar, Surgery & Related Specialties

Some doctors recalled with fondness their own hard but rewarding time as junior doctors when
they were rarely out of the hospital. They did not understand why today's doctors should not be
expected to go through the same system. However many doctors thought that the system had
changed for the worse and that junior doctors themselves had lost out. For example one
expressed sadness that they did not get the same continuity with patients that he had had, and
therefore it was not so rewarding. Others complained that the shift system was very disruptive
to life, much more so that the old system which had meant working more hours but less
intensively. They also felt that there wasn't the same kudos or satisfaction in practising
medicine today as there had been in the past.

A few doctors commented that not only was the commitment of students declining, but so was
the standard of the teaching they received. For example, a doctor who had worked at KCSM
previously, and returned as a consultant, commented:

'I have noticed a tremendous loss of enthusiasm by everybody, students, staff, everybody
since I first came as a registrar [in 1988] when the lectures were well attended. They were
always given. We gave regular seminars to the students on the wards on the patients and
they were by and large quite enthusiastic. They turned up at the clinics. We had time to
teach them in the clinics and so on. That has unwound almost completely to the situation now where we get one medical student in a clinic and you reckon you're lucky - or unlucky because you may have 18 patients to see and you can't teach and see 18 patients at the same time.'

*Consultant, Surgery & Related Specialties*

The latter comment indicates how the pressures of hospital work served to constrain teaching, an issue which is discussed further in Chapter 10.

Most doctors felt that students had too much leeway to attend or not attend the hospital as they wished, and that the course should be more tightly policed. Some also felt that students should be more regularly examined as this would encourage them to attend more, and not to leave their studying until the end of the course.

There were differing views over whether the quality of students today was better or worse than it used to be, with the majority of comments I heard supporting the latter view. Doctors who were disappointed with students often brought up the issue of student selection, and wondered whether KCSM was getting 'the best students'. However they acknowledged that applicants were 'the pick of school leavers' and, when asked, usually felt that the selection methods were appropriate. One or two moved from this to wonder whether something 'had happened' to the students between school when they were obviously successful, and the clinical course two years later when many of them seemed unforthcoming or lacking in enthusiasm.

Paradoxically, there also seemed to be a level of commitment that was considered 'too much' for students. For example, one doctor described a mature student, who had come in at evenings and weekends (something which doctors often complained students did not do) as 'unhinged in terms of her commitment'!

**Students' perceptions of clerking**

Students acknowledged that they did not clerk patients as often as was expected of them: many admitted to only (or almost only) clerking if they knew they would have to present the patient to a doctor. It was this issue of independent clerking (i.e. clerking carried out independently by students, without any follow up with a doctor) that was the main point of contention.

From the interviews and focus groups with students (most of whom were in their first clinical year) it was clear that there were several reasons for their lack of clerking. In this year at least, students viewed clerking patients primarily as a way of practising their physical examination and history taking skills. Their main concerns were learning the techniques and clinical signs. They saw little point in clerking patients unless they were observed, or at least could present the patients to a doctor, and get feedback on their developing skills. In most of their early firms, students did not feel they were given sufficient teaching on, or received sufficient supervision in, examination techniques.
Students also wanted to have their efforts recognised by their teachers. They did not see the point of spending time with patients if this was not noticed by the doctors who would be grading them. A student explains:

'There does seem to be a sort of block to go and clerk someone just, you know, off by yourself, but it seems like you sort of fight just to go and ..... don't know, you're just left to like go and find a patient to clerk and nobody ever tells you, like shows you how to do it properly, and then once you've done it, then you don't necessarily have to go through it again with anyone afterwards and .... [........] There's lots of reasons why you get put off doing it. You do get a bit nervous about what you're doing sometimes and that's probably just because you haven't practised enough so it's a vicious circle really. I don't know why that is because once you get there and do it, it's really good, which is why I sort of always like to be made to do it by feeling that there's a point to me doing it because I'm going to go through it again like, say I've got to go and do it on the ward round, then obviously I'm going to have had someone to speak to.

I don't know why, but I find it hard to go and motivate myself to do it for no particular reason when no one's going to know whether I've done it right or wrong and no-one's going to tell me later whether I've done it right or wrong, you know. I mean, when I just practice myself you just end up chatting to the patient rather than doing the things you're meant to do, you know just go and have a natter. So I don't know. Perhaps we're just too used to being told to do things at school, you know and having your work checked.'

2nd clinical year student

This quotation highlights the student's desire for direction, and a number of other issues which affected his motivation to clerk patients. From this and other students, I identified various practical and personal difficulties and impediments to clerking, which students saw as requiring effort and sometimes discomfort on their part to overcome.

First, they had to negotiate their way onto the wards, and often, particularly early on, needed help in finding appropriate patients to clerk at an appropriate time. Students claimed that medical staff were often not in evidence on the ward, and nursing staff were often perceived as being unhelpful, or even hostile to students. (Nurses I spoke to informally on the wards reported that they had not been briefed about what students were expected to do, and often perceived medical students as arrogant or 'getting in the way').

Another problem for students was when patients declined to be clerked. Students were aware that patients cared for by consultants on the major teaching firms in teaching hospitals could be approached by a large number of students. This was particularly so at the time when both junior and senior medical and surgical students were being taught on the same group of patients, and particularly common for patients with 'good clinical signs' who were much in demand. The problem was exacerbated for students if their consultant was of the view that patients had an obligation to be seen by students (a view which I also encountered in my interviews with doctors). The common discourse went: 'Patients here are being cared for at a centre of excellence. They will therefore get better care than they would if they were at a non-teaching hospital. They are getting a good deal, in return for which they should expect to see students and be taught on'. Students sometimes felt caught in the middle, with patients declining to see them and consultants telling them that the patients didn't have a choice in a teaching hospital.
Another issue relates to the finding in the previous section that there also seemed to be an upper limit of expectation by doctors. Several students who had been motivated to be on the wards gave examples of times when they had asked to do practical things, or to spend more time with a doctor, and were told 'Don't worry, there's plenty of time for that later' or 'You should be spending your time at the bar while you're a student' or, when making an effort to attend out of hours, being told 'Wow! You're keen being here so early/at a weekend.' They had felt discouraged from gaining the experience that they wanted.

Nevertheless, some students admitted that they were lazy or apathetic when it came to clerking patients. There were also certain types of patients, for example, children, who students found more difficult to approach.

Despite these difficulties, most students, once they actually got to patients, really enjoyed talking to them and found it useful. So what, apart from their own interest, did motivate students to clerk patients?

Sometimes house officers or registrars on the firm took a particular interest in teaching and would supervise a student's clerking or hear them present a case. A group of students described to me how they had rarely clerked patients, but the firms where they had done so were those where there had been enthusiastic house officers who had 'been around' on the wards and recommended good patients to clerk. Some students developed good relationships with individual junior doctors and felt able to bleep them and ask for teaching. General invitations to bleep doctors to present cases tended not to be taken up by students whereas specific time/place arrangements were. This seemed to be related to students' oft expressed feeling of 'being in the way', and not wanting to be a burden to busy junior doctors. Some groups of students did ask and make additional arrangements with particular doctors to have extra tuition. Recommendations from doctors, or other students of 'good patients to clerk' were appreciated.

The following quote from a student indicates the perceived need for more guidance:

'I started off thinking 'Yes!', you know, as many people do. This is the end of the books and I'm going to start seeing patients and applying myself. You tell yourself, 'Right. It's a gorgeous sunny day outside and you say, No, I'm going to clerk patients because I'm a medical student, this is my degree'. So you go to clerk the patients and that's what you should be doing, and some of them have guests there, and some of them aren't there, and sometimes you sort of realise you've picked the wrong person to clerk. Maybe more formal guidance on clerking [would help]. That could be described as spoon-feeding. Maybe that's what I'm asking for. I don't know, but maybe a list every week of patients, when you go to an outpatients say, and you're given a list 'These are good patients to clerk'. And it makes it one step easier to go and do it.'

2nd clinical year student

Students tended to clerk more patients in the district general hospitals. Since fewer students were attached to these, there were many more patients per student. It was thus easier for students to find willing patients to clerk, and patient availability was usually seen as the prime benefit of such attachments. Students also found it easier in general practice, where patients
were brought into the practice specially for student teaching. Here the students knew the patient was willing, and so did not have the task of trying to gain consent.

Students' reluctance to clerk patients appeared to diminish as they progressed towards the final year. Students in the second and final clinical years described feeling more at ease in the system and knowing how it worked better. Some students developed methods of working with friends, clerking patients and getting feedback from each other.

When talking about the teaching they received, students invariably found clinical teaching the most useful. They described how linking the learning to individual patients helped them to remember it. However they felt that they needed to be shown these things and did not believe they would pick them up when clerking on their own. In their own private time they tended to focus more on book learning than on independently clerking patients. The final examinations in the old curriculum provided an interesting example. I attended several meetings of final year students and teachers, where both doctors and previous year's finalists stressed that being able to clerk proficiently was the most important aspect of the examinations. (This was confirmed by an examinations administrator who told me how students who marginally failed written papers would often be allowed to pass if their clinical assessments were satisfactory, but not vice versa). Nevertheless, students constantly asked for more taught sessions, whilst doctors emphasised the need for more clerking. After this had been an ongoing problem for several years, the final year course was changed. Students were sent out to district general hospitals for half their final year firms, amid much protest, where there were much greater opportunities for clerking, and much fewer for tutorials. It may have been co-incidental, but the pass rate rose after this was implemented.

Summary and discussion

The data has shown a clear perception amongst doctors that students did not do enough clerking, and that it had declined from when they had been students. (Such perceptions have been confirmed in other studies, e.g. by McManus et al who showed a significant decline in the clinical experience of medical students in UK schools between 1981 and 1986, 1 and in studies of junior doctors). 2 Many doctors at KCSM related this to a lack of commitment amongst current students, and questioned whether the 'right students' were being selected. However they also recognised that the degree of clerking was affected by wider changes that have taken place in the health service and in society. I perceived a sense of frustration amongst doctors who felt themselves to be fighting a losing battle to make students and junior doctors be like they were and have the same commitment.

Underlying some of the issues raised by students appeared to be a calculation of whether the time and effort involved in clerking would be sufficiently rewarded by the gains. The majority of students found that when they did make the effort, they enjoyed talking to patients and learnt from it. They accepted on face value that they should clerk more patients but seemed to find the effort disproportionate to the benefit. Some doctors referred to, and I observed, a link
between the level of clerking and the maturity of the student. Mature students (both in age and outlook) tended to have more initiative and confidence to clerk patients independently and to take responsibility for their own learning.

Newble, researching students' study habits in the University of Adelaide, found that the amount of ward based learning undertaken by students was affected by their perception of the way in which they would be assessed. Formal assessments were not mentioned by students at KCSM as a reason for not clerking, although the presence/absence of informal assessment (i.e. by the consultant when they presented cases) was a strong motivating/deterrent factor. The assessment methods used at KCSM were different from those in Newble's study, and could have contributed to the type of clerking which students wanted to do. For students at KCSM, the main value was seen as honing their history and examination skills and getting feedback on these. This may have been partly determined by the end of year OSCEs, which focused on assessing the practical skills of physical examination and history taking, rather than on the analysis and management of findings.

For doctors, clerking patients was seen as central to the process of learning to become a doctor. Sociological studies of medical schools have suggested that doctors revere clinical experience above all else. Becker et al for example describe how students who recited facts from books would be contradicted by doctors with the words 'In my experience ....'. Clerking provides the foundation of doctors' clinical experience, and is thus important in the development of their professional identity.

Becker suggested that students gradually assumed the medical culture and came to accept that clinical experience was privileged above theoretical knowledge. In my experience at KCSM however, most students appeared not to reach this stage during their undergraduate career, and thus did not attribute the same value to the acquisition of clinical experience as the doctors. They craved 'facts', appeared to see their acquisition as the priority, and sought reassurance through extra reading rather than extra patient clerking.

The differing perspectives of students and doctors at KCSM appeared to relate to differing models and expectations about students' role as learners. Students appeared to prize knowledge above practical experience. Coming from the background they did, this was perhaps unsurprising. Their mostly middle class upbringing and successful school careers would have supported an emphasis on academic success rather than practical ability, and this was reinforced during the basic science course and in the exam system. The pre-clinical exams required the recall of large amounts of information, and in the old clinical course there was a major factually based examination (pathology) two years before clinical examinations, which were only required in the final year of the course.

Related to this was students' expectation that they should be 'taught' and that their efforts at independent learning should be recognised and appreciated by their teachers. This was again a major difference in view. Doctors tended to feel that students should learn through gaining
experience as part of the health care system. They expected students to learn for their own benefit, and perceived students' wish for more direct teaching as a desire to be 'spoon fed.'

The gap between doctors' expectations and students' activity with regard to clerking, and the data about their respective views on the issue, suggested that they held different perceptions of the value and function of clerking. I concluded that students' failure to clerk patients at KCSM was more than just laziness or apathy, but a reflection of their own priorities and values which differed from those of the doctors. Their attitude may have been interpreted by doctors as a rejection of the importance and centrality of clerking in the practice of medicine, and of the apprenticeship model which doctors experienced and hold dear. This may have contributed to doctors' perception that the standards and commitment of students was declining.

The irony in the debate about patient clerking was that when students did persist and clerk patients, they found it very useful. After the heavily laden science courses of the first two years, they felt as though they were finally doing something relevant. Many students entering the main clinical years looked forward to meeting and working with patients, and found that it was a much more memorable way of learning than from books.

Clerking was perhaps the tip of the iceberg, in terms of being the most noticeable sign of changes which were taking place in medical learning and teaching. In the next chapter, I broaden the discussion to consider other aspects of teaching and learning.

References

Chapter 6
Teaching and Learning Methods

Introduction

I have examined clerking in some depth as a key issue which highlighted differences in expectations and values between doctors and students. In this chapter I consider the teaching and learning methods used by students and doctors, exploring both those which were clinically based (i.e. taking place alongside health service care) and those based in the classroom.

I focused mainly on undergraduate teaching, and had a great deal of data from my work on the curriculum and involvement with various firms and teaching activities. For comparison, and inevitably - because they are often combined, I also explored postgraduate and continuing medical education to a more limited extent. During my shadowing of doctors, and through participant and non-participant observation, I witnessed a range of postgraduate and continuing education events for doctors at all levels. Originally I planned to present my findings separately for undergraduate and postgraduate education. Later I decided to combine them because they often overlapped, and I felt that useful comparisons could be drawn between them.

I will discuss the findings under two main headings: apprenticeship style learning and formal teaching. The two categories are not entirely discrete. The first describes times when learning takes place during normal clinical practice. This may be either pre-planned (as in student attachments to outpatients for example), or unplanned (such as when a doctor running an outpatient clinic seeks advice from a colleague in relation to a specific clinical case). The second, 'formal teaching', covers any specially designated teaching activity in either a clinical or non-clinical context. Thus the categories distinguish between times when learning takes place as a by-product of service activity, and those when learning is the primary task, and any service outcome is a bonus. (I deliberately excluded self-directed, private learning by students or doctors from the study). Under each section I describe postgraduate learning first and then compare this with undergraduate learning in the old curriculum which was in place at the start of the study.

Apprenticeship style learning

Postgraduate

It was noticeable in my observations how the clinical service was structured in such a way that doctors lower down the hierarchy could learn from those above them. On ward rounds, for example, the consultant or senior registrar would go round each patient in turn to review their progress. Typically, a number of junior doctors, and sometimes consultant colleagues, nurses, medical students or other relevant staff also attended. On reaching each patient, a member of the junior staff summarised the patient's history, the results of investigations and current
management. The consultant asked for further details where necessary from the patient or staff member, and sometimes examined the patient. He (she) then ordered further investigations or changes in management as appropriate. The senior doctor's decisions and discussions were a learning opportunity for junior staff which could be either implicit or explicit, depending on the particular consultant.

Sometimes the learning was confined to what could be gleaned from the immediate business of reviewing the patient's care, sometimes it was extended by the consultant to include explanation, demonstration or discussion of the patient's signs and symptoms, condition, investigations or treatment. I saw two male physicians conducting ward rounds within a week, with two very different styles. The first was very quick, efficient, professional and polite. He obtained the relevant information in the minimum time, and whilst not appearing rushed, moved quickly around the ward. He saw 11 patients in 50 minutes. He communicated decisions and instructions clearly, but without explanation or discussion. The second doctor took everything at a much slower pace. He spent more time with the patients, and explained possible courses of action to the junior staff and sometimes discussed decisions with them. Where relevant he broadened the discussion to include wider issues and general points. He had a less confident persona (although this does not necessarily mean that he was less confident in his ability) and was more collaborative than the first doctor. He saw 5 patients in 90 minutes.

I identified several reasons which may, at least partly, account for the difference in styles. One was the doctors' timetables. The first doctor was due in outpatients an hour after starting the ward round, so had pressure to go quickly. The second doctor's ward round was at the end of the day, and he and his colleagues went and had a coffee together afterwards. Other factors were the consultants' attitude, interests, and stage of career. The first told me that he had no formal involvement in teaching and expressed little interest in it. He was a senior registrar in one of the more competitive sub-specialties of medicine, and seemed very career minded. The second was an older consultant, towards the end of his career in a less competitive sub-specialty. I knew him from curriculum development meetings as a doctor who positively enjoyed teaching and took it seriously.

Their reaction to my presence was also revealing of their different approaches. With the first doctor I was an observer during the ward round and other clinical activities which I attended with him. He was happy to answer questions if I asked them, but otherwise I remained outside the group. The second doctor always made an effort to explain what was happening to me, even trying to explain some of the medical reasoning. I did not seek any explanation from him, because I did not wish to draw attention to myself as an observer. It was clear however that he had an inclusive style, and I felt that he would naturally make an effort to explain things to anyone who was present.

These examples illustrated the variation of experience which junior doctors could get in different posts. Doctors may learn from either situation - the first is the traditional 'learning by osmosis'. (Technically, osmosis is the process by which liquid diffuses through a porous
membrane, as when a plant takes up water). This expression is frequently used by doctors to describe how individuals are expected to learn from such events, and suggests that, just by being there, something will cross into the individual's brain. This process is likely to be slow and may be open to mis-interpretation. The second approach is a more direct teaching approach which is likely to be easier and more productive for the students or junior doctors, but takes more time.

Similar learning opportunities were built into other aspects of clinical practice. In outpatients, a consultant and his junior staff work the same shift. I observed a consultant divide up the patients between himself and his two junior staff so as to give what looked to be the most straightforward cases to the most junior doctor, and keep the most complex for himself. At various stages, his junior staff came in to ask for advice on their cases. Sometimes the consultant would give advice immediately, sometimes he would go and see the patient himself before giving advice. This system allowed junior doctors to learn through expert supervision of their own practical experience in traditional apprenticeship style.

A similar system operated in theatre and in the wards. Junior doctors were given cases to look after or operations to perform. They worked either under direct supervision, or on their own with the option of seeking advice or practical help if needed from the doctor at the next level up. On many occasions when I was with consultants, they would answer their bleep and proceed to give guidance to a junior colleague on a particular patient. Thus junior doctors had a ready source of advice, although they were sometimes reluctant to call, either because they didn't wish to admit to problems, or because they didn't like to disturb their superiors.

In addition to the vertical contacts between junior and senior doctors, I observed many horizontal contacts between doctors at a similar level across different firms. When in outpatients for example, doctors from different specialties or sub-specialties sometimes came in to ask advice from the doctor I was with, or vice versa. It seemed to be part of the culture to consult openly with colleagues during the clinical session about patients who may verge onto another area.

It was also noticeable from my observations how doctors would stop each other in the corridor to discuss patients or ask for advice. This was also facilitated at departmental meetings, weekly 'grand rounds' (see next section) or other events which provided a forum for informal contacts.

At a more advanced level, I heard that some doctors arranged exchanges or attachments to clinical teams in other countries in order to broaden their experience or to gain experience in specific techniques at specialist centres.

**Undergraduate**

The extent to which this apprenticeship model applied to undergraduates at KCSM when I started my study varied between firms. In some, students were still seen very much as part of the team and were expected to attend all routine activities, including business ward rounds,
outpatient clinics and firm meetings. During the consultant's business ward round, they could be asked to contribute information they had found from patients they had clerked, but essentially the round was a normal clinical activity. In Outpatients similarly, students were often expected to attend, observe the consultant and learn from his (her) management of the patient. Consultants varied in the extent to which they involved or explained things to the students. In some cases students merely observed - with the idea that they were 'learning by osmosis'. In others, consultants made comments and teaching points to the students during and/or after seeing each patient. Sometimes consultants demonstrated aspects of the examination on the patient and allowed the student(s) to practise under observation, although outpatients was usually too busy to allow this. Some consultants arranged for students to clerk and then present new patients to them.

It was clear from my discussions with students, and in committees, that students had difficulty with the observational type of learning. For example, they tended not to value attending business ward rounds, as the following student describes:

'There's no point going on a ward round if, you know, you can do what you like - you can do your own research, you can read up the notes and the results, but because you haven't got that clinical knowledge, and that's what it's for after all, you do need to be told [.....] something about what's going on from the informed person's point of view. And that doesn't happen on ward rounds that I've noticed in [.....] my firm. [......] You feel aggrieved. You turn up at 7.30 in the morning to go to these things, to get a good mark, you know, and get completely ignored.'

1st clinical year student

Students also disliked being expected to be on the wards as this invariably meant a lot of hanging around. Many saw this as unproductive. Students appeared to be less willing than their predecessors to wait around for teaching opportunities which may or may not happen. For example, one student commented:

'Sometimes you get the impression that they don't appreciate that you really do have a life of your own. [......] Sometimes they expect you to do the work and have the commitment of a house officer without 18 grand going into your account every year.'

2nd clinical year student

Students sometimes expressed resentment at firms where there were clear expectations that they should be on the wards without a doctor present to teach them.

From my discussions with students and doctors, and observations of committee meetings and firm timetables, there appeared, during the first couple of years of my study (last years of the old curriculum), to have been a shift away from expecting students to attend these types of routine activity. There appeared to be a move towards more dedicated teaching time which involved students more actively. The extent of this shift varied between firms, but was evident by the increase in activities such as 'teaching ward rounds' and 'teaching clinics' which I discuss further in the section below. Some firms still expected students to attend the business ward round, others made it optional.
In the old curriculum, students were generally expected to attend the firm's radiology and pathology meetings, although the discussions were primarily between junior doctors and consultants, often above the level of students' understanding. In some firms, consultants made particular efforts to involve students actively in these events. As with ward rounds and outpatients, students tended not to turn up for the meetings unless they were actively involved in them, and some firms no longer expected students to attend them.

**Formal teaching**

*Postgraduate and continuing medical education*

I was surprised when shadowing doctors at the extent of formal education which went on within firms and departments. Although I had been told of some of these in interviews, the extent and nature of them still came as a surprise. All departments seemed to have set times which were kept free of clinical commitments so that all doctors could attend. These sessions varied from an hour to 2 or 3 hours. The different types of meetings commonly held included:

- **Audit meetings**, in which staff members present the results of an internal audit they have carried out

- **Case presentations**, in which junior doctors present a recent case they have been involved in, and discuss key issues in the diagnosis or management

- **Journal club**, in which junior doctors present recent journal articles of interest, followed by discussion and questions

- **Radiology meetings**, where doctors on a particular firm bring X-rays or other radiological images of current patients to discuss with a radiologist

- **Pathology meetings**: similar to the above, but with pathological findings

- **Outside speakers**, where specialists from other hospitals give talks (usually slide presentations) on their research interests.

In the majority of meetings there was a good deal of interaction between the presenter and the attending doctors. Meetings tended to be led by junior staff, with the exception of the radiology and pathology meetings, but doctors at all levels attended and could ask questions or raise points. Consultants often chipped in with comments from their experience or evidence from their own or published research. There was often discussion about the practical implications for the doctors' own practice. Thus the majority of sessions were directly relevant to the every day work of the doctors. The meetings also appeared to act as important team building and social activities, providing a set time each week when everyone met together.
These meetings appeared to offer important learning opportunities for doctors at all levels, with active participation and direct application of learning. It was therefore interesting to note that when asking doctors about 'teaching activities', such meetings tended not to be included. This may have been because they were not seen as formal 'teaching', but as a sharing of ideas.

In addition to these firm or departmentally based programmes, there were also formal educational sessions specifically for junior doctors. Their training was becoming more formalised, with more timetabled teaching sessions, written assessments, record keeping, and dedicated 'education time' each week (which seemed to be assumed to be non-clinical time). Regional specialty training schemes provided various educational opportunities such as series of training days, often rotating around the various hospitals in the scheme. These tended to be formal sessions, led by specialists on their area of expertise.

There were a number of other educational opportunities. The 'Grand Round' was a well attended cross-disciplinary event, which took place one lunchtime a week in the main lecture theatre. It was open to anyone in the hospital, and each department took a turn presenting. The presentations tended to be based on 'interesting cases'. Typically the speaker would present a case history, go through the investigations and management that was carried out, comment on the decisions taken, describe the outcomes, and then comment on interesting aspects of the case, sometimes relating these to other research findings. These sessions were very well attended - there were often about 100 doctors present.

Doctors also attended national and international conferences in their particular field to present and hear research papers. Doctors in each sub-specialty would get to know others in their field through such meetings. The Royal Colleges in each specialty also offered various educational events.

**Undergraduate**

Formal teaching for undergraduates included both clinical and non-clinical teaching. Practically all firms offered a 'teaching ward round', separate to the 'business ward round'. Teaching ward rounds were specifically run for students, with the purpose of teaching rather than of reviewing the management of patients. They tended to be more interactive, with students presenting patients, taking histories or examining patients, or being quizzed on their knowledge. Teaching ward rounds were usually run by one consultant or junior doctor rather than the team that were involved in business ward rounds. Students generally found teaching ward rounds more useful as the content could be pitched more directly at their level.

A few specialties introduced specific 'teaching clinics' where patients had slightly longer appointment times in order to give more time for the students to clerk or discuss patients. Unlike the teaching ward rounds, these were still real clinical events with an outcome for the patient.
These clinical activities were supplemented by classroom teaching. All the students attended a pathology course for one day a week in the first clinical year, which was taught mostly through lectures. In addition, most firms students had dedicated small group teaching sessions. In the first clinical year these would typically be once a week. In the final year firms which prepared students for the final examinations they might be more frequent as students had tutors for each of the examination subjects. The sessions were run in a variety of ways. Below I describe three sessions I observed, which demonstrate different approaches:

1. This was a session for final year students, which took place in a teaching room in the department, just across from a ward. Two of the eight students had recently clerked a patient on the ward. Dr Short, a long-standing male consultant, probably late 50s/early 60s, was in charge. He asked one of the students to present the history, which he did. Dr Short interrupted at various points to ask for further details or to encourage the student to describe his findings more precisely. Where the student had not asked for the appropriate information, Dr Short elicited it from the patient's notes. At the end of the history, he asked other students to suggest a differential diagnosis and what investigations they might order to confirm or rule these out. The second student then described the findings of his examination of the patient. A similar questioning and discussion occurred, with Dr Short explaining how the examination findings might differ with different diagnoses. The session took just over an hour.

2. Four of the group of six 4th year students arrived for this session, also in a teaching room near a ward. Dr Parton, a senior female doctor, outlined a patient based scenario, where the diagnosis was already known. She summarised the patient's details on a piece of paper which she showed to the students. She then asked the students what they would want to find out from the patient in order to plan the patient's management, including drug treatment and lifestyle advice. She commented on their answers, and sometimes probed their reasoning. After discussing this case in some detail, she changed the patient's age, and asked students to consider what differences this would make to the patient's management. Then she changed the age, sex and profession of the patient and again explored the implications with the students. Finally she showed the students three slides containing photographs of clinical signs which she discussed with them.

3. Fourteen out of a possible 18-20 students on this firm were present for a session on a particular clinical problem, which took place in a medical school classroom. The doctor, Mr Dettein, was a senior registrar, who had trained in Europe. He started by going through the various presentations of the condition, asking students in turn to name specific features, types of management, and possible complications. He had drawn some diagrams on the whiteboard in two colours, and annotated these as he was explaining things. The last part of the session consisted of a series of about 20 slides, mostly X-rays, with a few photographs of patients and a few diagrams. Mr Dettein described briefly what each one showed without involving the students.
These scenarios illustrate different levels of integration of theory and practice. In the first, students presented a real patient they had clerked. This is a direct extension of the ward round. The main difference is that it is removed from the patient, so that only two students and the doctor have actually seen the patient. Apart from that, it is similar to how a teaching ward round might operate, with students presenting patients, followed by discussion of the patient's condition and management, either at the bedside or in a classroom setting away from the patient.

In the second scenario, there is no real patient involved. A scenario is used, based on typical or illustrative patients, which has been devised to bring out certain points. The scenario can be varied to illustrate how the management is adjusted to the individual circumstances of the patient.

In the third scenario, the illness is the starting point. The various components of the disease are discussed, including its presentation and management in patients. This is a more theoretical starting point, similar to the way in which text books are usually organised.

The three scenarios illustrate a gradation from learning organised around a real life clinical problem, to a simulation, to a theoretical, topic based starting point. I was interested in the balance between these differing approaches. The first scenario appeared to be routine, starting either at the patient's bedside or in the classroom but based on a real patient. However there was also evidence of a growth in the use of simulated cases and topic-based sessions. The introduction of problem based learning was an example. In 1996 (in the old curriculum), one firm started to use problem based learning, and this was extended to other firms in that department. A group of doctors were trained in the methodology, and then worked with an educationalist to develop suitable problems, mostly based on diagnostic problems.

The data did not provide evidence of trends towards or away from the theoretically (disease based) teaching.

**Skills teaching**

The trend towards simulations was also evident in relation to skills teaching, in that some clinical skills traditionally learnt opportunistically on the wards, started to be taught using simulations. One factor which precipitated this was the introduction of OSCEs from 1995. These proved to be illuminating for doctors as many were surprised at how poor the students' examination skills were. Doctors had always assumed that students gained such skills through their firms. However it was clear that this was not always the case. (In my research, students claimed that they rarely, if ever, examined patients under supervision during their firms, and so, for many, the OSCE represented the first time that they had been observed performing many of the skills required). The introduction of OSCEs also led to student pressure for more explicit skills teaching.
In 1996, a putative skills laboratory was developed in a disused ward, and this was replaced by a dedicated room when the new medical school building opened in 1997. These facilities provided training for students in practical procedures such as physical examinations, but were seen as a supplement to traditional opportunistic skills teaching rather than a necessary prerequisite. In the new curriculum a skills log book was introduced to ensure that more skills were undertaken and observed in the clinical setting.

**Summary and discussion**

This chapter has focused on the nature of the teaching and learning available to students and junior doctors. Postgraduate learning appeared to be grounded in everyday clinical practice, with opportunities for learning integrated into the work structure. It was still primarily based on the apprenticeship method, although, particularly after the Calman Report, there was some separation of service from education. This was evident in the introduction of formalised teaching programmes for junior doctors and protected educational time outside their clinical commitments.

At undergraduate level, there appeared to have been an erosion of the apprenticeship tradition over a number of years, with students gradually becoming sidelined from a real place in the team. There were still many opportunities for them to observe and learn from real clinical practice, but few where they had a genuine role in patient care. As with the clerking issue, there was a discrepancy between the views of students and their teachers. Doctors, as highlighted in the last chapter, were concerned that students were no longer ever-present on the wards ready to take advantage of clinical opportunities for learning. Students valued clinically based learning when they had the time and attention of a teacher, but did not feel able to learn effectively without this supervision.

Undergraduate learning seemed to be changing, with a shift away from the clinical arena to the classroom and the provision of more dedicated teaching events. Some teaching remained focused on real patients at the bedside, but there appeared to be an increasing use of simulations. I observed that in some firms it had been deemed necessary to indicate specifically when 'teaching' was to be provided (e.g. at 'teaching ward rounds'), rather than the previous assumption that all clinical practice was a learning opportunity for students. This indicated an increasing conceptual and practical separation between learning and work.

The way in which these trends were incorporated into the new curriculum, and the implications for learning will be discussed in more depth in Chapter 8. Before that I consider in more depth the structure and organisation of the old curriculum.
Chapter 7
Course Structure, Management & Cohesion

Introduction

The two part curriculum, which has been de rigueur since Flexner's day, institutionalised the academic and apprenticeship traditions. In the decades prior to my study, the separation of these two aspects was questioned, and more integrated course structures were introduced at new and innovative medical schools. However, many schools retained the Flexnerian model, and at KCSM it remained largely intact until attempts at integration in the new curriculum of 1996.

Some of the implications of the pre-clinical/clinical divide were initially brought to my attention by new clinical students on the old curriculum. Their comments identified this as one of a number of factors that led them to experience the course as uncohesive. In the first part of the chapter I explore these areas through the accounts of students and staff, and from personal observations during the first half of my study. Three main areas are described: inconsistencies in content, methods and values within the course; issues around relationship continuity; and communication issues. These are all discussed in relation to the old curriculum – the impact of the new curriculum on these issues will be described in the next chapter.

In the second half of this chapter I analyse the factors which contributed to the lack of cohesion, and propose an explanatory model to show how political and organisational factors allowed major discontinuities to persist within the course.

Inconsistencies in content, methods and values within the course

It quickly became apparent as I started to gather data that students were receiving different, and sometimes conflicting, messages from individuals and groups in different parts of their course. Some of these were explicitly referred to by students in interviews or at curriculum committees. Often, it was apparent from doctors' discussions, for example in curriculum committees or other meetings, or from student confusion or misunderstanding. The differing expectations were evident between different specialties or departments, within specialties, and perhaps most notably between the pre-clinical and clinical courses.

The main areas of discontinuity in the old curriculum are explored below.

Differences between the pre-clinical and clinical courses

At the time I started my study, the medical course appeared, to all intents and purposes, to be two entirely separate courses. The two year, pre-clinical, basic medical sciences course (which
could be extended for a year to allow students to gain a BSc) and the three year clinical course differed in almost every respect.

They were based on different sites, approximately two miles apart, with no easy transport route between them. The pre-clinical site was part of the main university complex and was shared with students from other faculties, whereas the clinical site was only for medics and dentists and was shared with the teaching hospital. The two sites had separate libraries, canteens, social facilities and teaching rooms, and catered for different year groups of students. Thus there was no reason why students on one site should visit the other.

The courses followed different calendars: the pre-clinical course followed normal university terms and holidays, whereas in the clinical course students had a broadly similar working week and holiday system to medical staff.

The teaching methods were also very different. In the pre-clinical course, students were taught mostly through prescribed lectures, tutorials and laboratory work. They were given clear directions about what they needed to know and would be tested on, which was overwhelmingly factual in nature. In the clinical course, they were expected to learn primarily at the bedside, through observation of practice, and by clerking and discussing patients on the wards or in outpatient clinics. This was supplemented by some lectures, seminars and tutorials, and students' self-directed clerking of patients. Assessments comprised in-course work, such as presentations of patients and case commentaries, and the official pathology and finals examinations which comprised written and clinical assessments.

Most of my student interviewees came from the first clinical year. I was interested to explore their transition from the pre-clinical to clinical course to find out how they perceived and adapted to the clinical environment.

Students described various rewards and difficulties they had on starting the third year, some of which are dealt with in other chapters. In relation to the theme of this chapter, what stood out was the students' impression that they had not been sufficiently prepared for the clinical course in terms of either knowledge or learning methods.

Most students felt that the science they had learnt was an essential precursor to the clinical course. However they felt unprepared for doctors' expectations that they would know pathology (the science of disease and disease processes), which they had not been taught. The following excerpt from an interview with a new clinical student in her first main firm after the introductory course, is typical.

**Interviewer.** I was just wondering what you feel that - or perhaps what's expected of you?

**Student.** I think they expect you to come with like, a lot of just like background knowledge before you like ... because like that first day of the first firm I knew nothing [...]. I would have thought they'd expect you to know nothing 'cos it's like your first day of your first firm, but they did expect you to know it all, have heard of diseases and know what they were, 'cos I remember on the first day we had a problem based learning session which was
where you get a patient's presenting complaints - what they have - and as a group you're supposed to discuss it and come up with what you think should happen, and I just thought, 'we haven't been taught that' [....] I don't know what she has, and I think they expected you to know, just like general - not in detail - just like what diseases are.

It is noticeable that this student perceived the clinical course as new and different, and was surprised that she was expected to have learnt anything relevant in her pre-clinical course. The interview continued:

*Interviewer.* So those things hadn't been covered in your pre-clinical work at all? - or is it just because it was a while ago you can't remember?

*Student.* I don't think they were actually covered, I mean, like in your physiology they like to learn about [.....] for example, Crohn's disease, you'll learn that it's an inflammatory condition and you just leave it at that really. I don't think they - I'm sure I wasn't taught like what the presenting symptoms were, because you wouldn't really need to know that for pre-clinicals, just need to know enough to know what it does in physiology and stuff.

From this and other sources, it appeared that there was some effort to link the science teaching to specific illnesses, but that this was not a priority in the basic science course. The focus in these years was on the underlying scientific processes, rather than on applied aspects such as how a disease would present in a patient. Students invariably felt that they had insufficient knowledge to answer the kind of questions which doctors asked, which required them to recognise a disease from a patient's history, signs or symptoms.

Students described how the type of learning they needed to do changed from the pre-clinical to the clinical course. They felt that the focus moved away from theoretical learning towards learning from experience on the wards. One student described it thus:

*Student:* Pre-clinical is definitely books. All bookwork, the whole thing, apart from a few practicals which you learn nothing from. Whereas on the ward very little of it is on books. You have to go home and look it up but most of it...you pick out the important things because it's talked about all the time. [.........]

*Interviewer:* So in the first bit, in the pre-clinical, you learn it from books; in the firms you're learning it from...?

*Student:* I'd say 70 per cent on the ward, if not more, and then 30 per cent books. Because we're told to take patients and then you look after that patient and you look up their condition - and the idea behind that is that you associate the condition with a person and then you remember that.

Most students felt that this was a very positive change, as they found seeing and being taught on patients motivating, and felt that it helped them to remember clinical conditions. However it required them to adapt their learning styles and strategies.

Students entering the first clinical year were used to a highly structured course. The pre-clinical course had a heavy timetable, and the associated student handbook included a summary of every lecture. Thus the boundaries of what was expected were clearly defined.
Once they started the clinical course, students had a fairly loose timetable and little in the way of an explicit curriculum. The timetables showed only fixed teaching events or clinical opportunities. Outside these, students were expected to clerk patients on the ward, attend clinical events, and read up on relevant subjects. In the latter years of the old curriculum, students received a log book which listed the main diseases under each specialty and certain skills which they were expected to attain. Doctors did not follow this syllabus rigorously, but covered topics opportunistically, depending on the patients available at the time. In the following quotation, a student describes these differences:

_interviewer:_ So how have you found that the learning has differed from when you were in the pre-clinical term?

_student:_ It's more based on picking up things...on wards and things, and it's totally random whereas pre-clinical's always structured to do 'this subject then this subject' and you have to pick it up as you go along. But in an order - here you pick up what you can when you can ... when the opportunity comes and there's no structure to it. And sometimes you have to look things up if you haven't covered it through the firm.

Although students enjoyed this type of learning, they often complained that they did not know what depth of knowledge they were expected to achieve in relation to each disease. They wanted clear guidance, particularly about how much they needed to know for the exams. This was rarely made explicit, and they had to rely on picking up clues about the relative importance of topics during the firms.

The opportunistic nature of clinical teaching also led to student concern about the comparability of different firms. Quite early into their clinical course, students started to realise that their peers on other firms were getting different experiences. This led to a second major area of discontinuity within the clinical course, which I will now explore.

Differences within the clinical course

Differences between parallel firms

I have described how students were divided into small groups, and allocated to different firms of doctors in rotation. At any one time there would be a number of firms studying a particular specialty. In the first clinical year of the old curriculum, for example, students were attached in parallel to six surgical and six medical firms, some within the teaching hospital, others in associated district general hospitals. In surgery, there were nine different clinical firms used for these attachments during the year, including four in district general hospitals. For general practice teaching, students were allocated individually or in pairs, thus a large number of general practices were required.

Students often complained to the Undergraduate Medical Education Committee (responsible for the clinical years) about differences between 'parallel' firms. I led several focus groups with students in this year, and they invariably mentioned such differences. The following quotation from my notes from one of the focus groups is typical:
In her GP firm she was with an OP who didn't really let her do anything. He told her the surgery was very busy and she'd just have to watch and pick up what she could and look up patients' conditions in the yellow book. It was her second firm so she didn't know much by this stage. When she went to the group seminars at the end of the week she found everyone else had been taking blood pressures or taking blood, sitting in the doctor's chair and greeting patients, etc.

The importance of this issue from the students' perspective is illustrated by my notes of a meeting with two of the first clinical year student representatives:

'I met with RP and NO, 2 of the year 3 reps whom I had asked to see about preparing a page on what makes a good firm for the Year 3 Teachers' Handbook which was being produced for the new curriculum. I'd asked them to think about it before they came, and they brought along a sheet asking for

- greater comparability between firms, including in assessments,
- greater clarity about firm objectives, and
- problem based learning on all firms.

They said that there was a lot of variation between firms. They both shared flats with other medical students who had had completely different experiences from them.'

Following complaints in committees by students about the lack of consistency across firms in various specialties, I initiated an audit. I chose surgical firms as an example, and conducted a study to assess the extent to which the syllabus was being delivered. Students on parallel firms were asked to complete a questionnaire detailing the topics on which they had been taught and the skills which they had practised under supervision. They were also asked to complete a log of their encounters with patients for one week of the firm. Appendix 4 provides the full data as it was presented to firm chiefs, part of which was subsequently published.

Table 7 gives an extract from the data. It shows the reported level of teaching on the 10 most commonly taught topics out of the 38 included in the questionnaire which was based on the syllabus given in the students' log book.

Despite the limitations of the study (discussed in the appendix), it provided evidence to support students' complaints. The table shows marked differences between firms in the teaching received by students, and also shows how students within the same firm could have varying experiences.

A similar picture was evident in terms of skills teaching. Students were asked to indicate which skills they had practised under supervision. The results showed similar, but less marked variation. For example, reported supervision of varicose veins examination varied from no students on two firms, to around 60% on two firms, with the others somewhere in between.

Data on the type of cases which students on different firms encountered were also collected and showed similar variations, reflecting the sub-specialty of the firm.
Table 7. Reported teaching on selected syllabus topics, by firm

<table>
<thead>
<tr>
<th>Topics</th>
<th>No. (%) of students who reported having been taught on the topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>(top 10 topics from list in log book, ordered according to median %)</td>
<td>*Firm 2  n=58 (81%)</td>
</tr>
<tr>
<td>Hernias</td>
<td>38 (66)</td>
</tr>
<tr>
<td>Carcinoma of the colon</td>
<td>21 (36)</td>
</tr>
<tr>
<td>Cholecystitis</td>
<td>23 (40)</td>
</tr>
<tr>
<td>Inflammatory Bowel Disease</td>
<td>10 (17)</td>
</tr>
<tr>
<td>Acute &amp; chronic pancreatitis</td>
<td>20 (35)</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>55 (95)</td>
</tr>
<tr>
<td>Carcinoma of the breast</td>
<td>11 (19)</td>
</tr>
<tr>
<td>Benign breast diseases</td>
<td>6 (10)</td>
</tr>
<tr>
<td>Diverticular disease</td>
<td>9 (15)</td>
</tr>
<tr>
<td>Varicose veins &amp; venous ulcers</td>
<td>45 (78)</td>
</tr>
</tbody>
</table>

* Firms 2 and 3 were in the main teaching hospital, and firms 7 and 8 in district general hospitals.

Overall, the results of this study confirmed major differences between firms in terms of:

- the overall amount of teaching being delivered
- the topics covered
- the priority given to different topics, and
- the case mix of the patients seen.

Clearly, the tradition of opportunistic teaching was resulting in widely differing experiences for students on 'parallel' firms, mainly related to the sub-specialty of the firm. For example, firm 2 was a vascular surgery firm, which was reflected in its top two teaching topics (peripheral vascular disease and varicose veins/venous ulcers) which were given much lower priority on other firms.

**Different messages within firms**

Students also complained about differences within firms, although this was less frequent. For example, they reported that individuals within the same firm would teach different techniques for the same procedure. This also happened across firms. Doctors tended to respond by saying that different doctors had their own ways of doing things and that students would develop their own way too in time. There were discussions at committee meetings about producing a school policy on examination procedure, but this did not materialise. During the construction of the new curriculum however, an agreed document on history taking technique was produced. Some firms made efforts to co-ordinate their teaching, for example, a number of firms set weekly teaching topics to which staff adhered.
Students sometimes received conflicting messages about what kind of experience they were expected to attain. For example, at a year 5 committee meeting, a student complained that one consultant on a surgical firm had told her that she need only go into theatre in the day surgery unit. She had then been told off by another consultant on the same firm for not attending his inpatient theatre session. Such anecdotes indicated a lack of communication between doctors on the same firm.

_Varying standards and methods of assessment_

I observed that parallel firms used different methods of assessment to grade their students. The methods used by the first clinical year medical and surgical firms during the last year of the old curriculum, for example, were (in varying combinations): general impression of individuals, general impression of the student group, poster presentations, written case commentaries, vivas, objective structured clinical examinations and case presentations.

As with teaching content and methods, individual consultants had the autonomy to determine their method of assessment. There were no common criteria for assessment which meant that, not only how students were tested, but also what was being tested, varied from firm to firm. In objective structured clinical examinations, for example, clinical skills are being directly assessed. In case presentations, and to a lesser extent in written case commentaries or poster commentaries, they are being indirectly assessed, whilst in vivas they may not be tested at all. In a 'general impression of the group' individual skills are not being assessed. Sometimes the assessment method used changed during the year, but no record was kept of this, and firms were not required to submit their assessments for approval. Despite this, the grades awarded were recorded on the students' record card and used in the house officer allocation process.

Surprisingly, this issue was never to my knowledge raised as a problem in the Undergraduate Medical Education Committee, and was rarely mentioned by students or doctors as problematic. Assessment was however the area in which students' frustration was most strongly felt, but over a different issue. What they complained about were the perceived differences in generosity of the staff in giving high grades. Students believed that different firms consistently gave more generous grades than others regardless of the quality of student learning. I investigated this for the Undergraduate Committee, and the results confirmed that the average grade received by students varied by about a grade between different firms.

Further confirmation came from discussions in committees. For example, one doctor stated categorically that he never gave an A because it left the students nothing to aim for, whereas others gave them regularly to particularly good students. In an attempt to standardise the marking and to provide better feedback, an end of firm assessment sheet was introduced which required doctors to grade students on their knowledge, skills, attitudes and overall achievement.

One of the main reasons for students' concern was that the firm grades were used in the 'matching scheme' by which house officers were appointed. Students felt that it was unfair that
unreliable grades were used in making decisions of this importance. Doctors' typical response to this at committees was that: 'any idiosyncrasies would probably even out over the 3 years; the firm grades were only one factor that was taken into account, not the deciding factor; and they were used primarily as a check to make sure that the best students weren't overlooked.' In the old curriculum there were no uniform assessments of all students available during the allocation process, except for the pathology examination which was not used.

(Students also had concerns about the individuality of the assessments which will be discussed in Chapter 9).

**Differences between specialties**

Students also experienced different and sometimes conflicting demands between specialties. Probably the greatest difference was between the hospital specialties and general practice. This became explicit when each specialty was required to draw up aims and objectives prior to the introduction of the new curriculum. The hospital medical and surgical firms tended, although sub-specialties varied, to be based around specific disease entities, and the processes of investigation, diagnosis and management. General practice curricula tended to focus more on social and psychological factors, relationships with patients and other health care staff, and communication skills. In practical terms, students in general practice were expected to ascertain the patient's understanding of their illness and their fears and expectations of the consultation. In medicine and surgery, these areas might rarely be covered, and there would be greater focus on the signs, symptoms and test results.

Students had to adapt to these differing expectations, and some found this difficult. Students described how various doctors and basic science teachers made critical comments about the relevance or usefulness of other aspects of the teaching programme. I also heard staff talking dismissively of approaches other than their own. For example, at a curriculum committee I attended, a female doctor from one of the Support Specialties referred to any suggestion about teaching psychological or social aspects of illness with phrases like 'I don't want any of that psycho-babble. I want to teach them the facts.' On another occasion, a surgeon complained that his students, who had just completed a general practice firm, had had to be stopped from discussing possible psychological causes of abdominal pain and told to get to the physical symptoms and causes.

**Lack of relationship continuity**

Something which I noticed early on was the lack of continuity in the doctor-student relationship, and in other relationships within the school. In this section, I consider the strength and duration of these relationships.

**The doctor-student relationship**

Many of the doctors I talked to, either in interviews or informally had very limited contact with individual students. It was not unusual for doctors to say that they rarely or never saw or taught
the same students more than once. Some of the specialties would only have students for a very short attachment (between one and three weeks). One doctor commented:

Doctor: Sometimes you do feel as if you're struggling along an endless burden of students, you know, every week.

Interviewer: And do you get new ones each week?

Doctor: Every week, yeh. Every week we get between two and three medical students unless they're on holiday. So it's quite a commitment, every week.

Interviewer: Do you ever see any of them again or is it all just one-offs?

Doctor: In terms of do they ever come back to the department?

Interviewer: Yes, do they ever come back?

Doctor: No, No.

The doctor went on to describe his difficulties in having to fill in a form about how the students had progressed when he only had each group for 4 1/2 days. He could not see any way around the short contact because the doctors could only cope with very small numbers in clinic, and he felt that all students needed to have the experience.

Firms varied in length between one and fourteen weeks, with the majority at about 8 weeks. Even in the longer firms, teaching was normally shared out amongst firm staff, so that individual doctors were likely to see students for a maximum of two sessions a week. In practice, it was usually less because in clinical sessions only one or two of the student group would normally attend (in rotation) because of the size of the room and the intrusion it caused to patients. Additionally, doctors often did not teach all their sessions personally. Consultants in particular had many other demands, including patient emergencies, conferences, management meetings and research work, and sometimes asked junior staff to substitute for them. This was partly dependent on the consultant's interest and commitment to teaching, but even the most committed would be unlikely to have an unbroken series of sessions with students. Another reason mentioned by doctors as causing a lack of continuity was that discussed in Chapter 5, of students not being regularly on the wards.

Junior staff sometimes did a lot of teaching but were themselves on short term contracts. House officers were in post for only 6 months at a time, so that, twice during the year, students would start a firm with one set of house officers and finish with another. SHOs were generally on one year contracts and specialist registrars on two year contracts, but both usually involved six-monthly rotations around different firms or hospitals. Research students or assistants, who contributed to teaching, were also on limited term contracts. Thus within the teaching firms, there were a large group of possible teachers, each having limited contact with students.

An interesting, although in this context, minor issue raised in the above quote was that students were allowed to take their holiday at any time during the year, provided that they received permission from the firm chief whose teaching they would miss. This was not considered problematic because of the unstructured nature of firms: any week was essentially similar to
any other, as learning was opportunistic, determined by what happened clinically. It therefore mattered little when students were away, although they were advised not to take holiday during the first and last weeks of a firm, or during the shortest firms.

All these factors contributed to the lack of continuity. Students perceived this as a problem, as indicated by the following quotes from two different second clinical year students:

**Student 1**

'It's very difficult because they're consultants and they're busy and they go off to [named place in Africa] and places, and so you miss...you may have - a person may go off for two weeks, so you definitely don't have any teaching from them then, and then the other three weeks that you had on your firm, maybe one week they couldn't make it or the second week something else happened. So they all varied but there was one that was constant throughout the whole 8 weeks of the firm.'

**Student 2**

'Well what was good about our firm was we had a few people who stayed with us throughout the course, you know, who we see on a regular basis and they happen to be quite good one or two of them. The other ones that we saw once in a while or, you know, the ones, the slots in the week where you needed to see somebody different every week. That was what was variable.'

Some doctors also identified this as a problem, although I was surprised by how rarely they raised it in interviews. This may have been because they had never experienced or expected anything else. One anaesthetist did comment on its importance and said that the continuity she had had with an anaesthetist during her training had led her to think about it as a career. On a couple of occasions in my role as an educationalist, I suggested that doctors re-organised the firm to increase the continuity of the relationships to facilitate more effective and rewarding teaching. The doctors involved appreciated that continuity was important - as in patient care - but on neither occasion were they able achieve it within the constraints of the clinical context. The issue was addressed in the new year 3 firms, which were double the length of the previous firms.

The one long term relationship which was structured into medical training at KCSM was that between the student and their personal tutor. At the beginning of the clinical course, students were assigned to individual doctors, for what amounted to a kind of 'father figure' role. (A similar system was in place in the pre-clinical course too). There were guidelines about the scheme, but in practice it varied greatly depending on the individuals involved. At its strongest, the tutor became a role model and patron for the students, assisting them with problems during the course, helping them to secure funding for electives, providing personal recommendations for jobs and so on. Some tutors made a lot of effort to support their students, met them regularly (e.g. monthly), and arranged social activities, such as meals out. Other students and tutors had little or no contact. The system was another area frequently mentioned by students as being inequitable as it worked very variably depending on the individuals (both doctor and students) involved.
Other relationships

Students' relationships with patients were also short. As previously discussed, in most specialties, patients are only in hospital for relatively short periods of time so there is little time for students to develop relationships. Doctors remembered that they had had more time to develop relationships with patients in hospital and to see the progression of their illness and management.

Students' relationships with each other were more extended in that they were in more or less the same groups for most of each year.

Attendance and monitoring

The lack of relationship continuity had a number of consequences and implications. Firstly, it was easy for students with problems, or non-attenders to go unnoticed. Attendance was low for many sessions, particularly at large group sessions where it was usual to see between 40 and 60 of the 120 students. Even in small group sessions, where it was obvious that people would be missed, attendance was often low. I observed sessions where only 3 or 4 out of 7 students attended, and I personally organised sessions for firms which none of the students attended. Even when doctors noticed non-attendance, they had little incentive or obligation to report it. Since doctors kept no written records of students it was difficult to prove non-attendance if students challenged them. Some students who were known to consistently not attend were sent for an interview with the Sub-Dean, who investigated the reasons and made a decision about what action to take. Where it was due to personal problems, such as family problems, students tended to be treated sympathetically. The issue only tended to be taken further if students did not take, or failed their end of firm assessments.

Doctors I interviewed often expressed the view that there was insufficient monitoring of students' attendance and academic achievement, and were concerned that some students 'slipped through the net'. They suggested various things which might help, including more frequent exams, greater use of log books, having students sign in for sessions and giving an attendance mark. Some quoted examples of systems which had worked when they were at medical school. Many of the things they suggested were tried at some point, either by individual firms or by whole years. For example, some of the firms which were worst attended required students sign up for sessions. This was resented by students who felt they were being treated like children, and that they should have freedom to decide whether the sessions were a good use of their time. Some doctors agreed.

The use of log books was tried by some firms, for example the anaesthetic firm in the second clinical year, and medical and surgical firms in the first clinical year. Again this produced a mixed response. Some doctors feared that it would lead students to a 'tick box' mentality where they just tried to complete the minimum required, rather than learning opportunistically from everything they saw, and thus developing wider interests and knowledge. The system fell into disuse because many firms did not check whether students had completed the logs or not, and
so students did not bother getting them signed up. Some students however expressed the view that having the log gave them a legitimate reason to ask for teaching.

In response to concerns about student attendance, an attendance mark was included on the end of firm assessment sheets when these were introduced. However, this was difficult for many doctors to complete since they only saw students occasionally and thus were not in a position to judge their attendance accurately. It would have needed all the doctors involved in the teaching to meet and compare notes in order to arrive at an accurate judgement. Generally what happened was that everyone was given a good mark, with a slightly higher or lower mark for students who been particularly noticeable by their presence or absence.

Communication issues

So far, I have described various discontinuities and inconsistencies in the course which I observed, heard about or investigated. Many of the issues appeared to relate to a lack of communication between different parties, which affected doctors as well as students. In this section I explore aspects of communication.

Communication between teachers

As discussed earlier, the pre-clinical and clinical courses in the old curriculum were to all intents and purposes entirely separate, and there were no formal links between teachers. A few basic science lecturers had personal or research contacts with doctors and invited them to contribute to the course, but there was no structure for achieving this.

There were also no dedicated structures in place to facilitate discussion of teaching across parallel firms within the same specialty or department. So, for example, the parallel medical or surgical firms in the first and last clinical years had no formal opportunities to meet and discuss their teaching. Doctors tended to assume that there would be certain common aims across parallel firms - for example, that junior medical and surgical firms would ensure that students gained the basic clinical skills of history taking and physical examination and the principles of the investigation, diagnosis and management of disease. Most firms or departments had routine meetings to further their own education (described in Chapter 6) but these rarely covered teaching. I found few departments with a teaching group or committee of any kind, although teaching issues may have come up in general business meetings.

The one exception I identified that did have regular meetings about teaching was the Department of General Practice, not part of the main hospital teaching set up. In this department, the course was organised centrally but delivered in the community by a large number of GPs in their practices. There were regular meetings for teachers which included discussion of issues and problems, training in teaching methodology and practical information sharing. This represented the most co-ordinated approach of any specialty.
Apart from the two medical school committees described above which allowed a very limited number of people from different specialties to meet, the only other regular fora for inter-departmental discussion were the hospital based Consultants Committee and the weekly Grand Round. As with the departmental meetings, the Grand Round had a clinical and research focus. One Department (General Practice) which asked to do a presentation on teaching was told that it was to be used only for clinical presentations.

The district general hospitals which took students for various firms had little in the way of contact with the medical school, apart from initial information from the registry and requests for firm grades. Occasionally they would be visited by the Undergraduate Sub-Dean, particularly if there had been problems reported by the students. One or two doctors from external hospitals were members of the Undergraduate Medical Education Committee meetings but rarely attended. There were no other formal channels of communication through which staff from these hospitals could compare notes on their teaching with their equivalents in the main teaching hospital or in other district general hospitals. Similarly there were no formal links for communication about teaching between the GP teachers and their hospital colleagues.

A similar situation occurred in relation to other health professionals. In the old curriculum there was some joint teaching in the first two years, but after that it was possible to study medicine without ever really coming into contact with other health care students. In some specialties (including psychiatry, obstetrics and gynaecology and general practice), nurses and other health professionals were involved in teaching. In many other specialties, it appeared that nurses were expected to facilitate medical students' education (e.g. by suggesting suitable patients to clerk), whilst rarely being asked, briefed or thanked for doing this. There were no nurse representatives on any of the curriculum committees.

Having observed the absence of communication between these various groups, it is worth outlining the real practical difficulties in getting people together. Because clinical timetables differed, there were no times when everyone could be guaranteed to be free. The flexibility of staff varied, with consultants generally having most control over their time. The more junior the staff, the more difficult they were to access, as they were on constant call from the bleep, and had incompatible work shifts. Early mornings (before 9 am), late afternoons (after 5 pm) or weekends were generally the best times to facilitate attendance from all specialties, and all were used by the medical school. These times however made the potential for meetings with pre-clinical staff (who have more normal office hours) or with GPs (who usually have evening surgeries) more difficult. For the district general hospitals, there was also travelling time to take into account.

In my interviews with doctors, I regularly asked them about their relationship with the medical school. This will be reported in detail in the next section, but relevant here were the following perceptions which were widely reported:

- a lack of medical school 'presence' - e.g. identifiable people with known roles
- a dearth of information from or contact with the medical school
- a lack of knowledge about what structures existed if doctors wanted to influence the curriculum or needed information or resources.

Overall there appeared to be a real lack of communication about teaching. In fact, several experienced doctors I interviewed told me that I was the first person they had ever really talked to about their teaching.

**Information provision**

When I started the study, there was virtually no paperwork for either students or doctors in the clinical years.

Students entering the first clinical year received very little. The timetables for their firm were displayed on the notice board, but gave minimal information and were not infrequently absent until after the firm had begun. A few firms gave students a list of aims and objectives and more detailed information about what was required during the firm. This was unusual however, and tended to be confined to atypical firms such as the General Practice firm which was run outside the hospital. At various stages lists of common objectives for parallel firms had been produced but these tended to fall into disuse, partly because of the frequent staff changes. Students rarely received an introductory session at the beginning of firms explaining the programme or introducing them to staff. These issues are covered in more detail in Chapter 9, as I have interpreted them as being indicative of the overall teaching and learning climate.

Students also received little information on how they were to be assessed. As described above, this varied from firm to firm, and was often not explicit to students until towards the end of the firm. The use of firm grades in the allocation of house officer posts, mentioned in the previous section, was another example of information that was lacking. Students were unclear whether firm grades were used or how the process worked, even in their final year. There were clearly rumours about it, as it was raised several times in committees, and occasionally by students in interviews and informal discussions. The information was not considered confidential by doctors, as it was explained to students when they raised it at committee meetings, and they were given written information and a lecture about the application and selection process in the final year. However they were not made aware of it at the start of the course. It was not until the final first clinical year of the old curriculum, that a student handbook was produced which gave details of firm tutors, formal end-of-year assessments (which had recently been introduced), skills to be learnt, major topics, and administrative details. This marked a major change in formalising and communicating basic course information to students.

Doctors similarly received little in terms of information from the medical school. At the beginning of the academic year, firm chiefs were sent a list of dates of firms, the student allocation and a collation of photos of all new students. In the latter years of the old curriculum, they also received a copy of the students' log book which contained an outline
syllabus in the form of a list of core skills and topics. They were asked to provide timetables for their firm, but were given little information or guidance on what should be included.

When I observed teaching sessions and interviewed doctors about their teaching, I was often struck by their lack of contextual knowledge about the course, the students and the medical school. For example, doctors quite often asked students at the beginning of a teaching session what year they were from. In interviews too, they were not always sure which year the students they taught were from, or what other courses they had taken.

It was also noticeable that often doctors did not know whether or not students would be arriving for teaching when they were in theatre, outpatients, or other clinical settings. Sometimes, this was a question of whether or not the students turned up for their timetabled clinics, in other cases doctors did not know whether students were timetabled to attend. However most doctors seemed happy to accept students' arrival without warning.

The lack of contact between the school and its NHS teachers became apparent when, in 1994, I participated in conducting a survey of clinical teachers in the main teaching hospital. We were surprised to discover that there was no central mailing list. The main teachers on each firm were known (e.g. the firm chiefs and consultants) and the heads of teaching in specialties which had separately organised sessions (e.g. radiology, pathology, therapeutics), but the medical school did not have a list of everyone who taught its students. It became clear that compiling such a list would be difficult because the involvement of the various grades of doctors in teaching varied between departments and firms. Thus it was only within each department or, in some cases, each firm, that someone might know who actually taught students. A mailing list was eventually produced by telephoning the secretaries of each department or firm, and checking who currently taught. A total of 378 'teaching staff' were identified through this method, and were each sent a questionnaire.

Despite this, a number of doctors returned the questionnaire saying that they did not teach. At a meeting shortly before completing the study in 2000, the same position was confirmed. There was still no central list of teachers, and thus no direct way of communicating with the many junior or research staff involved in teaching. The system relied on necessary information being communicated to them by the firm chiefs, although there was little evidence that this happened.

The main point of contact between the medical school and its teachers was the Undergraduate Medical Education Committee, which was responsible for overseeing and managing all three years of the clinical course. (There was a similar committee covering years 1 and 2 of the course). The committee had about 25 members, comprising the Dean, Undergraduate Sub-dean, Director of Studies, representatives of the main teaching Departments in the year, student representatives and ex officio members from the Secretariat. Representation was limited by the need to cover specialties in all years. Representatives for some specialties rarely attended, and there was little evidence that information from committee meetings was fed back to other
teaching staff. Certain specialties which did not run firms but contributed to the curriculum in other ways were not represented. The chair of the Pre-Clinical Committee was a member but rarely attended.

The committee met six times a year to manage the curriculum and to address issues raised by doctors or students. Because the committee only sat bi-monthly, and covered all three clinical years, it tended only to hear major issues. Where action was agreed, this was the responsibility of the chair to follow up. The Chair's position was officially funded for one session (half a day) a week. However the funding was considered an honorarium as the role clearly required more time than this.

The other main forum for discussing teaching was the Faculty Board, held three times a year, and open to all medical school employed academic, academic related and research staff. By defining the membership in this way, it excluded the majority of clinical teachers who were employed by the trust. The Faculty Board was primarily a vehicle for discussion and information dissemination about teaching, research or management issues. A summary of the minutes of other committee meetings were presented for discussion, and views were sought about proposed developments.

Feedback on teaching and learning

For students: The firm assessment forms which were introduced towards the end of the old curriculum provided students with a breakdown of their grades for knowledge, skills, attitudes, attendance and exam results, if applicable. Although the intention was for firm chiefs to give students a copy of the forms and discuss it with them, this rarely happened. (I was invariably told by students on the firm I organised that it was the only firm from which they had received such copies). I learned from students and from administrative staff in the registry that they experienced considerable problems in collecting the grades from some firms. Quite often, it would be several months after the firm had ended before they were able to extract grades from firm chiefs, and some grades were never collected. It was a particular problem with some of the firms run in district general hospitals.

Many students complained of a lack of feedback during the firms. In an attempt to encourage such feedback, questions were added to the students' evaluation forms about the amount of feedback they received on their performance during the course and on the end of firm examinations. This question almost invariably received the poorest score of all areas covered in the form. When discussed in committee, some doctors felt that they did give feedback during the course, but that students did not recognise it as such because it did not have a 'feedback' label attached. (Students had access to their record cards, to which the information from the firms was transferred).

For doctors: There were two main fora for doctors to get feedback about their teaching: the Undergraduate Medical Education Committee meetings and the End of Year Review.
End of firm evaluation forms were sent to all students and returned to the registry. Towards the end of the year, student representatives in each year summarised them and compiled a report which included average grades and collated comments for each firm. All firm heads were sent the report for their year and were invited to the review meeting, at which each firm was discussed in turn. The timing of the meeting meant that changes would not benefit students that year, but could be introduced for the following year. Not all firms were represented at the meeting. Follow up action on points raised tended to be left to the firm's discretion unless there was a serious problem. Prior to the end of year, firms would only get feedback if they collected it themselves (which few did) or if issues were raised by student representatives on the committee. The evaluation forms which students completed were gradually developed to give a fuller picture of the strengths and weaknesses of each firm.

Monitoring and accountability

In terms of monitoring educational provision, the medical school relied on student feedback in committees, via evaluation forms (as above) or informal feedback or complaints from students at other times.

The structure of the course mitigated against accountability. Because the students undertook many short firms, failures in the only two common examinations could not be attributed to particular firms or teachers. The fact that firms could devise their own assessments (often based on a general impression of students' competence) meant that there was no objective measure of learning outcome, and the only comparative measure of quality was students' ratings. In any case, the lack of a defined teaching strategy or core curriculum meant that there was little against which success or otherwise could be judged.

Thus there appeared to be little accountability for doctors for their teaching. This was brought home to me after a presentation I gave to some hospital doctors on an audit I had carried out (described earlier). During the presentation I had tried to engage the doctors in a discussion about the reasons for and implications of the differences between firms that had been identified. Later in the day I met one of the doctors who claimed to have enjoyed it but commented that I had asked lots of 'impertinent questions.' I was surprised that my questions had been perceived as impertinent, rather than as part of a normal process of quality assurance/enhancement.

Summary and discussion

The evidence I have presented has indicated a number of inconsistencies and discontinuities at multiple levels within the undergraduate medical course. The old curriculum provided a relatively unstructured education which could result in very variable experiences for students. There was a lack of consistency or agreement as to content, learning and assessment methods, and a largely absent or ineffective management structure. Decisions about teaching were largely left to the individual firm, and in practice, this often meant to the individual teacher. Given the lack of an explicit, agreed curriculum stating what students would be expected to achieve by the end of their firms, topics tended to be determined by the nature of the patients
on a firm and the interests of the doctors. Students experienced it as uncohesive, and doctors appeared to be working in a vacuum of information. There was an implicit assumption that everyone was teaching and testing similar skills (although in different contexts), whilst in fact they were not. Doctors appeared unworried by this as they felt that students would all learn core skills. Students however were driven by the exams and wanted greater consistency of teaching across firms.

These were not just local issues. In 'Tomorrow's Doctors', the GMC suggests that medical schools vary in a similar way, stating: 'Present day undergraduate courses have their boundaries but they are not explicit. They vary from school to school and they are defined in terms of general objectives and largely uncoded agreements of examiners as to what a student should be expected to know at the time of the final examinations.'

At KCSM, the range of different organisations and departments involved in teaching had different, and in some cases conflicting, structures and cultures. Students received conflicting messages about the right way to do things and the proper emphasis of their work. Of course the different norms at least partly reflected the differing roles and demands of the various specialties and their patient populations. This need not necessarily have been a problem, and in fact could have been a positive learning point if the different approaches had been acknowledged and discussed. What made it difficult for students was that they alone had to manage the transition between different types of courses and teachers, reflecting different priorities, practices, ethos's and conceptions of knowledge. This was often an unconscious process, whereby students discovered the norms of a new specialty through making mistakes.

This lack of co-ordination or communication between specialties resulted in a lack of common purpose and lack of knowledge about other parts of the programme. Doctors seemed, for the most part, unaware of the conflicting messages that students were receiving, or of the adjustments they were required to make. When they were made aware, for instance in curriculum committees, they saw it as a question of students needing to adapt to the individual styles of particular doctors, which they would have to do later in their careers anyway. Doctors themselves were often teaching without the relevant information or guidance, although they tended not to express this as a difficulty. The structures which could support the flow of ideas, experiences and information within the medical school were largely absent or ineffective until the development of the new curriculum.

The absence of any explicit rationale or ethos for the course, and lack of written aims and objectives, policies or core curricula, also meant that there was little except administrative details for the medical school to communicate.

In summary, there appeared to be a sparsity of documentation, and a dearth of communication between and betwixt the medical school, its teachers and students. The combination of large numbers of teaching staff, frequent staff changes, and limited available teaching time gave the course a fragmented nature. The short term nature of doctor-student relationships seemed to
mitigate against good quality teaching. It must have reduced individuals' motivation to invest in the relationship, and I gained a sense that many doctors and students felt isolated in their teaching or learning roles. In effect, students were the only factor linking all the parts of the course together. Figure 6 is designed to show how students proceeded through the various parts of the course which were themselves separate.

Figure 6. Student as the linking factor of the course

![Diagram of student as the linking factor of the course]

DGHs = District General Hospitals, GPs = General Practices

It seems likely that the lack of long term relationships with patients may lead to a focus on diseases rather than people, and on short rather than long term solutions. Students tend to receive multiple snapshots of patients and are denied first hand understanding of the long term consequences of their actions. This is probably typical of doctors' work in many contexts too as the organisation of their work allows only limited doctor-patient continuity.

The broad theme under which I categorised these findings during my data collection was 'lack of cohesion.' The term cohesion literally means 'sticking together.' In the context of an organisation, one might describe an organisation as cohesive if it portrayed a consistent message, i.e. if individuals within it gave the same story and seemed to be working in a planned fashion towards shared goals.

Most primary schools for example, have a number of established structures which promote cohesion and consistency. There would be, for example:

- regular staff meetings attended by all teachers to discuss and develop policies, undertake training and discuss and resolve current issues or problems
- written guidelines and policies on both content issues, e.g. maths and science policies, and procedural issues, such as discipline and parental involvement
- clear responsibility on named individuals to co-ordinate specific activities or policies
- consistency between parallel classes and co-ordination across years, e.g. defined curriculum topics, learning outcomes and reading schemes
- consistency of teacher-student relationship for at least a year in most cases
- written records of students' progress
- sometimes, consistency in teaching approach and methods.

Evidence from a wide variety of sources pointed to a lack of such cohesion at KCSM. One doctor, a long established consultant in 'medicine & related specialties', who taught in year 4, described the system in a way that, to me, summed up the structure of the old curriculum:

'It's such a sort of ad hoc, ad lib, sort of procedure, you know, they come for three years and they wander around their firms and they, you know there's ..... it's not sort of - I don't know. I think it should be more, slightly more regimented, actually, you know and ..... they are lined up on our firm and we'll sort of teach them what we think we'll teach them, and what cases turn up, and, you know, it's all sort of rather 'mañana'.

Having identified the effects which this lack of cohesion had on doctors and students, I then attempted to identify the causes. These appeared to be multi-factorial, but ultimately stemming from the apprenticeship tradition, and from fundamental structural issues in the management of undergraduate medical education. In the next section I describe these, and explore how they contributed to the situation I have described.

Identifying the Causes

In collecting and analysing data relating to the cohesion of the course, it became clear that there were a range of, largely but not entirely, structural factors which affected its delivery. I developed a model to represent the various causes and effects, i.e. to link the micro and macro conditions affecting the experiences of students and doctors at KCSM (Figure 7). At the top (Level 1) are the effects on students, which I elicited from my research. Below, the various effects and contributing factors are traced down through the teachers, to the medical school as a whole, and to the wider structures governing medical education.

I have attempted to layer the factors so that on moving down, one finds factors with some explanatory power for the previous level(s). Any model will be an approximation, and there is obviously some overlap between the factors at different levels. The model is specific to KCSM during the early part of my study, around 1995-6. Some of the factors however, particularly those at levels 5-7 would have applied to most or all UK medical schools up to that time, but may have produced different effects in different contexts.

Although the causes were complex, I identified two main structural issues (Level 6), which I felt were at the root of the situation, and were a consequence of the Level 7 factors. These were:

i. the lack of external accountability of the medical school
ii. the lack of management control exerted by the medical school
Figure 7. Lack of Cohesion in the Medical School: From Symptoms to Causes

**Level 1**
- Student confusion and frustration
- Student isolation
- Student difficulty in adjusting to different parts of the course

**Level 2**
- Lack of communication/information flows
- Lack of consistency in teaching and assessment
- Lack of monitoring or guidance of students

**Level 3**
- Doctors' isolation/lack of identity as teachers
- Lack of relationship continuity
- Autonomy of firms and individuals
- Tradition of opportunistic teaching

**Level 4**
- Lack of defined curriculum
- Lack of doctors' accountability for teaching
- Fragmented course structure
- Lack of effective curriculum management structures
- Department-ism

**Level 5**
- Managerial separation of basic science and clinical medicine faculties
- Physical and managerial separation of DGHs and GPs from main teaching hospital
- Lack of overall aims/ethos of course
- Low priority for teaching

**Level 6**
- Lack of management control exerted by the medical school
- Lack of external accountability for teaching

**Level 7**
- Self regulation of medical profession
- Split responsibility for medical education between Departments of Health and Education
Both require some qualification and explanation.

In terms of accountability, the GMC was responsible for regulating courses. However, as I have described in the background section, it used its power very sparingly, and schools had, in effect, been allowed to act as they thought fit. This situation started to change with the publication in December 1993 of new recommendations on undergraduate medical education. Although the report was published before I started my study, its impact took some time to be felt. The early findings discussed above were therefore, in effect, pre-'Tomorrow's Doctors'. Similarly, the introduction of the HEFCE quality assessment mechanisms, a new form of accountability, took time to filter through to medicine and had made little or no impact in the early part of my study.

I thus judged that the school was, during the first two years of my study, subject to little meaningful accountability, and that this was a major factor in allowing the lack of cohesion in the course to remain unaddressed. The first visible events which demonstrated that this was changing were the planning and introduction of the new curriculum from 1995 onwards and the first visit of the GMC to check progress on implementing its recommendations in 1998.

The second main structural problem was that, despite at least a moral responsibility for students throughout their course, the medical school did not have the authority to control the education which it was charged with providing. It did not have authority over the basic science course or teachers, the majority of the teachers on the clinical course, or the SIFT funding. The basic science teachers were in a managerially separate school within the university. The majority of clinical teachers were employed by hospital trusts or were self employed GPs. A straightforward contractual relationship was also not possible since the SIFT funding was not held by the medical school. In short, this meant that there was no one body responsible and accountable for the undergraduate course. This reflected a similar sharing of responsibility at government level between the Departments of Education and Health. The Higher Education Funding Council within the Department of Education provided funding for the medical school administration and directly employed teachers, whilst the Department of Health provided the SIFT funding which covered the NHS employed teachers.

Thus medical school managers were forced to rely on power and influence to achieve their goals. Four types of power are commonly recognised within organisations: 1) resource power, i.e. control over the resources which people need, 2) position power, i.e. that implicit in an official role, 3) personal power: the respect and loyalty commanded by an individual's personality, and 4) expert power, earned by recognition of expertise in a particular field(s). The school's resource power, although great in terms of the overall amount of money linked to educational provision, was diminished by the lack of direct control and inflexibility of use. For example, the medical school was able to switch funding between different health care trusts but only with substantial (18 months) notice. Thus, when hospitals did not deliver and students were withdrawn (which happened at least twice during my study), the hospital retained the
funding, preventing its re-allocation. Within the main teaching hospital, SIFT money was incorporated into the overall budget, rather than being separately accounted for, making it remote from the doctors doing the actual teaching. Everyone involved recognised that SIFT supported the clinical service and so could not easily be switched, but this was a source of frustration for medical school managers.

These limitations meant that the position and personal power of the Dean to influence teachers was more crucial than was perhaps appropriate. Because of the way the Dean was elected, his personal power within the teaching hospital tended to be high, although this obviously varied from one dean to the next. His expert power, however, tended to be based on research rather than education, since the Dean's role encompassed both aspects, and research was more highly valued within the school. At KCSM, both Deans I witnessed were strong personalities with good reputations in teaching and research. Some doctors indicated to me that this had not been the case on previous occasions, where certain Professors and Heads of Departments were more powerful than the Dean, and willing and able to ignore his bidding.

These two factors explain many of the problems described earlier: the medical school did not have authority over its teachers, and was not under sufficient pressure in terms of accountability to force it to use its power and influence effectively.

Given the structural constraints, could the course have been more cohesive? Could the medical school have exerted greater pressure on doctors to teach and teach well? The model I have formulated implies that changes at the higher levels should affect students' and doctors' experiences. In the next chapter, I discuss the changes that took place during my study.

References

6General Medical Council. op. cit.
6In discussing this issue, I will be using the following terms and definitions: (taken from 7 below)
- Influence is the process whereby A tries to get B to do or think something that B would not otherwise do.
- Power is the ability to influence others; the means whereby A is likely to get B to do or think something.
- Authority is the right to use power over the behaviour of others. It is the permitted or legitimate power that goes with official roles or positions.
Chapter 8
Trends in Curriculum Content, Methods and Organisation

In this chapter I describe the major educational developments which I witnessed in the school, and analyse their implications for medical education. I focus primarily on the introduction of the new undergraduate curriculum, as this represented the main turning point. Some changes had started prior to this, and I have already described various initiatives undertaken during the old curriculum. However the KCSM new curriculum best illustrates the main developments since it incorporated the earlier changes, and was the basis for the joint curriculum after the merger.

I start by describing the process by which the new curriculum was introduced as this signalled a change in the management of and communication about the curriculum. I then describe the key changes which were introduced and the trends they exemplified. These were in three main areas: content and organisation of the curriculum; teaching, learning and assessment methods; and management. Finally I report the reactions of staff and students to the changes, noting in particular which innovations generated the most resistance.

The data presented in this chapter is based more on written sources than that of previous chapters. The main source of evidence was official documentation such as course handbooks and committee papers, with participant observation in committee meetings and interviews with doctors used as secondary sources.

The development process

The indications that change was to come were evident at management level at the start of my study in 1995. The decision to introduce a new curriculum was taken in 1991, and a management consultant was employed to advise on the process of change. The first stage planned by the Deanery was to define 'the product', i.e. the knowledge, skills and attributes that the qualifying doctor should have (Appendix 16). The qualities described were similar to those described by the General Medical Council in 'Tomorrow's Doctors'. This was the first time that there had been an explicit statement as to what the medical course was expected to produce.

A number of educational principles were agreed within school committees, including a move to an integrated systems based course, early clinical contact for students, and more interactive and problem solving teaching methodologies. An outline course structure was developed, based on the 'core and options' model recommended by the General Medical Council. It comprised five 'vertical strands' which would run throughout the five years of the course: Cells and Molecules,
Doctors were asked to agree a core curriculum in which factual content was reduced by one third, whilst at the same time incorporating new areas such as communication skills, and a greater prominence for public health, community medicine and ethics. A range of working groups were set up to define the 'core' and plan each strand of the course. Each group included, in varying proportions, representation from the basic scientists, hospital clinicians, general practitioners and students.

A Curriculum Development Group was established to oversee the development of the course, and make decisions about its overall shape, based on the recommendations of the working groups. The group comprised a secretary/later manager, two members of staff from the pre-clinical course and two from the clinical, all of whom were considered enthusiasts for teaching. They set up 'vertical strand' committees which looked at how subjects should be covered across the five years of the curriculum. In addition a range of other, short lived committees and working groups were set up and ran for various periods of time to address specific issues. In all, around 200 staff from the two faculties were involved in the planning process.

In the later planning stages, the 'vertical strand' committees were replaced by 'year committees'. These were responsible both for the development and introduction of the new curriculum, and the phasing out of the 'old'. They comprised staff from a range of relevant departments in both faculties.

Once the merger became inevitable, about a year after the new curriculum had started, a further set of joint year committees were set up between the two schools to define the new joint curriculum. At first these worked in parallel with the existing year committees at KCSM, and later took over from them as the individual committees of the separate schools were phased out.

In addition to the numerous working groups, other strategies were employed to inform and engage doctors in the curriculum development process. Two curriculum conferences were held on Saturdays, during which there were presentations and discussions about the planned changes. An occasional Curriculum Bulletin was produced which reported progress on course design and detailed who was responsible for various aspects of the curriculum. A regular internal bulletin from the School also contained updates and reports from the Dean on progress in curriculum development.

**Observations on the process**

Differences in priority between teachers soon became apparent and there were many heated debates in curriculum committee meetings about what should be included in the new curriculum. These were particularly intense because of the reduction in content required to 'uncrowd' the timetable and allow space for special study modules.
I attended many curriculum meetings, and consistently observed a heavy emphasis on timetabling issues, often involving fights between departments over curriculum time. The primary point of discussion seemed to be the number of weeks or hours that each discipline would have in the new structure. There was frequent argument about, for example, taking two hours/days/weeks from this subject and giving it to that subject. Overt consideration of the students' learning needs were largely absent from these discussions. The decisions appeared to be based on how much time each discipline had previously had, who dominated most on the committee, and the relative power of each department. Occasionally individuals who did not turn up to meetings would find that their time had been cut. Sometimes no agreement was reached in the meeting, and there would be a 'deal done' outside the meeting which would be reported back at the next one. In the year 3 and 4 committees, I heard complaints about changes made between meetings which committee members put down to powerful professors 'flexing their muscles' behind the scenes.

There was less debate between years than within years. From early on there was a decision that the overall division of time between basic medical and clinical sciences should remain intact. Thus there was not a direct threat to the funding of either part. However some basic science material was moved to later in the course, allowing time for some clinical teaching in the first two years via the Practice of Medicine clinical strand. The first two years were still primarily decided by the scientists, but the level of detail required was sometimes questioned by clinicians. This issue was neatly summed up by one of the doctors I interviewed:

'I think one ongoing debate is the balance between basic science and clinical, and who should set the curriculum. I think clinicians feel it should be clinicians who determine what basic science is done in collaboration and in partnership, rather than basic scientists saying they must know all this basic science. In other words it should be clinically driven and I think we would wholeheartedly support that notion, but we don't seem to have won out on that in the curriculum. But that's what medical .... that's what medical training should be. It should be a partnership. The problem is that if we're treating ... if we're teaching people in the first three years basic medical sciences, the agendas for the different groups learning that are so different, that it will never be tailored towards being a doctor and they will learn a lot of, well, arguably unnecessary, certainly material that they will not use significantly and a lot of material which clinicians could I'm sure discard or prune to a minimum and this is the problem, the old debate between priorities of planning the actual course.'

Professor, Medicine & Related Specialties

Gradually over the period of my research, the committees appeared to become more cohesive and to work together better. Once the main decisions about the division of time between specialties had been made, there was a settling in period during which committees focused on implementation. One committee was noticeably different in that it appeared to work through its arguments early on, and thereafter developed a constructive engagement with the task which included discussion of educational issues and student needs. The constructive working of this committee appeared to be largely due to the management skills of the doctor who chaired it.
Changes in content and organisation

I will now outline the new curriculum, and comment on the changes which it incorporated. I will be addressing content and organisation in relation to the overall pattern of the curriculum and not within the individual disciplines. The old KCSM curriculum was presented in Chapter 3 (Figure 4), and showed a course with two distinct parts, each organised around a series of individual scientific disciplines or medical specialties. The new KCSM curriculum is shown in Figure 8, and formed the basis for the subsequent joint and merged curricula.

Figure 8. The KCSM new curriculum

<table>
<thead>
<tr>
<th>Yr</th>
<th>Core courses</th>
<th>Elective courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cardiovascular/Respiratory</td>
<td>Gut, Renal &amp; Endocrine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Musculo-skeletal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Science of Medicine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Practice of Medicine</td>
</tr>
<tr>
<td>2</td>
<td>Reproduction Endocrinology</td>
<td>Neuroscience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head &amp; Neck</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional Skills</td>
</tr>
</tbody>
</table>

*Intercalated BSc option*

<table>
<thead>
<tr>
<th>Yr</th>
<th>Core courses</th>
<th>Elective courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Cardiovascular &amp; Respiratory</td>
<td>Neurology &amp; Psychiatry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gastro-intestinal &amp; Renal</td>
</tr>
<tr>
<td>4</td>
<td>Reproductive &amp; Sexual Health</td>
<td>Child health, Development &amp; Ageing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trauma, Locomotion &amp; Rehabilitation</td>
</tr>
<tr>
<td>5</td>
<td>Elective Medicine Surgery</td>
<td>Community Medicine</td>
</tr>
</tbody>
</table>

It is immediately noticeable that the new timetable is organised in terms of body systems for at least the first three years, and this is the main difference from the old curriculum. The GMC required courses which were integrated in two ways: vertically (to remove the barriers between the basic science and clinical years) and horizontally (to remove divisions between disciplines/specialties).
Integration

There was particular difficulty at KCSM over the concept of vertical integration, with many teachers believing that students needed to learn the science before starting clinical work. There were also practical problems of having two separate sites, with students or teachers needing to travel between them. Although perhaps most influential in the decision making was the commitment to retain the option of students intercalating a BSc after year 2 of the course. This was believed to be a valuable opportunity for students to learn scientific method, and had financial advantages for the basic science school. About 50% of students each year took a BSc.

The decision to retain this option was made quite early in the process. Consequently there could be only limited vertical integration since students needed to learn enough science in their first two years to graduate in an additional year. To achieve this, a number of compromises were reached:

- the first two years were to remain primarily science based, but early clinical contact would be introduced
- the skills strand was to be integrated into the other strands, thereby reducing its prominence and freeing more time for science
- only one SSM was allowed in year 1, and it was designated a 'laboratory SSM', restricting it to projects facilitating the development of laboratory skills.

Within these constraints, there were some genuine attempts at integration. Steps taken included:

**Horizontal integration:**
- the introduction of the systems based approach, which meant that disciplines and specialties had to work together to plan and deliver courses
- the introduction of problem based learning in year 3, which encouraged students to look at all aspects relating to a specific problem
- the combined medical/surgical systems courses in year 3 which involved physicians, surgeons and GPs teaching on the same firm.

**Vertical integration.**
- the introduction of patient contact in years 1 and 2 through the Practice of Medicine strand
- the inclusion of clinical teachers in the first two years, to give talks and demonstrations relevant to the science being taught
- the inclusion of scientists on the curriculum committees in years 3 to 5, and of clinical staff on the year 1 and 2 committee
- the inclusion of basic scientists in designing and reviewing the problems to be used in problem based learning in year 3.

In the first two years, the amount of science teaching was reduced due to the inclusion of special study modules and the Practice of Medicine course. Nevertheless students on the new
The Systems course in years 1 and 2 groups the science teaching around body systems. Students still have separate lectures from the different disciplines, but these are organised to give a more coherent picture of a body system, rather than of a discipline. The courses vary as to whether they are purely timetabled together (i.e. each teacher is autonomous in deciding on content, and may know little about other parts of the course) or whether the teachers involved have worked together to produce an integrated programme. When the new course started, various clinicians were invited to give lectures on clinical aspects relevant to the body system under discussion. Practical problems arose however because of the difficulty for doctors of freeing time and travelling between sites, and these interventions were reduced in subsequent years.

The Practice of Medicine course which provides early clinical contact is integrated with science teaching only in terms of being in the first two years, and not in relation to its content. The course is organised by the Department of General Practice, based on the clinical site and in local general practices, and run without the involvement of basic scientists. The course focuses on areas such as the doctor-patient relationship, communication, ethics, psychology, sociology and public health. Many of these are subjects which received little formal teaching in the old course. Currently there is no attempt to link them to the science which students are learning, for example by covering clinical issues in relation to the body system being studied. This lack of integration has recently been identified as an issue which may be addressed in future.

In year 3, the old medical and surgical firms have been integrated around body systems to form a cardiovascular-respiratory firm and a gastro-intestinal-renal firm in which medical and surgical aspects are taught in parallel. Again these vary as to the level of integration. In some firms, it is clear from student comments that doctors are working independently, ostensibly within the core curriculum, but with a large measure of autonomy. In others, doctors meet to discuss the programme, all meet the students on the first day, are aware of each others' contribution and work towards agreed goals. The new teaching firms (which comprise a surgeon, physician, GP, anaesthetist and various junior hospital doctors) are now distinct from the specialty-based clinical firms.

In year 4, the modules sound integrated, but in reality are divided up into specialties, for example, the Child Health, Development and Ageing module comprises 8 weeks Paediatrics and 4 weeks Health Care of the Elderly. There are similar divisions into specialties in the other two modules, and in the year 3 Psychiatry and Neurology firm. The main effort at integration in these 'blocked' firms is through weekly half day symposia, which cover some cross-
disciplinary issues. In the Child Health, Development and Ageing module, for example, there are sessions on communication issues and pharmacological matters relevant to both specialties.

Year 5 is designed as a more traditional apprenticeship, with students spending blocks of time as shadow house officers in medicine, surgery and general practice. Plans are that students on these attachments have greater responsibility for patient care than traditional final year students who did not have a genuine clinical role. Whilst the earlier years have become if anything more academic, this year has become more of a transition towards work.

Other changes

SSMs: One of the key recommendations of the GMC was the introduction of special study modules to run alongside the core curriculum. At KCSM these are given one day a week, and a wide range of courses are offered. These include course units offered by other faculties within the College (such as languages), as well as clinical, laboratory and library projects.

Community based teaching: The overall balance between hospital and community based teaching shifted slightly towards the community. In the new curriculum, general practice represents about 15% of curriculum time, and students spend just under 10% of time in DGHs.

Multi-disciplinary learning and teaching: In the old KCSM basic sciences course, medical students were taught with dental students for most of the first and part of the second year, and with nursing and midwifery students for the Developmental Science (Reproduction) course. In the new course, medical students are on their own for all courses. This was a decision made on practical rather than philosophical grounds because the large intake in the combined schools made sharing with others unnecessary. There is also no shared learning built into the clinical curriculum although a couple of small projects with nursing and pharmacy students have been piloted. In some specialties, for example general practice, psychiatry and obstetrics there is teaching by other professions, and some individual firms may model good inter-professional teamwork.

Changes in teaching and learning methods

The overall time available for firm-based teaching was reduced due to the day a week special study modules, and half day plenary symposia. Together with the traditional Wednesday afternoon free time for 'sports', this leaves 3 days a week for traditional firm teaching compared with 3 1/2 in the old year 3, and 4 1/2 in the old year 4. The new requirement to cover topics defined in the core curriculum further reduces the possibility of students learning opportunistically in apprenticeship style.

In year 3, the one day a week lecture and tutorial based pathology course of the old curriculum was discontinued. Instead, weekly symposia were introduced in years 3 and 4. These were formal, half day, large group teaching sessions for about 120 students. Symposia topics were decided by the curriculum committees, and an organiser was appointed. The symposia were expected to cover clinical, basic science and pathological topics. However students and doctors
complained that there was not enough pathology teaching in the new course, and additional weekly pathology sessions were added. When these clashed with clinical events, the year 3 committee chair suggested that the pathology teaching should take priority.

In the new year 4, there was an emphasis on regular seminars to ensure that core topics were covered - most courses providing daily one hour sessions. The main difference from the previous system was that the sessions were more regular, formalised in terms of time and place, and that topics were planned in advance, rather than being based on current patients or the doctor's interests.

Communication skills was another area in which there were changes. In the old curriculum, there was a dedicated slot in the first clinical year introductory course, but the subject was assumed to be covered experientially throughout the clinical apprenticeship. When the new curriculum came in, teaching time was allocated separately for communication skills teaching, and a non-medical lecturer was appointed to run the programme. (In my interviews with doctors, I often asked them whether they thought communication should be taught. They invariably said yes, usually emphasizing that this should be by doctors and that it had always been taught as an integrated part of routine clinical teaching).

There has been a move towards teaching skills in the laboratory before students practise them on patients, although this is not yet obligatory or universal. When the school merged in 1998, a new, large skills laboratory was established on the Guy's site. The skills laboratory is popular with students, particularly prior to the clinical skills assessments.

There was also a diversification in the range of learning methods and approaches used. This was largely driven by the year heads who were interested in more student centred learning methods. Symposia organisers were given instructions not to make the morning a series of lectures. They were expected to use more varied and interactive teaching methods, including videos, patient presentations, and breaking into small groups for discussion or problem solving. Problem based learning which had been introduced on some firms was extended to become a formal part of the new year 3 curriculum when it was introduced in 1997, and has been accepted in principle in the joint curriculum, although it is not yet implemented across sites.

**Changes in assessment methods**

I witnessed substantial change in the amount and nature of assessments during the study. There were changes in the balance between in-course and end-of-course assessments, in the assessment methods used, and in the frequency of tests. These changes are summarised in Table 8.

In the new course there was a greater focus on designing questions around clinical problems, rather than asking for isolated pieces of knowledge. The introduction of OSCEs represented a change in assessing observable skills rather than the presentation of unobserved fact finding. Clinical skills were assessed more, but tended to be broken down into small parts and divorced from their real life context. The examination was removed from the wards, and many of the
patients were simulated rather than real. The stations were very short - usually 5 minutes each, and usually on discrete topics, so that students were not required to combine and analyse information from different sources.

Table 8. Changes in assessment methods

<table>
<thead>
<tr>
<th>Assessment structure</th>
<th>Old curriculum</th>
<th>New curriculum</th>
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<tbody>
<tr>
<td></td>
<td>100% summative</td>
<td>70% summative</td>
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<tr>
<td></td>
<td>30% in-course</td>
<td></td>
</tr>
<tr>
<td>Years 1 and 2 (pre-clinical)</td>
<td>Essays</td>
<td>Short answers</td>
</tr>
<tr>
<td></td>
<td>Multiple Choice Questions (MCQs)</td>
<td>MCQs</td>
</tr>
<tr>
<td></td>
<td>Vivas (for distinctions and pass/fail decisions)</td>
<td>Problem solving papers</td>
</tr>
<tr>
<td></td>
<td>Essays</td>
<td>Tests</td>
</tr>
<tr>
<td></td>
<td>Long cases</td>
<td>Tutorial work</td>
</tr>
<tr>
<td></td>
<td>Short cases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vivas</td>
<td></td>
</tr>
<tr>
<td>Years 3-5 (clinical)</td>
<td>MCQs</td>
<td>Skills log book</td>
</tr>
<tr>
<td></td>
<td>Essays</td>
<td>Case presentations</td>
</tr>
<tr>
<td></td>
<td>Long cases</td>
<td>Professionalism assessment</td>
</tr>
<tr>
<td></td>
<td>Short cases</td>
<td>Extended case study</td>
</tr>
<tr>
<td></td>
<td>Vivas</td>
<td></td>
</tr>
</tbody>
</table>

**Changes to postgraduate education**

Although I did not study postgraduate education in detail, it was clear from my research that there were a number of changes which paralleled those in undergraduate education. These varied according to the different royal colleges, but tended to include a greater formalisation of curricula (e.g. more specified objectives or outcomes and more planned teaching sessions), and a greater emphasis on ongoing records of achievement (e.g. skills logs) and assessment (written records of progress by supervisors).

**Changes in management**

In designing the new curriculum, new structures were introduced for co-ordination between the Schools of Medicine and Basic Medical Sciences with cross representation on committees and a joint overall planning committee. After the merger, the School of Medicine was termed the 'lead school' as regard the whole medical course.

The Undergraduate Medical Education Committee which covered all three clinical years was replaced by three committees, responsible for one year each. This allowed a larger number of departments to be better represented. Each new committee included at least one basic science teacher, representatives of the main subject areas, and of the 'vertically integrated' subjects such
as communication, ethics and public health. Three students were also included on each, and had slots early in every meeting to bring up issues of concern. At various times they were asked to undertake surveys of students to assess student opinion or to monitor progress on improvements to the course. The number of meetings was doubled, allowing a much greater range of issues to be discussed and more immediate action taken. Recently they have become less frequent as the major curriculum planning phase has been superseded by a primarily management role.

Within each year committee, sub-committees for each module have been established. In year 3, these include the heads of all the parallel firms, giving, for the first time, a structure to support consistency of teaching. In addition, it has become more common to hold meetings to discuss specific aspects of the course. For example, I attended a planning meeting for the heads of the introductory firms at the start of year 3. In discussion it became clear that there were considerable differences in perception about the purpose and content of the firm. Some doctors considered it to be just a general introduction, with a few demonstrations of examination techniques and a general introduction to the ward environment. Others felt that this was the time that students should learn and practice the basic skills of history taking and examination. These fairly major differences in aims and views between doctors provided further evidence for students' longstanding complaints about different experiences on introductory firms. The meeting appeared to be the first time that differences had been aired, and doctors expressed the need for more guidance from the medical school.

These kind of discussions became more common in the preparations for the new curriculum, where, often for the first time, doctors teaching parallel courses met to plan and discuss them. A teachers' handbook was introduced in 1998, providing considerably more documentation and information than was ever available in the old curriculum.

Reactions to the new curriculum

In committee meetings during the first two years of the new clinical course, I noted the areas which were accepted and those which were strongly resisted by staff.

As noted earlier, changes in the proportions of time allocated to departments was a major sticking point in many committee meetings. All departments were anxious to at least maintain existing proportions of time in the new curriculum, as, perhaps unsurprisingly, each specialty saw its own subject as crucial. Crucially too, there were financial implications for departments of losing teaching time, particularly within the basic science departments where funding was more directly related to teaching time than in the clinical years.

Probably the most strongly resisted and contested area (evidenced by the number of times it was raised in committee meetings) was that of the fixed day each week given over to special study modules. Doctors objected to this because it meant that students missed the opportunity to attend clinical events such as outpatient or theatre sessions which were only held on the SSM
day. There were similar complaints about other innovations which broke the continuity of students' presence at normal firm events. In year 3, the introduction of problem based learning, which took two hours a week, of the half day symposia, and of visits to GP surgeries for a morning every other week were all resisted by many doctors. A few doctors refused to release students to attend these events. They complained that they no longer had enough time to teach the students on the wards (although a survey by students suggested that the available time was not fully used for teaching). They expressed concerns that students could no longer become 'part of the team' because their presence was intermittent. The arguments put by committee members for introducing these elements were that they were required by the GMC, were popular with students, and provided complementary learning experiences. After the first year, when student evaluations of PBL and the GP visits proved positive, more doctors accepted them, although they were still concerned at the loss of traditional firm teaching time.

Another issue was the way in which clinical practice tended to be broken down into its component parts for curriculum planning. For example, physical examination, communication skills, ethics, data interpretation and pathology tended to be identified and timetabled separately, whereas they would previously have been covered (or not covered) in a more integrated way based around patients. One doctor at a committee meeting described how he felt that, through this process, the new, so called 'integrated courses' actually led to disintegration.

Defining a core curriculum was also an area which provoked concern. When doctors were asked to specify learning objectives (for example on the new curriculum development committees), there was sometimes a reluctance to delineate the knowledge required. They were concerned that specifying a level would limit students' ambitions, rather than provoking their curiosity. They felt that students should be motivated and encouraged to study topics in as much depth as possible rather than to a defined limit. Doctors who objected to the idea of a core curriculum also complained that it was impossible to plan topics for their teaching because you could only teach on the patients that were available at the time.

Students expressed some similar anxieties, for example, they shared teachers' complaints about the time given to special study modules. They felt that SSMs were a distraction from the core curriculum which they saw as more important. Similarly they often complained about the amount of time spent on what they considered to be intangible learning in the Practice of Medicine course when they had a lot of factual scientific knowledge to learn. They made comparisons with previous years of students, for example complaining about the reduced level of pathology teaching compared to the old course.

In interviewing doctors, I was also interested in how much those who were not on the curriculum committees (the majority) knew about and were sympathetic to the new curriculum. I made an attempt to interview doctors who were regular teachers but did not have extra educational responsibilities. In my early interviews prior to the introduction of the new curriculum, they usually had a very scanty knowledge. They had usually heard about the
increased integration and had some idea what it meant. They had sometimes heard about problem based learning. In both cases they were unaware of but interested in evidence about the effectiveness of these new ideas. After the new curriculum had started, many doctors were still unaware of its structure or the changes it represented.

Summary and discussion

The introduction of the new curriculum, and subsequently the joint curriculum, represented a number of important changes in the management of the teaching. Firstly there was greatly increased planning and management of the curriculum. Things which had largely been taken for granted (such as what should be taught) were formalised on paper.

Secondly, decision making was increasingly centralised. Content and methods, which had previously been left to individual departments to decide, became more prescribed and formalised. This should lead to increased standardisation between firms, providing greater equity of experience for students and facilitating greater consistency and cohesion within the course. The extent to which this actually happened could not be determined from this research, although there was evidence that the degree of implementation of the new curriculum varied greatly between firms.

A third, and crucial difference, was that the educational structure was, for the first time, separated from the clinical service structure. In the old curriculum, the (very limited) management of education aligned closely with the hospital management structure. In the new curriculum, teaching had a separate structure designed to meet educational needs. Figure 9, shows how this operated in year 3. It can be seen that whereas in the old curriculum, students moved from one department/specialty to another, in the new curriculum they moved along a separate trajectory, to which doctors from various disciplines contributed. A similar situation occurred (to various degrees) in all the years, apart from year 5 which maintained medical, surgical and general practice teaching as separate disciplines.

This change was perhaps the most fundamental, particularly in the clinical years, in that it broke the traditional apprenticeship link between a group of students and a clinical firm of doctors. In year 3 in particular, students were no longer attached to a single clinical firm for a period of time, but split themselves between two firms and various other activities.

The way in which the changes were achieved, through the involvement of doctors in curriculum planning, represented a huge increase in the fora for discussion of teaching. Teaching was put firmly on the agenda of the hospital and medical school, and there was a greater transparency about and visibility for teaching. At the start of my study, few people seemed to regularly discuss teaching; by the end it had become a more frequent subject for debate. Importantly too, the level of debate had risen, with a wider, although not ubiquitous understanding of the issues. There was a greater understanding of educational vocabulary, and some individuals had developed areas of specialist educational expertise.
Figure 9. Changes in structure of the curriculum.

Traditional course structure:

![Traditional course structure diagram](image)

New course structure:

![New course structure diagram](image)
The changes also had widespread implications in terms of the balance of power and status within the school, and for the nature of teaching. In the following sections I will discuss these, and relate them to the various forms of resistance to change which I have described. Finally I will comment on the changes in relation to the model that I introduced in Chapter 7.

Implications in terms of power and status

Prior to the new curriculum, there had been very little contact between teachers from the basic medical science and clinical faculties, with individual disciplines and specialties being autonomous in deciding what and how they should teach.

The process of curriculum development was the first time that teachers from both sites and from a range of disciplines and specialties had had to work together. This was a major change in the way of working, which forced horizontal links between departments, as opposed to the normal working within clearly defined hierarchies within the disciplines and specialties. The friction I observed in committee meetings suggested that this unfamiliar process was difficult for many teachers. Many of the arguments related to changes in the amount of time given to each specialty, and seemed to be linked to a perception that status was related to curriculum presence.

Bernstein distinguishes between two types of curricula - what he terms 'collection' and 'integrated' codes. The former comprise a set of strongly classified subjects, i.e. subjects with well defined boundaries between their contents. Bernstein suggests that such curricula, of which the old KCSM curriculum was an example, give power and status to departments which is reflected in their representation in the curriculum. He distinguished these from 'integrated codes' in which insulated subjects are subordinated to some relational idea (e.g. a systems based curriculum) which blurs the boundaries and leads to greater openness of content.

Bernstein sees power shifts as inevitable in integration, as it disturbs existing authority structures and educational identities, and there is a fear of losing the status developed within one's own hierarchy. He suggests that integration will reduce the discretion of the teacher, and increase that of the pupil, thus shifting the balance of power between teacher and taught. It also tends to lead to an emphasis on ways of knowing rather than attaining a state of knowledge. Thus there is a move from didactic teaching to more group or self regulation and towards a common pedagogy and evaluation system.

Many of these effects were evident at KCSM. The new curriculum reduced the power of the departments. This may explain some of the battles in committee over timing rather than conceptual issues, and the staff resistance to integration, timetabling and the core curriculum. I noticed in my early interviews the strong loyalty expressed by doctors to their discipline, which appeared to be stronger than their loyalty to the school. Although this was still evident at the end of the study, this process of integration, (together with a simultaneous emphasis on cross-
disciplinary research) may gradually lead to a weakening of discipline boundaries and a strengthening of the school ethos and identity.

The overall sense is that individual disciplines and specialties are slightly less important than they were in the old curriculum. At a higher level there also appeared to be a shift in the nature of the power relationship between the two faculties involved in the course, with an acceptance that the Faculty of Medicine was the lead school.

There were also changes within the clinical arena in the relationship between hospital specialties and general practice. The introduction of general practice experience for students prior to hospital exposure, the increased contribution of general practice to the curriculum overall, the introduction of general practice teaching within the medical/surgical firms, and the fact that two of the three clinical year heads were GPs all signified its increased status within the course. Nevertheless it still accounts for considerably less time in the curriculum than hospital teaching which suggests that the values of the teaching hospital (e.g. specialist skills, research and the biomedical disease model) are still more important than those of primary care.

Another noticeable trend was the increased student representation and influence over their education. The power relationship between teacher and student seemed to be shifting as students' views were increasingly sought and given weight in decision making.

One area in which little or no change seemed to take place was in the relationship between medical students and teachers, and the professions allied to medicine. Although teamwork with other health care professions was frequently highlighted in policy documents as important, there was little evidence of this official rhetoric being carried through into the curriculum. As detailed previously, there was actually a reduction of multidisciplinary learning in the first two years of the course, and no change in the clinical years. There are no nursing or other health care representatives on the curriculum committees, and I never heard this raised as a possibility. The way in which the course structure and organisation emphasize separation is in conflict with the espoused aim of improving teamwork.

Having considered the effect of the new curriculum on power relationships at various levels within the school, I will now move on to examine the implications of the new curriculum for student learning.

**Implications in terms of student learning**

In Chapter 6, I described how in the old curriculum there was evidence of a trend towards more formal (i.e. timetabled, dedicated) teaching in clinical settings, more teaching away from the clinical environment, and more simulated encounters with patients. There was a similar formalisation in terms of assessment, an increased frequency, standardisation and reliability of assessments. In terms of content, there was a greater clinical contextualisation for written papers, and the introduction of direct observation and assessment of clinical skills.
These changes are more than just organisational, as they have implications in terms of the type of 'knowledge' (in its widest sense) that students gain. I will use a quotation from a doctor as the starting point for exploring a number of ways in which such learning differs from formal, classroom type learning.

**Doctor:** I just do bedside teaching which - I enjoy doing it and I try and get them to start to learn ... I think intuition and intuitive thought is very difficult, you can't teach it, but I try and get them to start thinking intuitively - and well both inductively and deductively but I think the intuition in medicine is pretty important, you know to, I don't know to .... Well [...] to go up to a middle aged lady who's pigmented and then you begin to start formulating a diagnosis as you walk up to the end of the bed, [...] and get to the students, say 'Come on, start thinking as you talk to the patient, get to the end of the bed', and I try and get them to think along those lines. [.....]

You can get pretty close to the students and start to really get in amongst them and really get them to think about their medicine and it's the time when I think they can synthesise and really put their clinical skills together. [....]

**Interviewer:** What is it you enjoy about doing that teaching?

**Doctor:** I think it's ... I think it's teaching people to use every bit of information and to sometimes build diagnoses on such slim things that you, I don't mean slim things, I mean it's the old fashioned practice of medicine really. It's auntie's dog. Why is it? Because I can see my aunt and there's her dog and it's a Cairn Terrier. It's that sort of .... I quite enjoy that. I like pointing out to people that you don't, that you need to have a huge, if you like, a huge fund of medicine, you need to know many many things and you can walk down a ward possibly and you can just by looking at people, you can begin to formulate diagnoses and problems. You don't even need to speak to the people, [...] I do enjoy them getting that thrill of just, there it is, you're dead right, you know, without even opening your mouth. I enjoy that a lot, I like illustrating to them that that can be done, not because, not particularly because I'm cleverer than them but I've had a lot of experience and it's very good fun to see them .... see that light going. You know, you can walk down onto the ward [...] you know, a man with a red face, a bit plump - an alcoholic and I want the students to know that, and there's nothing pejorative about that, you know, the diagnoses are there, just to get them to know that it is possible to be really, to really use your every faculty.

*Senior Lecturer, Medicine & Related Specialties*

In clinical teaching, students are learning much more than simple knowledge or science. The type of knowledge and learning described in this quote has been characterised in various ways. It has been called 'distributed' or 'situated' learning, i.e. learning in a context in which knowledge is distributed between and amongst the players and is evident in the artefacts, language and relations between members. In this situation, the patients, doctors, nurses and other staff, the way the ward is set out, the equipment used and so on, are all part of the learning. Meaning is negotiated between them using a specialised language which both constrains and constructs the learning.

Much of the knowledge which students assimilate in such situations is 'tacit', i.e. knowledge which they are not aware they have, or cannot explain. Polanyi describes it as knowledge which you 'know but cannot tell'.² Students learn by seeing, feeling, sensing the patient's illness and picking up all sorts of contextual clues of which they may be unaware. Kolb calls this 'apprehension' to distinguish it from the more rational and analytical 'comprehension'.³

The doctor above describes 'practical', as opposed to 'technical' knowledge. Eraut describes this kind of knowledge as 'experience-derived know-how which professionals intuitively use'.⁴
Through observing such practice, students see how the doctor interprets signs and symptoms, reorganises the information, reasons and plans. They learn the 'art' as well as the science of being a doctor. During such learning, students are also being socialised into the doctors' role through a largely unconscious process of role modelling and situational adaptation. They take on the medical profession's norms of, for example, how to approach a patient, how to communicate with them, elicit information, examine them and so on.

This contrasts with learning in the classroom where there is an emphasis on the theoretical - on what is known as 'propositional knowledge'. This includes discipline based theories and concepts, generalisable rules and principles from the applied field, and specific propositions about particular cases. Much propositional knowledge could usefully be applied in real life situations, but is often not applied because individuals have not learnt to use it in this way. Application requires a re-learning, or re-situation of knowledge so that it can be of practical use. This is a common problem for professional training, for example, in trainee teachers trying to apply theoretical knowledge to the classroom situation. Conversely, in apprenticeships, as Roth describes:

"The central element [...] is that meaning, understanding, and learning are all defined relative to actional contexts rather than to self-contained, mental and linguistic structures."7

What I observed within the medical school seemed to be a shift in the balance between the teaching and learning of practical know-how and propositional knowledge towards the latter. This seemed to be partly related to the increased accountability and need for students to demonstrate their learning. Clearly, tacit knowledge is more difficult to assess, whilst propositional knowledge and skills are more straightforward. Lave and Wenger have highlighted what they describe as the 'commoditization' of knowledge, whereby the 'exchange' value of knowledge has been prioritised over its 'use' value. They state that:

"Testing in schools and trade schools (unnecessary in situations of apprenticeship learning) is perhaps the most pervasive and salient way of establishing the exchange value of knowledge."4

This raises questions about what kind of knowledge the medical school values, and about the role of the undergraduate phase of education. Is it more important for the school to demonstrate that students have learnt propositional knowledge in examinations or that they should be able to act knowledgeably in a clinical situation?

The introduction of special study modules also represented a change in values. They allow a diversification of content, giving a message that a range of topics and interests are relevant to medical study. They tend to focus on developing skills rather than learning knowledge, part of a more general re-emphasis on skills (including skills of how to learn), with more teaching and assessment of basic clinical skills and of transferable skills such as communication and IT. They also give a degree of choice to students which implies a recognition of their individuality.
Any curriculum is a reflection of certain values, and this explains some of the problems which doctors had with the new curriculum. They objected to the de-prioritising of some of the apprenticeship aspects of the medical course, and the greater emphasis on academic learning. I will return to these issues in the final Section of the thesis.

**Conclusion**

In the first three chapters of the Findings, I described and analysed the content, methods and structure of the curriculum at the start of the study. In this chapter I have indicated the changes which were introduced during the study. Many aspects of the new curriculum were extensions or formalisations of trends which were already evident to a degree, or in certain parts of the school. These had been introduced in response to changing conditions, such as fewer patients, changed working patterns of doctors or greater student expectations.

The model I developed in the last chapter to explain the lack of course cohesion (Figure 7) suggested that structural factors at a national level could influence the day to day experiences of doctors and students. In particular I suggested that the lack of accountability and management control were responsible for many of the problems which students and doctors experienced. In this chapter I have described the changes that were introduced as the result of the GMC's recommendations and its determination to enforce their implementation. This demonstrated how an increase in accountability of the medical school acted as a catalyst for change. A change in Level 6 resulted in changes in some of the lower levels, such as the introduction of a defined curriculum, a more coherent course structure and reduced autonomy of firms and individuals.

Some of the changes which the GMC recommended had already started at KCSM, driven by reformers from within, whose hand was strengthened by the publication of 'Tomorrow's Doctors'. However traditional values and customs are hard to change, and it is well known from the management literature that cultural change is necessary if structural changes are to be embedded. In Part II, I look at the culture for teaching and learning which existed at KCSM before and during the introduction of the new curriculum.

**References**

5. Eraut M. Ibid. p43.


PART II. The Teaching and Learning Climate

Introduction to Chapters 9 - 12

Having examined trends and changes in the content, methods and organisation of teaching, I proceed in Part II to explore the educational climate of the School. Based on the perceptions and feelings of students and doctors, I aim to illuminate aspects of the culture of the school and hospital.

First, in Chapter 9, I explore the social climate as it was experienced by students, a frequent subject of comment which clearly affected their motivation and ability to learn. I was particularly interested in the views of women and ethnic minority students as these have been less studied than those of white male students. I used a variety of sources to elicit students' perceptions, with much useful data coming from everyday informal contact in my organising, teaching or committee roles, as well as the more formal interviews. The codes on which this chapter is based are shown in concept map form in Appendix 12 (which also includes and overlaps with the codes used in Chapter 11).

I was equally interested in how doctors viewed their teaching, and in the support for teaching within the school. In Chapter 10, I outline the major issues which I identified, or which were identified by doctors, as pertinent. These related primarily to doctors' relationship with the medical school, and the infrastructure for teaching (see Appendix 13 for the codes used). As with the previous chapter, informal and formal interviews (this time with doctors) were the primary sources of evidence, with observations of teaching and of committee meetings also providing useful data.

Coming from a different tradition of teaching, I found some of the commonly held views and experiences of doctors in conflict with my own. Such conflicts were revealing of both my own implicit beliefs, and theirs. One area in which this was particularly evident was in the use of intimidation in teaching. This feature of medical education has been widely reported in the literature although there has been little more than quantitative accounts of its prevalence. Through my research I was able to learn more about the nature of and rationale for this behaviour, and to consider what it might reveal about doctors' beliefs and opinions. In Chapter 11, I describe and discuss these findings. This chapter is different in style to the previous ones, as it focuses in more depth on a single issue. As with the clerking issue, intimidation turned out to be the most obvious sign of a wider theme: that of the relationships between individuals and groups within the school.

In the final part of this section (Chapter 12), I provide a broader discussion of some of the issues and themes from the previous three chapters and explore some of the anomalies which had arisen. I discuss the process of professional socialisation, aspects of the value systems held by different groups within the school, and the relationship between culture and gender in medicine.
Chapter 9
Learning in the Clinical Environment

Introduction

This chapter concerns students' relationships with others, and their perceptions of the social climate of the school: areas which were more frequently mentioned by students than was the content of the course. This is illustrated by a record in my field notes recalling a discussion with a group of four 3rd year students whom I had asked about what would make a good firm:

'They came up with all the usual things really:
- feeling valued within the firm
- the firm teachers being interested in what they are doing
- being given more responsibility
- being made to feel useful.
- having a forum to discuss their own ideas and 'not be laughed at'.
- having patients 'to hang your knowledge on'

They said that they often felt like a hindrance.
They said that they needed to feel that 'if you take initiative you won't be stamped on.' They said too many people were scared to take the initiative in case this happened.'

It is noticeable from their list that all except the need for patients to whom they could link their learning, are concerned with the social climate of the firm and the students' role within it. By the time I talked to these students (1998), I was already very familiar with these type of concerns, as indicated by my initial comment in the field notes.

Below I explore the main issues which students identified and which I classified as relating to a general lack of respect or consideration for their needs. These included: students' perception of being 'in the way', the frequent lateness or cancellation of teaching, lack of introductions to new firms, a perceived requirement for conformity and lack of respect for individuality.

These data come mostly from first clinical year students on the old curriculum. I focused on this year because it was the time when the medical environment was new to students, and thus they were most aware of how it differed from their previous educational experience. Students in the later years had usually adapted to it in one way or another. Although in the new curriculum, students had clinical contact from year 1, this was in general practice rather than the hospital. I found that year 3 students in the new curriculum had similar concerns and perceptions to those in the old curriculum. Where I noted any differences between the old and new curricula, I comment on this in the text.

Feeling in the way

An issue that was raised frequently in interviews with students, in their written evaluations, and in committee meetings was that students often felt 'in the way' in the clinical environment.
They felt that they were in the way of the doctors, the nurses, and sometimes the patients too. Part of this feeling was to do with how they were treated by staff: for example being treated in an unfriendly way, occasionally with hostility, or being ignored.

The following quote from a 3rd year student is an example of the latter:

'I went to a couple of ward rounds and people just - they ignored us completely. They didn't really know that we were going .... I don't know - whether it was just that they didn't know that we were going to be there, but we turned up and said 'We're the medical students who are on your ward round and can we come round?' and they just said 'yes', and then just talked over us all the time and talked amongst themselves and didn't explain anything to us, and it just seemed very much like it was their business round and they didn't have time to teach us.'

Incidences such as this gave clear signals to students that they were not important in the system. Students were very aware of their position in the hierarchy - at the bottom, or as one student described it - 'the lowest of the low'. Several students mentioned that doctors had told them that they were not paid to teach, which reinforced the message.

Students described differences in the atmosphere generated by different firms or individual teachers. Many individual staff and some departments were thought to be very friendly, and this was commented on positively by students. They described how on some firms they had really been made to feel part of the team, and the motivating effect this had on them. Some firms arranged or included students in social events. There were clearly a few firms where a strong teaching ethos existed. Students always evaluated these firms favourably. One junior medical firm, for example, was frequently mentioned in glowing terms. This firm had a high status and influential professor who was a strong advocate for teaching, and led by example. All the doctors in the firm appeared to be committed to teaching.

Certain specialties, such as general practice, were commonly considered to provide a more supportive atmosphere than others. In many specialties students went on outside attachments to district general hospitals for a period of weeks, and these hospitals were generally felt to be more welcoming to students than the main teaching hospital. A third year student explains:

*Interviewer:* What is it that makes the outside attachments better .....?

*Student:* Erm, I think it's partly that there are fewer students - you only go in two's, and partly that they're more - like really keen to have you there, and everyone wants to teach you, they're always saying 'Do you want to do this, do you want to do that?' and they're always offering you opportunities to do things and - well I found anyway. I found I really enjoyed it because the midwife [inaudible] and they were really helpful and I spent a lot of time there and just, I think, just the opportunities you get to do things. There seems to be a much more relaxed atmosphere.'

Despite the friendliness or otherwise of staff, students' feeling of being in the way often persisted due to a more fundamental cause: their lack of a real clinical role.

Medical students at KCSM do not, in most situations, have a genuine role in patient care. They are expected to be present during much clinical activity, but, in the vast majority of cases,
cannot contribute in any meaningful way. This is a source of frustration for students. As one student put it: 'The cleaner has more reason to be here than I do.'

During the three years when I organised one of the third year firms, I talked to many groups of students about their experience of different firms. It was clear that they yearned for a sense of belonging and a real role to play. They singled out times when they had actually been able to gain first hand, concrete experience, and to do something useful. The evaluation forms reinforced the message that students valued real experience.

The dislike of not having a genuine role lasted throughout the course. For five years, I organised workshops for final year students during which I asked them to record what they were looking forward to and what they were concerned about with regard to the house officer year. Their responses were coded, and the results (Table 9) show that, after money, they most looked forward to 'caring and responsibility for patients'. Several of the other categories revealed the frustrations of student life and showed how they yearned to become a professional with a worthwhile role, which they felt would earn them status and respect. The 'concerns' data showed that responsibility was also something which students were worried about, perhaps partly because they had so little genuine responsibility during the course.

Table 9. What students looked forward to in the house officer year

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of students+ (n=196)</th>
<th>% of students*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Money (incl. paying off debts/loans, financial independence/security)</td>
<td>174</td>
<td>88.8</td>
</tr>
<tr>
<td>2. Caring and responsibility for patients</td>
<td>98</td>
<td>50.0</td>
</tr>
<tr>
<td>3. Transition from student life to start of career (achieving ambition/starting a career, end of exams not being a student, break from studying, having a defined role/proper job)</td>
<td>96</td>
<td>49.0</td>
</tr>
<tr>
<td>4. Lifestyle/career factors (leaving King's, moving out of London, opportunity for career decisions/travel/holiday)</td>
<td>40</td>
<td>20.4</td>
</tr>
<tr>
<td>5. Achieving status/respect</td>
<td>38</td>
<td>19.4</td>
</tr>
<tr>
<td>6. Improving skills and knowledge</td>
<td>28</td>
<td>14.3</td>
</tr>
<tr>
<td>7. Working as a team</td>
<td>24</td>
<td>12.3</td>
</tr>
<tr>
<td>8. Doing something useful/ worthwhile</td>
<td>23</td>
<td>11.7</td>
</tr>
<tr>
<td>9. Putting theory into practice</td>
<td>23</td>
<td>11.7</td>
</tr>
<tr>
<td>10. Challenges</td>
<td>9</td>
<td>4.6</td>
</tr>
<tr>
<td>11. Other</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

+ Attendance was voluntary and varied from 16-63 of the possible 120 students in each year.

* % of students shows the percentage who included this category in their top three.
From my discussions with doctors, it appeared that in the past students did have a more direct role in patient care, more like genuine apprentices. For example, some doctors described how, as students, they had recorded notes about the patients they clerked which had been kept in the patient’s notes and referred to by doctors.

I found an interesting point of comparison when I witnessed teaching in the associated dental school. It was immediately obvious that dental students were still genuine apprentices who treated patients under close supervision, and thus learned ‘on the job.’ They booked patients into the clinics, arranged transport for them, assessed their needs, planned and implemented treatment, and kept records which were reviewed by their teachers. Their whole attitude and demeanour demonstrated the seriousness of the work on which they were engaged, and their interest and motivation to learn and succeed. When I asked the dental teachers about student absenteeism - an issue regularly raised by medical teachers as problematic - they were taken aback. It was just not an issue. When I talked informally to final year dental students I was initially surprised at their confidence to practice, particularly in comparison to medical students’ anxiety. Having seen the course in action though, it was clear that they were fully prepared for practice by being given genuine responsibility and regular feedback on their developing skills throughout the course. This illustrated to me what the medical apprenticeship may once have been like, and how much it had changed.

**Lateness and cancellation of teaching**

A frequent complaint from students in committee meetings, on evaluation forms and in my discussions with individuals or groups of students, was that teaching was frequently late or cancelled. The following extract from an interview conducted with a third year student about 3 months into the clinical course gives an example:

*Interviewer:* Is there anything that’s stood out for you in the first - well since you’ve been here in September?

*Student:* A problem or a good thing, or..?

*Interviewer:* Well, either really.

*Student:* The only thing we were saying this morning while we were waiting for someone to come and meet us for this exam - it was so typical. The only downside to clinics is a lot of waiting around and like if a teaching sessions supposed to be at 9 o'clock, guaranteed no one's going to turn up till, you know, quarter past, half past nine, which is a bit irritating sometimes, but I suppose it's hard to help, and a lot of teaching sessions have been cancelled as well.

To try to get a more comprehensive view of students' perceptions, I analysed the students' end of year evaluation reports presented at the curriculum review meeting for the year 1995-96. The reports presented student's gradings for each firm on a number of criteria relating to the organisation, delivery and quality of the teaching. They also presented a range of comments from students.
In year 3 evaluations, students were asked to rate the punctuality of their teachers on a 5 point scale from 1 (lowest) to 5 (highest). The average scores of the fifteen firms ranged from 1.9 to 4.4, with an overall average of 3.5. Students were not asked specifically about cancellations. However problems with cancellations were mentioned in the comments section in eight out of the 15 firms. In one out of the 15, teachers' attendance was commented on positively.

In the year 5 evaluations, the grading scale was: 1=awful, 2=poor, 3=good, 4=excellent. Students were asked to rate firms on punctuality, which varied from 2.5 to 3.3 with an overall average of 2.9, and on teacher attendance, which ranged from 2.2 to 3.3, with an overall average of 2.8. In the comments section, cancellations were noted as a cause for concern in three out of the seven firms, and attendance was commented on positively in two.

Such scores can be difficult to interpret as judgements on what constitutes a particular mark will vary from student to student, and depend on their expectations. In a standard university course, one would expect attendance to be virtually 100% and punctuality not far below. In a hospital setting, students recognise that clinical emergencies take precedence and make allowances. However they are also frustrated because they realise that genuine emergencies are less common than cancellations or late arrivals. They are particularly irritated when they were not informed that a session has been cancelled, and spend time waiting for the teacher. One student commented on how students had become so used to late or cancelled sessions that it was seen as the norm. (This point was substantiated by the fact that attendance was commented on positively in several firms). The student suggested that firms where doctors always turned up were considered good, irrespective of the quality of teaching, so that mere attendance had become the 'gold standard' of teaching.

Students later in their course tended to be more proactive about bleeping doctors if they had not arrived for teaching. By this time, they were more familiar with how the system works and had the confidence to contact doctors directly and ask for teaching.

Doctors did not disagree that there were often cancellations or postponements of teaching. The reasons, which I noted from interviews with doctors' and from discussions in committee meetings, were multifactorial. They included:

- the conflicting priorities doctors faced in trying to combine clinical work with research and teaching
- the lack of recognition for teaching effort compared to other parts of their work, which meant that it tended not to be seen as a priority
- the lack of accountability for teaching, so that there were fewer implications for them of missing teaching than other things
- the lack of protected time in their week for teaching
- clashes in their teaching timetable, such as having final year and third year students at the same time, or running final exams whilst having a junior firm.
- staff absences for holidays, conferences or other outside work
• the lack of organisation, so that replacement teachers were not arranged (although this did happen in some cases when consultants briefed their junior staff to cover for them)
• the reduced time available for junior doctors to teach students
• occasional clinical emergencies.

The problems with lateness and cancellations were recognised by the medical school. The doctor who devised the students' evaluation form told me that he had deliberately included questions asking students to rate firms on issues like punctuality and attendance in order to put pressure on firms to improve these aspects.

The widespread delay, rearrangement or cancellation of teaching sessions resulted in a lot of hanging around for students. Even without this, there is the potential for considerable amounts of wasted time as teaching timetables tended to be designed to fit in with doctors' timetables without particular regard for the efficient use of students' time. For example, students could have an 8.30 am session lasting an hour, another session at 11.00 am - 1.00 pm and a further one at 4.00 pm. Thus they could be hanging around all day with long gaps between sessions. When such issues were raised at committee meetings, doctors' views were generally that students should use the time profitably for clerking patients or going to the library.

Students' comments on some firms suggested that there was very little timetabled teaching. This would have made it difficult to apply the punctuality and cancellations criteria. These were firms where students were expected to be on the wards regularly, ready to benefit from any teaching that might become available. This issue had obviously been raised previously, as students in 1995-6 had also been asked to rate firms on the amount of timetabled teaching. Medical firms scored consistently higher on this area, as on punctuality and attendance, than surgical firms.

**Lack of introductions**

It was clear from early on in the study that the transition from the basic science course to the clinical course was difficult for students. One issue which affected this, and which came across strongly from students, was that they were not introduced to firms in a way that helped to orientate or prepare them for what to expect. For example, they were often not introduced to the doctors at the beginning or in any formal way during the course. They were often not given an overview of the course or told what they were expected to achieve during it, or how they would be assessed. They were not usually given any written introduction or guidance to the firm.

For most firms, the introduction took the form of a timetable on the medical school notice board which students could copy. This gave times, places and names, but could be confusing for a novice. A typical example from a surgical firm in 1994 is reproduced below (Figure 10).
Figure 10. Sample Timetable

Firm R. Staff: Mr A, Mr B, Mr C. Hosp X & Y.

<table>
<thead>
<tr>
<th>Day</th>
<th>am</th>
<th>pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>11.00 Ward Round</td>
<td>1.30 Outpatients - Mr A</td>
</tr>
<tr>
<td></td>
<td>Mr A. Butlass Ward, Hosp X</td>
<td>4.00 Radiology Tutorial. Tutorial Room, X ray Dept</td>
</tr>
<tr>
<td></td>
<td>12.00 Histopathology Museum</td>
<td></td>
</tr>
<tr>
<td>Tues</td>
<td>8.30 Urology X ray (Hosp X/Hosp Y)</td>
<td>1.15 Outpatients - Mr B</td>
</tr>
<tr>
<td></td>
<td>10.00 Urology Outpatients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hosp Y - Mr C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.30 Mr A, Theatre, Hosp Y.</td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>8.30 Day Surgery, Mr B &amp; Mr C</td>
<td>Afternoon free</td>
</tr>
<tr>
<td></td>
<td>12.00 OPD Hosp Y, Mr B's Senior Registrar. Meet OPD</td>
<td></td>
</tr>
<tr>
<td>Thurs</td>
<td>Pathology Course, Hosp X (all students)</td>
<td>Clin path conferences on the 4.11.93, 2.12.93, 6.1.94, 27.11.94, 24.2.94, otherwise Mr A, theatre, Hosp X</td>
</tr>
<tr>
<td>Fri</td>
<td>9.00 Mr C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.00 Outpatients, Hosp X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.30 Surgical ward round, Derwent Ward, Hosp Y, Mr A's registrar</td>
<td></td>
</tr>
</tbody>
</table>

There are many things about the timetable which would not be clear to newcomers to the hospital system. It is likely, for example, that:

- students would be expected to have clerked patients prior to the ward rounds on Monday and Friday and to present them during the round
- only 2 students would be expected to attend the Outpatients sessions, and to rotate this between the group from week to week
- some sessions, such as the Radiology Tutorial and Urology X-ray meeting would be for the whole clinical firm (i.e. the consultant(s) and their junior staff), and thus be difficult for students to understand.
- 2 students would be expected to attend theatre at 8.30 am on Tuesday, and the remainder to go to the X ray meeting. Students would probably have to check with someone about which of the two hospitals listed the meeting was being held at that week, and where within the hospital.
- on Wednesday, students would have to find out who Mr B's Senior Registrar was (OPD means Outpatients Department); similarly on Friday Mr A's Registrar.

The 9.00 session on Friday is a mystery - no place or indication of the type of session. Students would probably be expected to bleep the named consultant and find out where they should be.
There seemed to be little appreciation amongst some firm staff of how difficult it might be for the uninitiated to make sense of what they were supposed to be doing. In general this seemed to indicate a lack of understanding, although occasionally I heard doctors talk positively about 'throwing students in at the deep end'. Several students commented on how important the atmosphere of their first firm was in influencing their motivation and attitude to the course.

Firms varied in the degree to which their expectations were made explicit once the students arrived. The general pattern was very much based on the apprenticeship model of joining in with the normal working firm timetable for a few weeks and seeing what students could pick up. A few firms provided more information, e.g. copies of the timetable with extra details such as doctors' bleep numbers, or a list of key topics that the students would be expected to cover.

The effect of the lack of introductions was that students were often disorganised for the first couple of weeks at least, while they gradually found out what was expected of them. They tended to learn the rules through making mistakes and being told off.

Rahim, a fourth year student gives an example of what happened on his first firm on the clinical course:

'You had to present a patient on your first firm that you ever did in clinical school, so no one knew what presenting a patient meant, what the format was, what the sort of protocol was. So that was a bit sort of pointless because people, my friends, you know, said 'Right so this patient's got peptic ulcer', so they looked at their book, wrote up everything on a peptic ulcer because they didn't know you had to find a particular aspect that applies to the patient and stuff at that stage, and they presented it and they were taken to pieces by the consultants, you know, they were 'lunch'. They [the consultants] sat down and sort of had a good old giggle and 'Don't just come and read Burkitt [standard surgical text book] to me.' If they'd [students] been told before and been given some guidance, then sure, if they'd done that, then they'd have been lazy and they'd deserve you know, to suffer for it. But that was a bit of a pointless presentation.'

The students struggled to find the accepted ways of doing things, and had usually gained in confidence considerably by the end of the third year.

Respect for individuality

Image and conformity

A theme which recurred often amongst my conversations with students was their feeling that there was a certain mould they were expected to fit into, and a certain image which they were expected to project.

In particular this seemed to relate to confidence. Students were expected to be able to speak out confidently, for example when presenting patients on ward rounds or answering questions in a tutorial. There was a certain amount of competition amongst students to speak up first. Quieter students felt that they would be disadvantaged when it came to the firm assessment if they did not push themselves forward. Students felt that they were expected to speak
confidently, even if they were not actually confident about what they were saying. Some students objected to this on principle, feeling that they should not be encouraged to sound confident when they were unsure of their facts, whilst others worried that they could never sound confident enough even when they did know their facts.

One student commented that there were lots of different personalities in her firm but they seemed to be expected to all be the same. Comments such as this rang true to me because I have never heard - in any of the committee meetings I have attended, nor in informal conversations with doctors, nor in any teaching I have observed - any reference to students needing to develop ways of dealing with situations commensurate with their personalities. This was in marked contrast to my own training and experience as a teacher, where there was explicit recognition that individuals (both teachers and children) have to work within their own personality, strengths and limitations. (This is the basis of child centred teaching theories which have been very influential in school education). When I discussed this issue with a teacher trainer, he said that they would never tell students that there was only one way to do something. However this seemed to be the message that medical students received. There was recognition that doctors had individual ways of doing certain procedures (for example, physical examination of a patient) and that eventually students would develop their own style, but for now students had to conform to the style of the doctor whose firm they were on. Students perceived that, not only was there one way to do things (which could be seen as a behaviour that could be learnt) but that some sorts of personalities (particularly quiet, diffident ones) were not appropriate in medicine. This represented a more fundamental questioning of individual suitability for medicine which concerned some students.

An issue which came up regularly when I was interviewing doctors confirmed this feeling that there was an expected 'type' of student. When talking about the problems in the course or with the students, many doctors' first thought was to question whether the school was selecting the 'right' students. This was a fairly imprecise notion but in general doctors said that they wanted students with more initiative and drive to learn. Ironically, early clinical students expressed the view that the atmosphere within the hospital prevented them from taking initiatives because they felt that they were condemned if they took the initiative but things went wrong.

Contrary to students' views, I found that doctors claimed that there was a lot of room for diversity within medicine. Their rationale was that there were many different aspects of medicine requiring different attributes and skills. So for example, if students had poor social skills, doctors might suggest that they would end up in pathology or research. If they were not as bright as some, it would be suggested that they might go into general practice.

As with many aspects of medical education, there were differences between the specialties. Students perceived individuality as more acceptable in general practice and some of the other so-called 'softer' specialties.
Different groups of students

I was particularly interested in the experience of 'non-traditional' students as traditionally medical students have come from a limited social spectrum: mostly white, middle class males, with professional or business backgrounds, and often public school educated. A white male doctor described his interview for medical school (not KCSM) about 15 years earlier, when he had been asked 'What does your father do?' (a doctor), 'Where did he train?' (here), 'Do you play rugby?' (yes). He had then been told to expect an offer, and that if he had trouble making the grade, to give them a ring and they'd see what they could do!

KCSM is now drawing from a much wider pool of applicants, as described in Chapter 3, and I ensured that my research interviews included students and doctors who differed in terms of gender, ethnicity and age. I was interested in exploring whether students felt that their experiences had been affected by their gender, ethnicity or maturity. I use the term 'ethnicity' to refer to students' racial and cultural background.

I had as background information, an investigation into medical students' experiences of discrimination and harassment, undertaken by three fourth year medical students in 1995. They received 48 responses to a questionnaire given to the 116 students in their year. Of these, 41 (85%) were unaware of existing medical school structures available to help students experiencing such problems, and the same number felt that the existing structures, or information about them, were inadequate. 24 students stated that they had been unfairly treated in the medical school, comprising: on the grounds of gender (19 students), race/ethnicity (8), religion/culture (5), parents' status, appearance and political views (4 students each, the latter two categories not given on the form but nominated under 'other'), socio-economic background (3 students) and sexuality (2). The nature of the perceived unfairness was not always clear from the survey. Where relevant, I will highlight some of the comments in the sections below. One thing which several students commented on specifically was that they had experienced discrimination from other students as well as, or rather than, from staff.

Clearly these areas could be sensitive, and I decided not to ask interviewees specifically how they felt that their personal characteristics or those of other students/doctors affected them. However some volunteered comments on this, particularly the mature students, and it sometimes came up in informal discussions. In addition, I held a focus group with seven students (including 6 non-white and 5 women students) who I had got to know on one of the firms. Here I generated a detailed discussion of issues around ethnicity and gender. I also interviewed one Muslim student specifically about religious issues. The data presented below is based on information from these sources as well as from my own experience and participant observation within the medical school. I did not ask students about any other characteristics on which they might feel unequally treated. Below I present my findings relating to specific characteristics of students, except those which concerned intimidation in teaching which are covered in the next chapter.
**Ethnicity**

The non-white students I spoke to felt that they were sometimes treated differently from white students, not usually through any overt discrimination but in more subtle ways as I describe below. The students in the focus group tended to see this as a reflection of society rather than anything particular to medicine.

They observed that their ethnic background is often a point for comment. This started at interview stage. For foreign students, this was expected, but for second generation or third generation Asian students who had lived in Britain all their lives, it was seen as unacceptable. One student described how in all of his 5-6 interviews for medical school, his ethnic background was referred to in some way. He said that he became conscious of it, and it left him with 'a funny sense'. Students suggested that it might be asked because interviewers were afraid that students might be intending to go and work abroad rather than staying in the NHS (a fear I did hear doctors express).

Once at medical school, non-white students were frequently asked 'where they come from' by doctors. There was a suggestion that this may be asked more often of male than female students, but I did not have sufficient data to determine whether or not this was the case.

One student, Deepak, gave an example which had obviously affected him:

'I actually had um, quite an, I dunno, an experience that stuck in my mind was, um, at the end of the year, I had a distinction viva for [named subject area], and I went into that and the first question I got asked was 'Where are you from?'. - and that completely knocked me off, and I was like 'Well I'm from London', and 'Well, where are your parents from?' That was the first question I got asked in the distinction viva, nothing about [subject area] um, and I tried to justify it in my head, and I was thinking about this and thinking 'Should I say something here?' um, and then I thought perhaps it's because they can't give - there was a prize as well, perhaps they're not allowed to give the prize to, you know, if you have to be a British dependency ... something like this, but I was trying to think, but I dunno - for the rest of the viva I didn't really care, you know. I didn't get the prize and I don't care. I got a distinction but I didn't get the prize. But for me, for that to be the first question I was asked was totally, totally inappropriate, and I don't believe .... that was the one thing - I don't remember any of the other questions. That's the one thing that sticks in my head.'

Other students described a similar puzzlement over why this question was asked, particularly in view of the large percentage of non-white British students on the course. In the focus group discussion, students suggested that it was sometimes asked out of interest because the doctor had travelled widely, or in the case of other ethnic minority doctors, because they were interested to know if the student's family came from the same area as their own. Other possible reasons suggested were: naivety, insensitivity, curiosity, an interest in anthropology, or 'a particular mindset', the latter being felt to indicate a problem on the part of the doctor. Students felt that they had learnt to pick up signs to differentiate between different motivations through years of living as a minority group in Britain. Generally they felt that doctors should, whatever their motivation, stifle their curiosity in most situations, and especially in large groups. It was considered acceptable to ask however if a doctor had built up an individual relationship with a student, or if s/he came from the same minority group. All students accepted that it could be relevant to ask patients about their ethnicity for medical reasons.
Having their names mispronounced was another thing which irritated non-white students, and made them feel as though they were in some way outsiders. The following anecdote is taken from the focus group discussion:

Jane: One consultant - it wasn't any of us here, but one girl - she had her name badge on and her first name isn't English but her second name is. And so this consultant walked up to her and said um 'hmm' and he was looking at her badge and he's realised he's not gonna make the first name, so he used her second name and for the whole of the course called her by her second name, which she never gets called, but it just happened to be on her badge....

Interviewer: You mean her second first name?

Jane: Her second first name, yeah, you know her middle name because he couldn't be bothered to work out how to pronounce her first name....... He didn't ask her..

Shirine: It's not a big problem to ask somebody.

Premila: No.

Shirine: I think that that's the worst thing, you know

Jane: And I mean it's just not about names obviously. It's just about the general attitude behind it, and that's what's the upset over, that ... the upsetting thing.

Sharief: I think the difference is that it marks you apart even if they ask you, um, when they ask a question never they mind how innocently it's asked, I always take it as they're marking you apart from the rest of the group. They don't ask other people whether they're from Milton Keynes or something, and they don't ask you 'And where are your parents from? Are they from Milton Keynes as well?' It doesn't wash.

Students at KCSM felt that the sheer numbers of non-white students was an advantage to them which lessened any possible impact, and gave them a feeling of solidarity. Several students in the questionnaire commented positively on the diversity in the student group.

In addition to ethnic differences, there are also religious differences, with a not insignificant number of Muslim students. There is an Islamic Society within the college which advertises prayer sessions each Friday and organises events. Some issues have been brought to the school's attention, such as facilities for prayer and time for prayer on a Friday. I also heard of occasional practical problems experienced by individuals, such as theatre gowns which did not cover the arms sufficiently for a particular Muslim woman to wear.

One issue which I noted from observation, and from a couple of the timetables was that students were sometimes asked to meet down the pub for an introduction to the firm, or for a social event. There appeared not to be a recognition that this could be difficult for a Muslim student, and could have the effect of excluding Muslims.

Overt discrimination was rarely reported. I only heard of one incident during my time at KCSM. In this particular incident, involving a district general hospital, action was taken to remove the offending doctor from teaching duties.
Gender
Female students sometimes felt that they were not taken as seriously as male students. Some perceived that they were not seen as potential future work colleagues in the way that male students were. For the males, this sometimes meant that they were given a harder time by consultants (for example, questioned more rigorously) whilst the females were treated more leniently. Conversely some female students felt that they were treated more harshly by female consultants. Some women perceived that they were still thought of as nurses by male consultants, as well as, often, by patients.

Again, there was a difference between specialties. Female students in the focus group felt particularly out of place on surgical firms. They described various tactics they used in an attempt to make themselves be taken more seriously, such as wearing high heeled shoes so that they would appear taller, dressing more smartly and wearing make up.

Nineteen of the 48 students who replied to the student questionnaire felt that they had been treated unfairly on grounds of gender. It is not clear from the survey the proportion of men/women who responded positively to this question. Examples of perceived discriminatory behaviour from the survey included expectations that women would become GPs, 'leery remarks', being patted on the shoulder and being called a 'good girl.'

Gender, ethnicity and career choice
Students noted that although there were a lot of ethnic minority junior doctors, there were very few consultants. Some also noted how doctors from ethnic minorities appeared to be concentrated in certain specialties, for example, black doctors in Obstetrics and Gynaecology.

I found in talking to students, that although they could rarely be sure that they were discriminated against, their decisions about the future were affected by their perceptions of the climate they were in. The highest status specialties, particularly medicine and surgery, were perceived as being the most difficult to get into generally, and particularly if you were not a 'traditional' student. Female students described how they felt they were tolerated in areas like surgery. The surgeons would be very pleasant to them, but they felt that it was in a paternalistic manner. Women and students from ethnic minorities felt that although there would be no outward discrimination, they would have to do better than other students to get in. Also, students tended to feel that it would be a long fight if they tried to get into such fields, and some did not want to have to fight all the way. Others felt strongly about going into a particular career and were determined to try to follow it no matter what, as the following student describes:

'In terms of education, I don't think I have encountered any, well nothing that I have thought, I mean obviously no one's going to be outwardly racist towards you, but I don't think that I've encountered anything educationally, but careerwise um, well at the moment I'm thinking of doing surgery, and it's a very 'Old Boys' Club' sort of thing and that does make me, I mean I automatically feel already that my chances of getting the same position are slightly less. That doesn't stop me wanting to do it because I want to do it and I will do it. And I'm sure that it will be hard, but..........

'Mohammed', 1st clinical year student
Some students felt that they would like to go into a competitive specialty like surgery just to prove that they could do it, but did not want to sacrifice other areas such as having a family in order to achieve it. Generally students tended to temper their ambition with a sense of realism about where they would ‘fit in’ and be able to ‘get on’. Some wanted a career path that was flexible enough to allow for other interests, and for having a family.

The following quote illustrates the views of two year 3 students:

Carol: Really, it doesn’t upset me, but it, I dunno, it does upset me because if I was, I think, I think any of the girls in this whole year could make good surgeons yet they make the decision not to be, very early on, like now. And you get people who are in it, who are sort of house officers or registrars and they say ‘don’t do it, if you’re a woman, don’t do it’.

Farida: I find it too. I get the feeling that I would be stuck, you know, if I get to the position of registrar just being stuck there for the rest of my life. ....

Carol: Absolutely

Farida: .... you know, never go up any higher than that just because I’m a woman.

There were perceived differences in attitude between sub-specialties as well as specialties. For example, within surgery, orthopaedic surgery was thought to be the hardest to get into, whilst in medicine, paediatrics was considered comparatively easy.

*Mature students*

Mature students I interviewed did not complain about any direct or indirect discrimination. It was clear however that maturity gave them a different take on some aspects of the course. They tended to be more outspoken and critical about aspects of the system which caused difficulty. In particular, they found the hierarchy more difficult to handle than other students. Some of them had had successful careers in other fields, and were used to being treated as equals. They did not take kindly to being shouted at or told off.

Sam, a third year mature student, who had already had a career in another field, found it difficult coming to terms with some of the individual doctors and the power differential between doctors and students:

'So what I've learnt is politics. I haven't learnt surgery. I'm just fighting to survive. I'm not learning anything. My time is not spent concentrating on learning. It's concentrating on learning how to get by in one piece when it comes to senior people.'

Mature students generally showed a greater insight into the culture of medicine, for example, they tended to be more aware of political and ethical issues. Sam witnessed an incident in which a patient died through what, with some evidence, Sam perceived as the carelessness of medical staff who had not properly assessed the patient's condition. This provided food for reflection:
'There was that whole other dilemma of discovering how the NHS works, the politics, why decisions are made, that the patient is not the centre of care, that things are not always directed purely for the patient's good and that when things go wrong, people are not honest about it because they have to preserve their own, you know, ability to function, which means, you know, compromising their own integrity - their own emotional honesty and their own sense of right and wrong and denying what they know to be wrong in order to preserve their own - their status, their equilibrium, you know and then they lose sleep about it, and then they tell you in private over a coffee. Only then do you start to realise, you know the whole thing's a charade and you have to make a choice. Do I play the game or do I emigrate to New Zealand? - which is what I've found out that a lot of people have done. They've made a decision because they're shocked at how the system works and they can't cope with it. They have to make a moral decision.'

This awareness often made life harder for mature students at medical school, although they also tended to have more resources to deal with problems. They appeared less likely than younger students to excuse the doctors' behaviour or to locate the problem in themselves. They had to make a decision about how to deal with issues, and in this they found each other an important source of support and advice.

Another factor felt more strongly by mature students was that their existing skills and experience were not asked about or acknowledged by doctors in teaching situations. (I observed occasions when individual knowledge or skills were acknowledged and utilised in teaching, whilst also hearing some doctors talk about students being clean slates who knew 'absolutely nothing').

**Doctors' views on diversity**

From my formal and informal discussions with doctors, I got the impression that some doctors were unsure about how to manage the transition from a predominantly young white male student body to a much more diverse group in terms of gender, ethnic and cultural background and age. One area of concern on which doctors commented in private, or in small meetings, was quiet students, with female Asian students often mentioned in this context. Doctors recognised that such students were not necessarily quiet because they lacked knowledge, but were unsure whether or not they should question these students directly in the usual way. They were concerned about their not joining in, but were unsure of how to read or respond to this behaviour. Although they did not admit to ignorance of the cultural background or norms of such students, this appeared to be the reason for their dilemma, and seemed to make them cautious in questioning these students in the way in which they would question other students.

Each year, staff who teach undergraduates, are sent a sheet containing the names and passport photos of all the students in the new year group. This is often pinned up on individual doctors' noticeboards, and I heard the proportion of ethnic minority students commented on a number of times, sometimes positively and sometime negatively by doctors. I did not hear the number of female students commented on, possibly because this was an earlier change whereas the ethnic diversity was a more recent one. I heard two issues mentioned a number of times as being associated specifically (although not necessarily exclusively) with students of Asian origin. The first was that some were pressurised by their parents into doing medicine when they did not really want to do it, and were reluctant to leave the course even if they were failing because
of fears about their parents' reaction. The second was that some students achieved high A'level grades through very hard work, but had trouble understanding the more difficult concepts required in the medical course.

One doctor commented on how the increasing student diversity had lessened the difference between medical staff and patients, which he saw as beneficial to relationships with patients.

Doctors and other students generally perceived mature students to be more motivated and hard working than students who had entered medical school straight from school or after a gap year.

**Individuality and assessment**

One area which students were particularly concerned about in relation to their individuality was assessment. Each student was given a grade for each firm they undertook during the clinical course, and students often complained at committee meetings that the grades were not sufficiently discriminating. For example, some firms regularly gave the same grade to all students regardless of individual levels of attendance and performance. Sometimes, students all received the same comment too. One student who had left the course 6 months earlier, received a C in common with her firm mates, when her name was mistakenly left on the assessment sheet. Some assessment sheets were completed by a doctor whom students had not seen regularly during the firm. Such events led students to lose faith in the assessment system.

A satirical magazine written by and for students in 1997, included a relevant entry (see Box 1):

Some of these impressions were confirmed by hospital staff. It was well known amongst undergraduate curriculum committee members that some firms regularly gave all the students in the firm the same grade. This was confirmed by the questionnaire survey of teachers undertaken in 1994 in which staff were asked to state what method they used to determine student grades. 'General impression of the firm' was the most frequently reported method.¹

When asked about their gradings, some doctors were very open about the fact that they were based on little evidence. Doctors quoted difficulties in remembering individuals unless they stood out as particularly good/bad, and some admitted to giving almost everyone the same mark. The firm chief usually filled in the form, often without consultation with colleagues, yet may only have seen the students on a few occasions.

The implications of this in terms of students' career prospects, in particular their appointment to house officer posts within the KCSM matching scheme has been discussed earlier.
Box 1. Assessment article from student magazine.

YOUR FIRM GRADES EXPLAINED!

After several years of meticulous research, we can finally reveal the secrets of the complex processes of awarding firm grades. As we are sure our reader(s) will have noticed, outside firms operate a different system to King's firms, and they are up first in our guide.

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<thead>
<tr>
<th>FIRM PERFORMANCE</th>
<th>GRADE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>You turn up for all the important sessions and answer most of the questions asked of you.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>You attend all possible activities, answer all questions and go on call as much as possible.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>The only time you turn up is for the firm test. You have a hangover and have to ask a firm mate for the name of your consultant.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>You make a major breakthrough in keyhole surgery allowing many more operations to take place this way, cutting costs in the NHS to such an extent that waiting lists are abolished.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>You discover a new drug which is able to cure most of the common forms of cancer, increasing average life expectancy in the UK to over 90 years.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>While taking blood when on call, you unearth the secret of cold fusion, which allows limitless cheap energy for all mankind. This ushers in a new world order where all mankind may live together in a peaceful, pollution free world.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>You maim a patient and damage an expensive piece of medical equipment.</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>You are male on the [district general hospital] medicine firm.</td>
<td>D+</td>
<td>Must try harder</td>
</tr>
</tbody>
</table>

Other aspects of the learning atmosphere

I observed a number of factors which seemed likely to make the firm experiences quite intense for students.

Although usually short, students' relationships with doctors (and patients) could be very intense. Students often had the time to listen to patients that health care professionals did not, and found themselves told intimate details about patients' lives. In addition, patients would sometimes exhibit distressing symptoms or emotions - either to a student alone, or in a teaching situation. As an observer myself, it could sometimes feel quite uncomfortable intruding on the
doctor-patient relationship, and also emotional, seeing the condition, or hearing the stories of patients who were clearly suffering.

Another form of intensity was created by the small number of students involved in clinical settings, varying from one to about eight students. The question and answer style of teaching which many doctors used, where they would ask a particular student for a response, added to the intensity of the encounter. Students were in a position where their knowledge, skills, attitudes and personal attributes could be exposed to others. Other students, and often patients, could witness students' mistakes and embarrassment. Some doctors appeared aware of this, and attempted to create a positive atmosphere, for example, by the use of humour, or by getting students to help each other out if one didn't know an answer. Others felt that creating anxiety motivated students to learn (see Chapter 11).

Another pressure which surprised me was the ever present spectre of 'Finals' (the final examinations students would take) and of house officer selection. Doctors often referred to what would be expected of students in their final exams. Even in the third year, with finals two years away, students would receive lots of tips, for example, about what sort of case might come up in finals, or what students would be failed on when doing a particular physical examination. I felt that this must add a sense of pressure to their learning. Students were also keenly aware of the need to obtain a 'good' house officer post.

Students often described the course as 'daunting' as observing skilled doctors at work only emphasised to them the immensity of their task.

The later clinical years

Students in the later years usually felt more comfortable in the atmosphere of the clinical environment, having adapted to it in one way or another. Virtually every fourth year student I spoke to expressed greater satisfaction and enjoyment of the course in the fourth year. They found the fourth year subjects more interesting, particularly Obstetrics and Gynaecology, one subject where they did gain practical experience and have a genuine role delivering babies. They also found it easier to get on in the hospital. In the fifth year, students were firmly focused on passing finals, and obtaining the maximum value from their remaining time. There were indications, although I did not gather sufficient evidence to confirm how widespread this was, that students at some point made a conscious or unconscious decision that it was their responsibility to learn. They accepted that they had to learn for themselves, regardless of the helpfulness or otherwise of their teachers.

Summary and discussion

It was clear from my research that students entering their first clinical year often found it hard to adjust to the new ways of working and learning required. I have described in previous chapters how students' expectations and conceptions of education differed from those of their
teachers and some of the tensions this caused. In this chapter I have shown how students struggled to fit into an unfamiliar hospital environment with minimal support or guidance, whilst at the same time finding their contact with patients exciting and motivating.

Perhaps the hardest thing for students to adjust to was their unimportance in the system. They had come from school and the basic science course in which, whatever the quality of the teaching, they were at least the focus of teachers' efforts. In the clinical environment, this was not the case. The service element predominated, patients came first, and teaching students was at best a secondary activity. What had historically been a genuine apprenticeship role appeared to have declined to an extent that students rarely had a genuine clinical role to play. They felt themselves to be 'in the way', a message that was reinforced by doctors' late arrival for teaching, frequent cancellation of sessions, and failure to give them real clinical responsibility. This emphasised their place at the bottom of the medical hierarchy. Students' relationships with nurses at KCSM could also be difficult, reflecting some of the tensions between the two professions, and the lack of any formal involvement of nurses in medical education. These issues affected student commitment and motivation to learn, and in some cases led to poor attendance.

Despite, or perhaps because of this, students at KCSM were anxious to impress their teachers. They quickly learnt that appearance is important, particularly a confident persona, and they started to feel a pressure to conform to existing ways of doing things. The lack of individual relationships with doctors, impersonal or anxiety-provoking teaching methods, lack of interest in students' previous experiences and non-specific assessment grades indicated a general lack of respect for their individuality.

The strong motivation to impress teachers has been described in many other studies of medical environments at undergraduate and postgraduate level. Conrad, for example, examining personal accounts of medical students, observed their focus on making a good impression on superiors, and described some of the strategies and survival techniques which they learned. Bosk has shown how important conforming is in being accepted into the profession. Studying medical errors, he found four types: the first two - technical and judgmental errors were perceived by doctors as indicating a lack of training. The other two - normative and quasi-normative errors, where the norms of professional conduct or of a specific supervisor were violated, were perceived as character deficiencies of the individual doctor or student. This relates to my findings that students perceived a requirement to conform, not only to medical norms in general, but to those of their individual firm chiefs as well. This seemed to add a pressure that is particular to medicine since in other professions, staff are not usually prospective colleagues and employers. Students at KCSM were very aware of the long term influence that their teachers could have on their careers in a system still, to a large extent, based on patronage. This implicit threat was in part responsible for a perception by some students of an intimidatory atmosphere (to be discussed in more depth in Chapter 11).
It appeared that some teachers had difficulty adjusting to the diversity of students from different backgrounds and with different views and values to their own. Thomas, studying physics teachers, another traditionally male body, found a similar difficulty. She observed that: 'The staff seem to be as puzzled as the male students about how to treat the women. The women are perceived as an oddity, perhaps even a threat and therefore they have to be treated 'carefully' in case they do something really strange.' I observed similar uncertainties by some doctors over how to treat women or ethnic minority students. The students themselves also perceived differences in doctors' attitudes towards them related to gender, ethnicity or other factors, and both female and ethnic minority students perceived their career choices to be constrained from early on in the course. (Interestingly their perceptions of specialties which it would be hard to get into did not match the actual numbers of female or ethnic minority doctors in these specialties - see Chapter 3. However there are also differences between sub-specialties which are not captured by the specialty data). Students who did not fit the expected 'type' in other ways, such as quiet students, also started to feel that they would be disadvantaged.

The need for a supportive learning environment has been well documented in the educational literature. Ramsden, in a review of research, identified 'concern and respect for students and student learning' as one of six key principles of effective teaching. He states that these qualities are: 'mainly about our consciousness of students and our consideration for them. These personal qualities are mandatory for every good teacher; it is sad that they are often scarce commodities in higher education.' He goes on to describe the stereotypical arrogant professor, and suggests that the culture of some disciplines, including medicine, makes it difficult for teachers to treat students with proper consideration and respect. It seemed that the teaching methods and style used in medicine often gave students the impression that they were unimportant as individuals.

Clearly the context in which different disciplines teach varies, and there are particular constraints in medicine given the complexity of the clinical situation and the conflicting demands on doctors. It is this context that I will explore in more depth in the next three chapters, starting in the next chapter with the views of doctors who teach.

References


Chapter 10
The Clinical Teaching Context

Introduction

Medical teachers are unusual amongst academic staff in being practitioners who teach on the job, officially for only a small part of their week. I was interested in exploring how they viewed their teaching role, their relationship with students and with the medical school, and their everyday practices and concerns. To do this I undertook in-depth interviews and informal discussions with doctors about their teaching, participant observation at committee meetings and observations of teaching.

In this chapter I present those parts of the data which relate to the climate in which teaching took place. First I report on two main areas about which doctors had concerns - the infrastructure for teaching and their relationship with the medical school. These data come mostly from the individual interviews, but where relevant I include other data to support or elaborate the issues. At the end of this section I comment on the interview process itself as this provided some insights into doctors' working lives. I then report a number of issues derived from my own observations which provide a fuller picture of the teaching context. In the final part of the chapter I discuss the findings in the light of theories of job satisfaction and human need. I consider the issues and topics which formed, or did not form, part of doctors' every day discourse about teaching, and discuss what this reveals about the nature of teachers and teaching in the school.

Issues for doctors

Practical issues - the teaching infrastructure

Many doctors complained about the lack of a proper infrastructure for teaching. This came up frequently in interviews, and was also occasionally raised in committee meetings. The quote below was the most bluntly put, but similar feelings were expressed less starkly by most of the doctors I interviewed.

*Doctor:* We teach a lot of medical students, [...] that's a lot of effort and my feeling is that unless the medical school are prepared to put some effort into backing us up on that then they can't expect very much in return quite honestly.

*Interviewer:* Do you feel as though you're part of the medical school?

*Doctor:* No, absolutely not. I'm part of the hospital. The medical school don't pay my wages, they've got nothing to do with my contract. They've sent us a whole lot of medical students and as far as I can see that's about it quite honestly.

*Consultant, Surgical & Related Specialties*
I now present doctors' main areas of concern:

**Time**

Lack of time was the issue quoted most frequently by doctors as preventing them from teaching, or from teaching as well as they would like to. From talking to the older doctors, it appeared that this had become more acute in recent years for a number of reasons including:

*Changes in junior doctors working hours.* This was often mentioned in committee meetings and in informal discussions I had with doctors. The reduced working hours of junior doctors, and requirement to provide protected time for their learning, meant that they did less teaching. Without an accompanying increase in staff numbers, it meant that consultants were having to make up for both the teaching and clinical service work that the juniors were no longer doing. They were also under increased pressure to provide more structured and regulated teaching and supervision of junior staff. Whether or not junior staff were involved in teaching formal sessions (as opposed to informal, on-the-job teaching) seemed to depend largely on the value which teaching held for individual consultants, and to an extent on the enthusiasm of the individual junior doctor. Some consultants expressed concern that juniors were missing valuable teaching experience. Others saw it as their duty to protect them from the extra demands on their time that teaching would make.

*Short-staffing.* A number of Departments were short-staffed because of difficulties in recruitment or because posts had been frozen as a cost cutting measure when the previous incumbent had left.

*Clinical pressure.* Relating to the above two factors, and to the introduction of the internal market, was the heavy clinical load. Doctors frequently mentioned how, with 20 patients booked in for a 2-3 hour outpatients session, they did not have time to teach students. One doctor described the pressures as follows:

>'Compared with ten years or eight years ago, there's so much more pressure in the hospital, you know, they're watching you - how many, how long you've got patients in beds, you know, how many times they're in, you know, so called performance criteria, getting people out, you know, all, so it concertinas everything. So you get [patients] in, you have to get their investigations rushed through as quickly as possible, and that all takes time and effort, and teaching -which I do enjoy - gets squeezed. It just gets squeezed because you haven't got the time.'

*Consultant, Medicine & Related Specialties*

*Lack of protected time for teaching.* Although officially, doctors have time in their week to teach, they frequently complained that these were notional, rather than dedicated sessions, into which they had to fit many other things, including research, administration and management duties. It was noticeable from my attempts to interview doctors how difficult it was for them to get uninterrupted time. (I discuss this in more detail later). Thus I could see how equally difficult it would be for them to devote time to teaching.
I noticed that doctors rarely, if ever, mentioned the need for planning or marking time, something which other teachers would consider essential. This may have been partly because most teaching was seen as being done 'on the job' and therefore not needing planning. It may also have been because getting time for teaching was so difficult that the question of extra preparation or marking time did not even arise.

Low status of teaching. The low status of teaching compared to research or clinical work was often mentioned. Clinical care and research, seemed to be universally perceived as more valued by the hospital and medical school and thus took priority when time was available.

Space
Space for teaching was another basic requirement which doctors frequently mentioned as causing concern. For example, one method of teaching in outpatients which was known to work well was to have students clerking patients independently and then presenting them to the doctor. When I discussed this idea with individuals or at training sessions, lack of space was frequently given as a reason for not being able to achieve it.

Doctors also complained about lack of space on the wards for students to clerk patients in privacy. They also wanted space away from, but close to, the wards for briefing or debriefing students. A doctor explains:

'We're a bit short of facilities really. There's no quiet .... there's no good, quiet rooms on every ward where you could take a patient and have an uninterrupted - you tend to do it bedside, don't you? - and that, but it would be rather helpful if that was available - a quiet room where you could take a patient and have an uninterrupted - and have quiet, because quite often the wards are noisy, very noisy, and the day to day bustle of the ward is quite off-putting for students when they're asked to listen to something or look at something. They find that quite difficult. We all do it naturally. We do it - you know, we do it second nature. We think amongst the hubbub and the buzz, but quite often you see them thinking 'All I can hear is noise, and what's this geezer asking me?'

Senior Lecturer, Medicine & Related Specialties

I heard that many wards had once had teaching rooms which had been taken over for other uses, such as office space. Even where there is space, it is often far from satisfactory, lacking the basic requirements of quietness, an appropriate temperature, furniture and equipment. For example, during observations of teaching I witnessed:

- students arriving at a teaching room to find the door locked, and no one could find who had a key. Instead, the doctor took the students up a narrow spiral staircase to some former office space. The students had to grab chairs, several of which were broken, and there weren't enough, so some students had to perch on desks. There were no teaching materials available. When a couch was needed to demonstrate a physical examination technique, two tables were put together and a student lay on them

- students meeting in a small room near the ward. There was a lot of extraneous drilling noise from building work going on outside. In addition, the room had three doors going off it, one of which led to offices that were inaccessible by any other route. Thus there were various staff going in and out through the room while the teaching was in progress.
On these and similar occasions, there was no apology for the situation from the doctor, no comment about meeting somewhere else next time, and no mention of the distractions by students or doctors to whom I talked after the session. Thus, although I did not see enough teaching to know precisely how common these occurrences were, the lack of reaction appeared to indicate that they were nothing unusual.

Other problems I observed were caused by heat, noise, and lack of equipment within the rooms. During the period of my study there was a series of major building projects, and noise became a constant issue. Some of the rooms were very hot, but having the windows open to relieve the heat could, at times, make teaching impossible due to the building noise.

**Teaching resources**

In terms of equipment, the rooms varied. Teaching rooms in the medical school were generally well equipped, as were some of the hospital based rooms which were often used for teaching. They tended to include slide projectors and boxes to illuminate X-rays. A few rooms had more sophisticated equipment such as video links to theatre so that students could watch operations relayed to a large screen, or visualisers which allowed written text or diagrams in books to be projected. Other smaller rooms lacked basic equipment such as a whiteboard or overhead projector.

Several doctors mentioned problems over funds for teaching resources. They complained, for example, at having paid for slides for a lecture, or travel expenses for patients brought in for teaching, and not knowing how to reclaim the cost. I was interested in this issue and so took it up on a couple of occasions. For example, I was contacted by two doctors from one of the surgical specialties who were angry that they had spent money on teaching materials for a lecture they had been asked to do, and did not know where to reclaim it. On enquiring in the medical school, I was informed that it was the responsibility of the hospital trust. The doctors raised it with the hospital management and were told that it was the responsibility of the medical school. As far as I am aware, the situation was not resolved. Some doctors, certainly, ended up footing such bills themselves, which caused resentment.

A similar situation occurred over the need to provide equipment (such as an overhead projector) in a teaching room on one of the hospital sites. When this was again caught between the hospital and the medical school, I raised it with the joint committee responsible for monitoring SIFT payments. Eventually it was agreed that it was the hospital's responsibility to provide suitable teaching space. Interestingly, they took the money from a charitable trust to which they had access, rather than taking it from SIFT.
The lack of proper secretarial or administrative support was another problem identified by a couple of doctors I interviewed. Examples they gave were having to type out their own overhead projector slides, finding rooms double booked or students not turning up at the right time because of administrative mistakes. Some doctors had academic as well as clinical secretaries, but they generally considered that these were employed to deal with research rather than teaching matters. A few doctors also commented that nurses' role in teaching or assisting teaching had diminished.

Only one doctor I interviewed (a medical school employee) claimed that he was well supported by the medical school, and his response was interesting in the low level of expectations it portrayed. He mentioned how the school lacked facilities such as enough computers and CAL programmes, or quiet space to take students on the ward, and said that the administration tended to be crisis management. Nevertheless he appreciated the secretariat because they were 'nice people', and they typed out his timetable and put it on the noticeboard for students.

In terms of what the medical school did provide, doctors mentioned the audio-visual technician, the new teaching centre which was built during my research, the provision of academic staff in some departments, and SIFT payments. One interviewee commented that the school showed an awareness of the clinical demands on doctors.

**Funding and staffing**

The issue of funding has been mentioned above in relation to the lack of resources. There seemed to be a general awareness among doctors I interviewed about the existence of SIFT money, but ignorance about the amount involved, or how it was used. It was acknowledged by the school and the hospital trust that SIFT had historically been incorporated into the overall hospital budget for service provision and could not easily be separated out. There was resentment by teaching doctors that it was not used to support teaching in a way that would help them, either through direct payment for teaching, which was advocated by a few, or by rewarding departments. Most doctors felt that the latter course was appropriate, with departments with heavy teaching loads getting medical school-funded lecturer posts or extra teaching resources. Individuals in departments where there was not an academic member of staff (employed by the medical school) felt that they were unfairly treated, particularly if they did a lot of teaching.

At the start of my study, hospital departments and doctors did not receive any money identifiable as rewarding teaching. During the latter years of the old curriculum, staff in the medical school deanery worked with the main hospital trust to try to develop a funding formula to allocate SIFT between departments on the basis of teaching load. This caused the trust to look in more detail at which departments were providing the most teaching. A SIFT monitoring group, comprising staff from the medical school and the main hospital trust met to
review issues arising, and some departments trialled producing teaching business plans. However, by the end of my study, doctors seemed little clearer about the situation.

**Relationship with the medical school**

A number of issues relating to doctors' relationship with the medical school were noted in Chapter 7, including a lack of communication, information, guidance or feedback. In addition to these, and to the resourcing issues above, some doctors mentioned other aspects of their relationship with the medical school which they considered problematic.

**Lack of recognition or reward for teaching**

Some doctors commented that the medical school was not aware of, or did not appreciate, the amount of effort that they put into teaching. They complained that they were not shown any gratitude or given any reward for it. Others described incidents which demonstrated a lack of appreciation. For example, one doctor cited instances where he and colleagues had been reprimanded by the medical school when students had complained about aspects of their teaching, and felt that their views, and the efforts they had put into teaching over the years were not taken into account. A couple of other doctors mentioned occasions when they had expressed concerns, or made requests to the medical school, and had got no response, or what they considered an unsatisfactory response. Other doctors described what they perceived to be a lack of interest from the medical school, and a poor attitude towards supporting teaching staff (e.g. poor organisation). Overall, many doctors felt that their teaching was not valued by the medical school. It was widely recognised within the school that teaching came last in the list of priorities in terms of accountability or reward, and even the most committed teachers were frustrated over the lack of recognition and support.

Several doctors expressed their views very strongly, for example:

'You don't get any feedback from the medical school itself. You don't get any gratitude from the medical school. You don't get, you don't hear a word from them, you know and you know if you look at my contract there isn't teaching's not mentioned, you know. I'm there for the patients and that's my only commitment and I think that most teachers are not after money, well some might be ...... I don't know. It's amazing how a few bob can improve the quality of your teaching, but I think some form of feedback from the medical school or, I mean most teachers in the NHS or in medical courses in this country are usually hard working clinical registrars, senior registrars or consultants who are given no official time for teaching, they're not paid for it and they're not even recognised for it, it's not even ever made ...... nobody's aware that it's going on but if you pulled out all the consultants, SRs and registrars - if we all went on strike the medical school would collapse and I mean, you know, because there isn't anybody else.'

*Senior Registrar, Medical & Related Specialties*

The lack of reward available for teaching was also mentioned to me informally on various occasions. For example, one doctor described the merit award system which can double the salary doctors receive. Despite being a very senior and long-standing consultant he did not know how these were decided or by whom, but said that they seemed to be on the basis of 'charisma and research'. Another doctor described how he was encouraged by colleagues to
apply for promotion. He showed his CV to a senior colleague for advice who observed that his research publication level had dropped in the previous two years. He explained that this was due to the major role he had taken in the new curriculum, but was advised that it was research that would count in the promotion process.

Junior staff were also expected to contribute to teaching although it was usually not specified in their contracts, and they were not included on any of the medical school committees. This may explain the complaints about not being paid to teach which students reported.

**Lack of inclusion or influence**

Many NHS doctors described a feeling of remoteness from the medical school decision making process. They expressed concern over their lack of knowledge about the structure and functioning of the medical school. A number of them had reasons for wanting to access the decision making process - to negotiate changing the nature or placing of their contribution to the teaching, to put a case to secure academic posts in their department, to gain funding for teaching equipment or to have a say in curriculum planning. However they were not aware of the management structures and did not have a known point of contact into the school. Some complained about a lack of representation and consequently an inability to put their case, or influence decisions. Some complained about the length of their course (too short), the number of students they had to deal with at once (too many), or the lack of recognition of the particular circumstances of their specialty/department and the impact of these on the teaching. Doctors wanted more guidance from the medical school about their teaching, but they also wanted a say over what to teach, when in the course to teach it, and how to teach it.

The following quote illustrates some of these points.

'It's the lack of communication with the medical school - No. 1 - in terms of what, when and how; the lack of, shall we say, the way that I want to teach students is not the way it's being done and I'm wholly convinced that the way they are being taught is unsatisfactory. So it's been enormously difficult - particularly if you're not convinced that what you're teaching and the way you're teaching is the right way and you don't seem to have any power over it at all. I have the feeling, and I may be wrong, that the medical school has a very poor regard for [own specialty]. The medical school has no idea, as far as I can see of the way that the [specialty] department works.'

*Consultant, 'Other specialties'*

Some doctors commented on how their teaching was not as good as they would like it to be because of some of the issues raised in this section and above.

**Resentment towards medical school employees**

I heard negative comments about medical school staff on enough occasions for me to feel that this was more than just a few individuals complaining. There seemed to be a fairly widespread, although not universal, sense of slight resentment towards medical school staff by their NHS colleagues. The main basis for this was the perception that medical school staff were paid
specifically for teaching (by virtue of being academics) but actually did less teaching, or were poorer teachers, than NHS staff who were not so paid. Some NHS staff felt that medical school staff were more interested in, and gave more time to, their research than to their teaching. In particular there were complaints that high profile academics, such as professors, did not set an example, or lead from the front, by taking their teaching seriously.

Although NHS doctors had one session a week for teaching, whilst medical school employed doctors had two sessions, in practice there was little difference in the time spent teaching. The survey of teachers carried out at KCSM in 1994 had asked for information about their teaching, including current commitments, experience, training and priorities for developing their skills. The responses from 271 of the 378 staff (72%) showed similar levels of reported teaching time for the two groups, with consultants spending more time teaching than junior staff.2

A few doctors also commented negatively about aspects of their relationship with the medical school in relation to their research or clinical work. Thus the relationship was not based on teaching alone. However these comments were rare as the interviews focused on doctors' teaching roles.

**Insights from the interview process**

The interview process itself helped me to understand more about the context in which the doctors worked.

**Accessibility/autonomy**

It was very difficult, if not impossible, for junior doctors to find a spare half hour to talk to me. This was particularly so the further down the hierarchy one went. Junior doctors do not have a telephone extension (although they have access to phones) but work by bleeps which they carry around with them. They are constantly being bleeped by more senior doctors or by nurses on the wards and asked to do things. I bleeped the doctors in order to follow up the letter I had sent them asking for an interview. Usually they would suggest that I bleeped them again at a time when they thought they might not be busy. Invariably they were busy at this time and would suggest an alternative time. This gave me an insight into how little control they had over their time, seeming to be constantly at the beck and call of others.

For consultants, senior lecturers and professors, access was not a problem. They could always find time to see me. However the bleeping did not stop, and quite frequently in interviews the bleep would go off and we would have to break off while the doctor called whoever had bleeped them to see if it was urgent, and sometimes gave immediate advice. Most of the interviews were in the doctors' offices and this meant that they were also subject to
interruptions from other staff asking for advice or information. Other distractions already mentioned included the noise and disruption caused by building work.

I was often surprised how well staff worked under such conditions. The various interruptions were probably more distracting to me than to the doctors, as they seemed used to it and quickly able to switch from one line of thought to another. However it did not facilitate careful reflection and thus may have affected the quality of the data I gathered. There was often a feeling of being in a rush, of trying to fit something in between many other demands.

**Interview content**

It was noticeable in both the interviews and in committee meetings, that the vast majority of doctors' comments focused on practical issues such as timetabling, administrative issues, student attendance, and so on. There was very little discussion around educational principles or student learning. I do not think this was a result of my interview prompts as I asked very open, general questions to start with, and later, if they had not already been covered, asked about a range of areas including student learning. Many doctors appeared not to have thought about these issues, and in fact, some seemed surprised when I asked them how they thought students learnt best, or what they thought about the integration of basic science and clinical teaching. It seemed that, at least up until the introduction of the new curriculum, doctors had not been expected to consider such issues. Several commented that this was the first time they had discussed their teaching with anyone. Obviously individuals varied, but in general I found that students were more thoughtful and perceptive about learning processes than their teachers. Several students appeared to have reflected in some depth about what they were required to learn and how this was best achieved.

Although I did not interview GPs in this study, I knew from previous experience and from their input into teaching courses and committees, that they generally had a greater level of educational expertise. General practice was also the only department which, to my knowledge, espoused a particular educational approach. It adopted the experiential learning philosophy of Kolb and others, who argue that experience on its own is insufficient for learning, and that reflection, conceptualisation and active experimentation are required. The general practice programme was developed around a cycle of preparation, practical experience and reflection/discussion of experience.

**Observations on the teaching climate**

In this section I shall comment on a number of other issues which, from an outsider's perspective, seemed revealing of the teaching context at KCSM. These are based on data, but the selection and interpretation of the data are obviously influenced by my own background and interests. The issues I discuss here were not often commented on by doctors or students,
probably because they were taken-for-granted norms within the hospital. Some of them have been discussed in previous chapters and so are not discussed again, but their relevance to the theme of the chapter is noted.

Teaching range

I usually started interviews with doctors by asking them what kind of teaching they were involved in, and I was frequently surprised by the range of teaching they undertook. In Table 10, I have collated the different types of teaching which senior doctors might do and different groups they might teach. Not all would do all of these, but most would do a wide range of them.

Table 10. Range of teaching undertaken by doctors

<table>
<thead>
<tr>
<th>Different Audiences</th>
<th>Different types of teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-clinical students</td>
<td>Specialist teaching</td>
</tr>
<tr>
<td>Undergraduate medical students in</td>
<td>General medical teaching</td>
</tr>
<tr>
<td>different clinical years</td>
<td></td>
</tr>
<tr>
<td>BSc students</td>
<td>Bedside teaching (wards, outpatients, theatre)</td>
</tr>
<tr>
<td>Dental students</td>
<td>Clinical skills training</td>
</tr>
<tr>
<td>House officers and senior house</td>
<td>Small group teaching</td>
</tr>
<tr>
<td>officers</td>
<td></td>
</tr>
<tr>
<td>Specialist trainees</td>
<td>Lectures</td>
</tr>
<tr>
<td>Other postgraduates in UK and abroad</td>
<td>Tutorials</td>
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<td>Research students (MSc)</td>
<td>Seminars</td>
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<td>Doctoral students (PhD &amp; MD)</td>
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<td>Specialist colleagues</td>
<td>'Clin-path' conferences</td>
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<td>Generalist colleagues</td>
<td>Supervision of research students</td>
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<td>General practitioners</td>
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The vast range of teaching expected of doctors was only occasionally mentioned by them as problematic, but I frequently perceived it as such because of the need to pitch material to very different audiences and in very different teaching contexts. I felt that the range required was very demanding, particularly since these were not professional educators and most had had no training in teaching. It has always been assumed in medical education that any doctor can teach. The phrase 'see one, do one, teach one' is commonly bandied about. It reflects the apprenticeship tradition in which students learn by seeing their masters practise, assume tasks themselves and then teach others. The ability to teach, therefore, has tended not to be specifically sought in new appointees who are usually selected on the basis of their clinical work and research.
Another reason why doctors may not have problematised the wide range of their teaching is related to their conceptions of teaching. Many equated teaching with presenting material. They did not necessarily expect to adjust their teaching to different audiences.

**Consideration of teaching in hospital decision making**

There were a number of occasions on which I was struck by the way in which teaching needs appeared not to be taken into account in planning the clinical service. I was very rarely present in meetings about clinical management, and thus was not privy to the discussions, so my information comes second hand from discussions with staff and from a number of particular incidences in which I was involved.

To give a concrete example, I found out when I was running one of the surgical firms, that because of funding problems in the health authority, a decision had been taken to close a clinical centre for two weeks. At the time, eight students were based there. It appeared that little, if any, consideration had been given to the impact on the students' education. As the firm organiser, I was not informed of the closure. I felt that there were other options which could have lessened the impact on students, such as a part time closure for a longer period, which maintained the service on the main days when students required teaching.

Another example from this firm was that one of the doctor's outpatients session was changed to a day when the students were not available. Again, this appeared to have been done without consideration of the effects. Doctors on curriculum committees often complained of the difficulty of not having students available every day (because they had certain fixed sessions, e.g. for lectures). This meant that some clinical sessions were unavailable to students. Doctors did sometimes suggest that clinical sessions might be arranged to fit in with teaching, given sufficient notice.

The intensity of patient throughput required on the wards, in theatre and in outpatients was also difficult to match with the need for teaching. Doctors regularly talked about the difficulties of trying to teach in overcrowded outpatients, with 20 patients to see in a session. The rationale behind SIFT is to pay for the extra time taken when teaching students in clinical settings, but there appeared to be little recognition of this in the productivity requirements in most departments. Interestingly perhaps, the definition of SIFT ('to compensate health providers for the excess service costs caused by the presence of students') is not to fund teaching, but to fund the service costs incurred by the (implied) distraction from service work for teaching.

Fundamentally it could be argued that there are no conflicts of interest between the aims of the medical school and those of its teachers in other organisations. Hospitals and general practices need to recruit well trained and qualified doctors, and the matching scheme means that most
come from the attached medical school. It is therefore in their interests to ensure that students receive the best possible education. In addition, the hospitals received substantial funding based on their educational role.

In practice, however, I observed conflicts of interests, both in terms of strategy and on a day to day level. I have already discussed some of these, such as the advantage for the hospital of short patient stays, but their detrimental effect on patient availability for teaching and students' opportunities to see the progression of disease. Another example is the policy of regional specialisation of services. This may have benefits for patient care and medical research but has serious implications for teaching. For example, at KCSM, Ear, Nose and Throat services had been almost entirely transferred to a neighbouring hospital with its own medical school, leaving KCSM unable to provide adequate teaching for its students. Conversely, KCSM specialised in liver disease and students could easily gain a distorted view of the prevalence and nature of such disease. Thus the health service imperative for increased specialisation was in direct contrast to the educational (and GMC) imperative to reduce the level of factual (specialised) knowledge and achieve greater integration of discipline and specialty teaching.

Research was another area in which there was both a commonality and a conflict of interests. Having a good research profile added to the status of the medical school and hospital trusts, which had advantages for recruiting staff and students and generating research funds. The medical school also valued teachers who could inculcate the value of research as well as the skills to undertake and evaluate such research. On a day to day basis, however, research competed for time with teaching, making it difficult for doctors to prioritise students' needs.

Development of teaching skills

There was not a tradition of teacher training, and doctors had mixed views on its usefulness. When I asked doctors how they had learned to teach, most of them said through experience, and having been thrown in at the deep end. In the KSCM teachers survey, 67% of respondents had reported having no formal training in teaching, and only three reported holding a teaching qualification of any kind. In interviews, a number mentioned good and bad role models who had influenced them. Most thought that training in teaching methods should be available, and would have been useful early in their careers. Some thought that they could still find it helpful, others that they no longer needed it. A minority of the doctors I had contact with rejected any thought of needing training. Some felt that teaching was a skill that you were born with, or not. Others felt that the medical school did not have anything to teach NHS staff about teaching, for reasons discussed earlier. For others it was simply a priorities issue.

A post to develop training opportunities was established at KCSM in 1994. Prior to that, there were courses available through some of the Royal Colleges and through the College's staff
development office. Since then, training courses and other staff development opportunities have been formally offered within the medical school, and the number of staff appointed to provide them, and to offer guidance on aspects of curriculum development, has increased. In 1998, when KCSM merged with UMDS, a Department of Medical Education was established to provide training, advice and educational research activity. It included four full time academic members of staff whose main role was teacher development.

There was discussion within the school about making teacher training compulsory. It was agreed in committees that in principle this should be the case for new appointments, although this was not implemented.

**Commitment and enthusiasm for teaching**

The commitment and enthusiasm of doctors to teach varied both individually, and between firms and departments. At curriculum committee meetings, mainly the province of teaching enthusiasts, I heard teaching described as 'an honour', 'a duty' and 'a privilege'. Most of the doctors I interviewed claimed to enjoy teaching, and to see it as an important role. This was perhaps unsurprising given my role in the medical school and focus of my research. However, other evidence also pointed to a commitment to teaching.

It was obvious from committee meetings I attended that some doctors put in many extra hours of their own time organising teaching, providing extra tuition for students and trying to improve teaching quality. Some doctors arranged extra teaching in their own time at students' request. This was particularly evident for final year students, where subject tutors would arrange tutorials at 7.30 am or 5.00 pm so as not to clash with other commitments. I was surprised how accommodating doctors often were, given their already long hours and other commitments. They appeared to have no motivation to do this apart from their desire to see the students succeed. It was a tradition that was acknowledged to go on, but was not officially recognised or rewarded.

Another area where some doctors put in a lot of effort was for their academic tutor group. They would assist students with, for example, getting grants to fund their final year electives, giving extra tuition or helping with job applications. One personal tutor I visited had photographs of some of his previous tutees pinned up, and was able to tell me about their life and careers. It was similar to the photos of other doctors' actual families which were a common feature in their offices.

I saw other examples of doctors making particular efforts to help individuals. A doctor whom I shadowed, for example, was visited by a student expressing interest in doing a research project in his area for a special study module. The doctor discussed it with him and there and then,
rang a colleague and arranged for the student to visit him with a view to supervision. Afterwards he told me that he took anyone asking to see him as potentially a good thing. He told me about a couple of people who had knocked on the door, as this student had, and had ended up doing PhDs in his department. Another doctor I shadowed was providing help and tuition for a couple of people who were having problems in their careers.

Many doctors expressed enjoyment of the work itself and often took on major responsibilities without any additional funding or time. Regional Advisors of the Royal Colleges, for example, were responsible, amongst other things, for senior house officer training and setting standards of practice within their region, but received no remuneration. Many roles within the undergraduate structure were also not specifically rewarded, such as organising exams, chairing committees or working groups, or being responsible for the curriculum for a particular specialty.

Although officially every consultant taught undergraduates for one session (half a day) a week, in practice some did not because they were in specialties which were not relevant to the undergraduate curriculum, were not interested in teaching, or had major responsibilities in other areas. There were some doctors whom students reported rarely or never turned up for their teaching. Some doctors considered research to be their primary focus and saw teaching as taking time away from that; others appeared to give priority to their private practice.

The nature of my research does not enable me to judge the relative proportions of enthusiasts or otherwise. In the survey of KCSM teachers, only slightly over half the respondents reported regular involvement in lectures, bedside teaching and small group teaching. They reported having taught on average for 10 hours in the last month, with an additional 3 1/2 hours preparation.

It was interesting how variable the level of teaching was amongst doctors with the same basic contract. It seemed to be very much up to individuals how much teaching they took on and effort they put in, as there was little monitoring. I was told that there could be virement between individuals in terms of their teaching, so that if one doctor had a major role in the curriculum, that might be considered the department's contribution.

The doctor-student relationship

A number of aspects of the doctor-student relationship appeared worthy of comment, some of which I have already discussed. These were:

- the lack of continuity: i.e. the prevalence of short and fragmented relationships between teachers and learners (described in Chapter 7). From an educational perspective, having one-off sessions with students seems a far from ideal structure for promoting learning. Doctors
would not know the level of attainment and ability of the students and so would find it difficult to pitch their teaching appropriately. Similarly students would not have time to adjust to the individual doctor's style. On a personal level, doctors would probably gain less satisfaction from such sessions as it would not allow them to see students improve and develop, possibly affecting their motivation to teach.

- intensity of teaching context: The small firm size of about 5-7 students and clinical attachments of 1-2 students, meant that teaching could be quite intense and personal (see discussion in Chapter 9).

- social aspects: Quite a number of firms or individual doctors encouraged social contact with students by arranging meals or drinks with their firm.

- erratic student attendance: Earlier I discussed the students' often poor attendance at timetabled teaching events as well as for independent learning on the wards. I have also reported students' complaints of late or non-attendance of doctors for teaching. Several doctors recognised that the lack of priority placed on teaching students would have an effect on students' motivation to attend. They accepted that their own example could contribute towards the problems they identified with students' commitment and attendance.

Other doctors reported that they did not experience a problem with student attendance. Initially I hypothesized that student attendance might relate to the commitment and teaching ability of the individual doctor concerned. However I had to discard this as I found too many instances where reportedly excellent and clearly committed doctors also experienced problems with non-attendance. Various reasons were given by students including clashes between timetabled commitments, a perception that the teaching would be poor or irrelevant, other priorities (either work-related, such as an exam the following day, or personal), or apathy/distraction (e.g. a sunny day). It can be seen that only one of these relates to the quality of teaching.

Teaching style

Doctors tended to be focused on getting across a method for establishing a diagnosis or, less often, planning a management strategy, and on ensuring that students had the appropriate knowledge. Questions tended to be those requiring short answers, that were usually right or wrong. Only GPs tended to be interested in raising issues for discussion. When hearing students present patients, doctors expected them to have extracted very particular information. For example if the patient had experienced pain, students needed to have found out: where it started, how the patient would describe it, if it had radiated and if so where to, whether it had come on suddenly or gradually, its intensity, when it had started, how often it had occurred and for how long, what seemed to exacerbate or ameliorate it, etc. Various attitudes came across
quite strongly, for example, courtesy to patients, a very systematic, logical approach, a
certain manner, detailed observation and precise use of language. These were often not
explicitly stated, but were shown, for example, by doctors picking up on imprecise use of
terms, missing data or inappropriate appearance of students. These requirements portrayed
respect for the patient's condition, and a sense of serious purpose in trying to find out the
underlying cause(s).

Focus on excellence

Another attitude which came across in teaching and at committee meetings was a focus on
excellence. Doctors at a teaching hospital tend to be highly motivated and ambitious, and
expected students to be in the same mould. They were concerned that students should be
motivated to achieve excellence, and I witnessed discussions in committees about how to
achieve this. The core curriculum was often seen as negative in this respect, as doctors thought
that it could lead students to stop at the boundaries, rather than encouraging them to push
themselves further. Within the medical school there were a series of cash prizes for different
specialties, usually named after the person who had endowed them. Students were invited to
submit essays which were assessed as the basis for the award. There was also a system of
merits and distinctions. I noticed that doctors often commented on particularly good students
or junior doctors, and were keen to ensure opportunities for them. I was interested that there
seemed to be more discussion of the best students than of the poorest. Although I did not
quantify this, it contrasted with my memory of the culture in schools where there was always
more emphasis on helping the weakest children, and bringing them up to a reasonable standard.

Another difference I noticed was that in school, the discourse tended to be around individuals
achieving their full potential. In medical school, 'potential' did not seem to be an issue. The
emphasis was on absolute achievement or on relative (i.e. competitive) achievement.

Changes observed during the study

During the first two years of my study, as I have discussed, there were few fora for discussion
of teaching. This seemed amazing to me given that it was a teaching hospital, but at that time
teaching seemed to be a largely unrecognised, almost invisible task. Everyone took it for
granted that students were being trained, but there was little if any acknowledgement of
doctors' role as teachers. This situation changed during the period of my study, with the
introduction of the new curriculum and the merger with UMDS. These led to a great deal of
discussion about education, at least among higher levels of staff, and resulted in many
previously unquestioned traditions being questioned for the first time. Much of the discussion
focused on practical details, but philosophical and educational issues were also discussed. The
fact that change was being introduced forced people to think more about what they had been
doing. Talking to doctors throughout the study, however, I found that 'shop floor' doctors often had little knowledge about the new curriculum, even once it was introduced.

The medical school had recognised many of the factors that I identified as unhelpful to teaching, and was starting to address them. Teaching was written into all consultants' contracts and the SIFT contract between the hospital and medical school made it clear that junior staff should contribute to teaching. The facilities and resources offered by the medical school improved substantially with the building of the new teaching centre. Within the hospital however, where most of the teaching takes place, I did not detect an overall improvement in facilities. The continuity of relationship between teachers and learners was extended in some parts of the new curriculum (notably in the longer firms in year 3), which gave students and doctors greater reason to invest in the relationship. More training courses in teaching were provided, and there appeared to be a greater acceptance of the idea that teaching was a skill to be learnt. Some Departments and individuals started to request teacher training and educational advice, and educationalists were included on all the main curriculum committees. Nevertheless there remained many teachers who had had no training, and for those who had, it was usually minimal (i.e. days rather than weeks).

Some further changes were signalled in official documents or policy statements, but have not yet resulted in any change on the ground. In terms of promotion opportunities, for example, the Dean wrote recently that the school was committed to promotion related to teaching. The increased number of educational roles within the school provides more opportunities for doctors with an interest in education to take on responsibilities and develop expertise, and these roles were starting to be advertised amongst staff rather than directly selected. However promotions on the basis of teaching are still rare.

Despite the changes that were made, I felt that the everyday culture of teaching had not changed as much as the rhetoric or paperwork might suggest. The average NHS doctor probably now recognises his/her teaching role more explicitly and is aware of greater expectations. However s/he may have experienced little change in terms of his/her day to day teaching practice and still struggles to teach constrained by lack of time, training and expertise, and the ever present conflict of priorities.

Summary and discussion

A large number of factors which I observed, or which were raised by doctors, suggested that teaching was a function that received little overt recognition within KCSM during the early part of my research. This was shown by a structure and culture which afforded, for example:

- a lack of protected time for teaching
- inadequate resources or facilities to facilitate effective teaching
• limited expectation of, or provision for, training in teaching
• structures which prevented continuity of the doctor-student relationship
• limited consideration of teaching needs in planning the clinical service
• a lack of promotion opportunities on the basis of teaching.

Some of these factors appeared to be fairly basic requirements for teaching and some persist despite the improvements I have described. Doctors seemed to me surprisingly uncomplaining about these issues, and often seemed resigned to them. Despite the problems, many doctors appeared to enjoy and put what time they could into their teaching role. Herzberg, studying job satisfaction, found that there were two separate sets of factors involved. He called these 'growth factors' which acted as motivators, and 'hygiene' factors, which did not motivate staff, but absence of which could cause dissatisfaction. At KCSM, many of the hygiene factors such as policy, relationships and working conditions caused dissatisfaction. At the same time, some growth factors were also present, such as intrinsic attraction of the work, and opportunities for responsibility and achievement. Thus, there was a mixture of motivating and dissatisfying factors. These factors may be of varying importance between individuals, partly explaining their differential commitment to teaching.

The factors described above demonstrate how the structure and culture of the teaching hospital appeared to give a message that teaching was not particularly important. The funding, organisation and reward systems were all designed to promote other activities, and this clearly had implications for the quality of teaching. The medical school was not perceived to take a sufficient lead in teaching, and there were signs of division between NHS and medical school employed teachers. This may have been related to the increasing separation of the traditionally interdependent teaching hospital from medical school. There had traditionally been little differentiation between the two groups of staff, but this was starting to change as hospital and medical school priorities were affected by new and differing forms of accountability.

In interviews and at committees, doctors were often pre-occupied with practical issues. Apart from the obvious inefficiency caused by problems with the infrastructure, it also served to distract doctors from thinking about more profound educational issues. I found that they had little to say, and most appeared to have thought little about, the actual process of learning. They had tended to take on traditional patterns of teaching in a relatively unquestioning fashion. Maslow suggests that practical needs (such as physiological, safety and social needs) generally have to be fulfilled before individuals seek to develop higher order skills (such as self esteem and self-actualisation). Doctors' concerns over many of these lower order needs may have affected their ability and motivation to develop their educational expertise.

Perhaps more importantly, the culture of the hospital was not one that tended to support the development of such expertise. Most doctors (including senior staff with major curricula
responsibilities) had had no educational training, and in most departments this was not expected. Thus they did not have the vocabulary to discuss educational issues and concepts. They had not been exposed to the evidence on effective teaching, or to the process of reflecting on and evaluating one's own teaching. This started to change during the study as the new curriculum awakened interest and provided opportunities for individuals to learn more about educational issues. By the end of the study, teachers were more often involved in educational debate, and the level of the debate had risen somewhat. There was a greater awareness of education as a discipline although the incentives and support to pursue it were still limited.

In the previous chapter I described how the hospital did not offer the supportive environment, particularly for new clinical students, which research suggests is necessary for effective learning. The feelings of isolation and impotence which doctors described in relation to teaching would not be conducive to developing a caring and supportive environment for students. Many doctors still saw it as the students' responsibility to seek out learning for themselves. In Chapter 12, I discuss the culture at KCSM in more depth, and explore how it relates to the culture of the medical profession and of teaching hospitals in general. Before that I focus on an issue that I found of particular interest: the use of intimidation in teaching.

References

Chapter 11
Intimidation in Medical Education

Introduction

Having provided an overview of various issues relating to the teaching and learning climate at KCSM, I will now explore a single issue in more depth. I decided to devote a chapter to the topic of intimidation because it was an issue which was often raised by doctors and students, which interested me personally, and which has been widely reported, but not explored, in the literature. It also seemed to be one indication of the distinctiveness of the teaching and learning culture in medicine. It seemed unusual to find intimidation so visible in a higher education context, and I was interested to explore why this was the case. The sources of data for this theme were primarily the individual interviews with students and doctors, with some supporting data from written evaluations, informal discussions and teaching observations/participant observations.

I start by examining the evidence that intimidation took place at KCSM, and explore how it was experienced and perceived by doctors and students. A dictionary definition of the verb to intimidate is 'to strike fear into: to influence by threats or violence.' This definition does not necessarily imply an intention to intimidate on the part of the doctors, although I will also explore the rationalisations given by doctors who did use it intentionally.

Since intimidation is an emotive subject, I should state at the start that my own value position is that the intentional use of intimidation is unacceptable in higher education. I see it as an abuse of power which is unnecessary and ineffective in motivating learning. I was aware that my own opinions on the subject could influence the data I collected, and I therefore tried to appear neutral on the subject when interviewing people in order to elicit their views.

In exploring this topic, it is easy to overlook the fact that some doctors and firms went to great lengths to provide a supportive environment. I observed teaching sessions which I considered exemplary in the constructive atmosphere they provided, and showed a relaxed and respectful relationship between doctor and students. In focusing on intimidation, I do not intend, by omission, to diminish the efforts of these doctors which took place in spite of a lack of support or reward for their teaching. Equally I do not wish to suggest that intimidation was a universal feature of the teaching.

It is of note that when asking doctors (most of whom had worked at other teaching hospitals) about KCSM compared to other hospitals, they often described it as 'more friendly'. Within
London at least it seemed to have a reputation for being more relaxed than many schools, and more open to non-traditional students. This is relevant, because it suggests that the issues I discuss here are not particular to KCSM, but have a wider relevance, as indicated by the existing literature on the subject.

**Students' experiences of intimidation**

A consultant and a group of students are at a patient's bedside. The consultant picks out one of the students and quizzes him on the patient's problem. The student is unsure of his facts, but the consultant continues to press him for an answer. The other students start to feel uncomfortable as the consultant berates the student for his lack of knowledge, but are grateful that today is not their turn to be singled out.

This is a classic scene from a television medical drama and one that would be recognised by most medical students. But does it really happen? And is it intimidation?

The issue of intimidatory teaching methods was often raised either directly or implicitly by students. They described a range of situations in which they had felt under attack, humiliated or embarrassed. Personal experience varied greatly. The following quote describes one of the more extreme examples I was given:

'I was assisting in an operation. [The consultant] asked me a question. I tried to answer it as best I could. I didn't get it right. She went ballistic. [....] I didn't know why. Obviously there had been something about me that she didn't like that had been niggling her for a week, so in front of the whole operating theatre - the nurses were looking at me, sort of like that and feeling sorry for me, and she just went absolutely ballistic, just because I didn't answer the question.'

*1st clinical year female student*

It was not only students who were able to describe incidents like this. Doctors were also able to recall similar types of incidents from their postgraduate training years. The following incident, related to me by a consultant, did not stand out as unusual:

'There was a guy when I was a [specialty] registrar who grilled me for about 45 minutes on this congenital deformity that, you know, you get in like one in a million children, and, you know ....... I had heard of it, just - I didn't know how to spell it! .... and he grilled me for 45 minutes, and I should have just said: 'Look. I don't know anything about this so I'll sit down and I will read it and I'll write you a paper on it, I don't care, but let me sit down,' but they didn't, and I didn't have the courage to do that. And I stood there and I squirmed and he wouldn't shut up - and that's awful. I'll always remember that. It's a pointless thing to remember because I'll never see it. [....] And it was just a pointless exercise and it's scarred me forever! [laughing].'

*Consultant, Medicine & Related Specialties*

Doctors' persistence in continuing to ask the same question, or probing further into an area, even when it's obvious that the student/doctor does not know the answer, was a practice frequently mentioned. Other common practices described by students or doctors included:
• being 'picked on' on ward rounds or in tutorials by consultants or other doctors, usually to answer questions
• being expected to know a lot of things which they had not been taught and were not aware that they were expected to know (if they had known they would have read up on it beforehand)
• continuing to be asked questions until they got one wrong
• having their ignorance shown up in front of fellow students and/or patients, causing them embarrassment
• an atmosphere of blame when things went wrong, never praise when they went well
• learning the 'rules' or expectations of their teachers by getting it wrong, rather than being told at the outset what was required
• being made to feel inadequate or stupid
• occasional outbursts by consultants or other doctors over seemingly trivial things
• being treated with hostility, ignored, or their progress impeded by nursing staff.

Some students' descriptions suggested that there was a pervading culture which they found intimidating, rather than specific incidents. The following interview segment comes from 'Sue', a 2nd clinical year student:

Interviewer: So has that happened? Does that happen a lot?

Student: [.....] I mean obviously it's sort of ..... not everybody, but some people just make you feel stupid. I mean, I don't know what - I just - I'm probably more sensitive to that than to be told that I've done something well, but it just seems, it seems more that you get told off than get..... you know, put down for doing things wrong and not doing things they told you to do and so on, more than you get [.....] It just seems that when you do things well it's something only to be expected, and then if you do something badly then - they do knock your confidence rather than build it up.

Interviewer: So.....

Student: Again I can't quite put my finger on when this happened or who it happened, but it's just a general impression that I seemed to have had and I don't ..... I'm like speaking to a friend as well and they tend to agree with that too.

Sometimes power is exercised in other ways, for example, a female student described how a registrar, with whom she was on call, had made her go and buy take-out food for him one night in the pouring rain.

Variations in intimidation levels

Students reported variations in the level of intimidation according to a number of factors: specialty, position of doctors in the hierarchy, gender of students, level of students, type of hospital and students' personality.

In terms of specialty, the variation was similar to that described in relation to acceptance of students' individuality. Surgery was seen as the most intimidatory by students, with medicine also high. There were also perceived differences between sub-specialties. General practice and
psychiatry tended to be perceived as the least threatening specialties. I found that analysing students' evaluations of their general practice teaching revealed a lot about hospital teaching too, by the way in which students framed comments in comparison to the hospital 'norm'. For example:

'I never felt intimidated to say anything, or that what I said would be perceived as wrong or not relevant.'

'I was made to feel welcome and at ease, not intimidated, therefore felt more comfortable learning from the GP.'

There were many comments about the friendly atmosphere in general practice and the way in which students' views were accepted and valued.

District general hospitals were also considered much friendlier than the main teaching hospital. Students often commented on this specifically, whilst also criticising some district general hospitals for lack of teaching. Nursing staff in particular were considered more helpful and welcoming at DGHs.

The level of fear experienced by students varied according to the grade of the doctors, becoming more acute the higher up the hierarchy they were. Thus house officers were perceived to be the most approachable, and consultants the least. House officers were thought to be able to identify more with students and treat them more as equals, while consultants were seen as 'higher than high'. House officers were considered more on the students' wavelength, having recently taken finals, and being able to help students prepare for them.

As noted in the last chapter, women seemed to be treated more leniently than men by some consultants. Male doctors in particular were more cautious with women, and some seemed to be worried about making them cry. The male students tended not to be given the same consideration. A consultant in medicine and related specialties told me:

'At King's there's sort of 50% of the year are women and sometimes some of the boys are quite, you know, you can sort of bash them about a bit, but you can't do that, and you shouldn't do that with women. They don't like that you know, and quite right too. But the boys, you can tend to lean on them, a bit.'

On the other hand, some female students suggested that the female doctors and nurses gave them a particularly hard time.

The other determinant of perceptions of intimidation seemed to be the personality of the individual student, discussed below.

**Students' responses to intimidation**

Students responses to situations such as the ones described seemed to be governed by the implicit threat of what could happen if they upset someone in a position of power. It was
obvious from talking to students, that most students went along with what they were asked. The few students who did not, identified themselves, and were identified by other students, as responding differently to the norm. When students were asked why the majority of them had complied, or not complained, in situations like these, they invariably mentioned doctors' influence over their assessment grades, references and future career. Students and junior doctors tended to accept that they were in a culture where this was acceptable and felt that they had to learn to live with it.

The student questionnaire about discrimination and harassment confirmed that fear about the impact of complaints on their grades or future careers were very real to students. Other reasons given for not complaining included fear of being labelled a troublemaker, the need to maintain a positive image to the consultant, embarrassment, and fear of possible lack of understanding or action if they did complain. When asked what they would be likely or unlikely to do if experiencing discrimination or harassment, 20 of the 48 said they would be likely to 'do nothing', 9 to talk to the perpetrator, 12 to the firm chief and 26 to their personal tutor.

The numbers who said they would be likely to talk to medical school personnel were higher than I would have expected based on my experience in the school. This may be because the terms 'discrimination and harassment' suggest something which students consider more serious than the everyday atmosphere or minor incidents, or because in theory they think they would talk to someone in authority, but in practice may not.

Mature students tended to have more insight into the power aspects of the teaching relationship, and stronger views about how unhelpful it was. They made a more conscious decision about whether to challenge it, or to put up with it. Most decided to put up with it because they recognised the implications that challenging the status quo would have and wanted to avoid being labelled 'a troublemaker'. There also seemed to be some peer group pressure to conform. I heard of a couple of incidents where mature students who had complained about aspects of the course were seen as a nuisance by their peer group. The other students felt that the complaints reflected badly on them, and did not want to be seen to 'rock the boat'. One doctor, formerly a mature student at KCSM went so far as to suggest that it might be better for the school not to accept mature students since they didn't really 'fit in'!

The following quote from a mature student a few months into the third year provides an example of the dilemmas they faced:

'It's quite difficult having done another degree, and having worked for a couple of years because the hierarchy is so entrenched. You are treated like a piece of trash, and I find that really difficult having [...] when I was working in [career], you know, you were treated, not necessarily as an equal, but certainly as an adult with a contribution to make, and I - its partly my temperament, you know, I don't have a retiring nature, but I find it quite difficult being treated like an infant and I think that happens an awful lot. You know, to an extent you can see why and you have to try and rationalise it to yourself so as not to get [.....], and, as in the army, in medicine you know, if you don't have a hierarchy, things break down, and
The main difference in attitude between mature students and those straight from school seemed to be that the younger students accepted the doctors' right to treat them as they did, even if it caused anguish. Mature students tended not to accept this right, except in certain situations, such as medical emergencies.

I mentioned earlier that a few individuals responded differently from the majority, and did not allow themselves to feel intimidated. The student below, a 5th year white male, one of the most successful in his year group in terms of examination and firm grades, is an example.

**Interviewer:** And what about on the ward rounds and so on, because something else I've heard from some students and read about a little bit is that some students feel a bit intimidated by things that are said to them on the ward rounds. Have you come across that at all?

**Student:** Yes, well I think quite early in the clinical course I made a decision that I wasn't going to be put down. I wasn't going to succumb to the intimidation and teaching by intimidation methods that some people still subscribe to and they think still work, and I've had certain - at least one consultant say quite bluntly that 'teaching by intimidation works and I'll still use it', and I'm sure it does work for some people in some situations, and I'm quite happy to - if I think a doctor whose teaching us says something wrong or whatever, I'll quite happily stand up and say something - and it happened yesterday. [...] most people wouldn't dream of doing that. They think it's a really big deal to stand up and contradict doctors, and that's one thing I feel a lot more confident about now. I feel quite happy to answer back if I think they've said something wrong. I don't mind volunteering suggestions or whatever, whereas quite a lot of people....... [...] No-one wants to say anything [...] because he'll think you look stupid, or maybe take away from his knowledge or whatever, undermine his authority. The argument that's usually used is if you meet one of these guys in your finals, or what if you want to apply for a job, and my answer to myself for that is that I'm sure if they are worth working for, then they will appreciate someone who's independent and wants to stand up for something they believe in. As long as you're courteous and whatever, they don't have any problem with that. They're just people.

This student claimed to have encountered no problems through this stance. He may have felt on stronger ground than some other students because of his academic success, and may have been more easily accepted since, as a white male, he fitted easily into the traditional medical mould. He appeared more confident in himself than many students I spoke to, and seemed to enjoy challenging doctors. His comments also highlight the fact that intimidation is the product of an encounter between individuals. What one finds intimidating, another may find motivating.

**Effects of intimidation on students**

An analysis of the reported effects of intimidation on students/junior doctors, brought out two main areas: emotional effects and effects on learning.
In terms of emotions, students felt variously angry, upset, useless or challenged. Students felt particularly embarrassed about being shown up in front of their peers and patients. They described how no one wants to be made a fool of in front of their friends. Some students found that the atmosphere led them to lose confidence in themselves, and to start to question whether they could, or still wanted to, study medicine.

Students and junior doctors often felt frustrated that they had allowed themselves to be intimidated, as the quote from the consultant in the first section demonstrated. She felt she should have been able to stand up for herself, but in the event most people do not. This may affect their self esteem and confidence, at least initially until they learn to deal with it.

'Sue', the 2nd clinical year student quoted earlier, describing the atmosphere on the course, describes how her feelings changed:

*Interviewer:* 'Do you think your attitude towards the course has changed during the time you've been here?'

*Student:* 'Yeah probably. I probably [xxx] bit more relaxed about it. I remember in the first year I used to get so upset, because I used to think 'Oh, crumbs [xxx] rubbish at that'. I don't know. I was a lot more nervous I think than I am now, and I've just kind of become immune to people telling me 'You're rubbish'. I don't believe them any more because I think - well, everyone is, so I perhaps, I probably do enjoy it a bit more now because of I know what to expect a lot more.'

In terms of learning, students described how the fear of intimidation made them try to hide what they didn't know, and prevented them from asking questions. They were sometimes afraid to ask for the information they needed in case it made them look stupid. Some students coped by absenting themselves from such teaching, thus missing opportunities to learn.

On the other hand, many students also described how, following difficult incidents, they would study hard before the next session in order to try and reduce the likelihood of their being shown up again. Many students sought to excuse or justify teachers' actions as being for their own good in making them work harder. This was seen by a non-KCSM doctor I talked to (now a family therapist) as characteristic of abused children who seek to excuse the abuser and blame themselves.

**Doctors' rationale for intimidation**

Doctors admit that a certain amount of 'ritual humiliation' (doctors' common parlance for what I have called intimidation) still goes on. However they consider there to be much less of it than when they trained. One of the main reasons suggested by doctors for the perceived reduction in intimidatory teaching techniques is the greater proportion of women medical students. One doctor described them as 'a civilizing influence'.

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The doctors' common discourse, which I heard many times, was: 'Ritual humiliation was a bad thing, but it doesn't happen any more - at least not like it used to. It's not the right way to teach, but having said that, it did make us learn! Students do need to be put on the spot sometimes. It makes them work harder, and how else will they know where they're going wrong? Medicine's a hard job and they've got to get used to presenting themselves to people because they'll have to do this throughout their career. They'll have to present cases to consultants and they'll have to put on a confident show in front of patients too. No patient wants a doctor whose not confident in what he's doing.'

The doctors I interviewed could invariably remember experiencing 'ritual humiliation' during their own training. I regularly discussed intimidation with doctors on a teaching course I ran, and there often seemed to be ambiguity, and sometimes straight contradiction in their opinions. Course participants are asked to recall good and bad learning experiences. Without exception, the list of bad experiences always includes intimidation, whilst the 'good' list invariably includes factors relating to the creation of a positive learning climate, and occasionally also includes intimidation. Later in the course, a video tape of a very intimidating law lecturer is shown to promote discussion. Doctors usually start by condemning his arrogance, but invariably then start explaining why this approach might be justified. Frequently they recall doctors who taught them in similar style, and often claim that it was effective. Most doctors concede that they hated intimidation at the time, and for some the experience clearly had a lasting, negative impact. A couple of doctors described how seeing the video had brought back all the feelings of fear and impotence that they had had as students. Nevertheless some always strongly support the view that it worked for them, makes students work harder, and that students like it because of this perceived effect. (This was confirmed by some students, as discussed earlier).

These kinds of contradictions are illustrated by a quotation from a doctor I interviewed:

*Interviewer:* Have you ever had a student where you thought they behaved in an unacceptable way, either on your firm or .....?

*Doctor:* Not within the teaching session. I mean, I'm fairly dominant so I don't, you know, any student that was to challenge me, I would pretty quickly bring them down to earth. So I don't find that as a major problem, no. [.....] They, er, I think, um, are usually well behaved. You usually get a loud mouth or two but I just shut them up pretty quickly and I just tell them to stop answering questions and leave it for others, and usually the group is relieved because they get sick of the big mouth who answers all the questions, so they appreciate the teacher telling them to shut up. I must admit I'm not terribly politically correct, I mean when - if students are late I would probably give them the, er, you know, 'Good Evening' treatment and 'Can we help you?', you know. I certainly would confront a student if they were late, I don't - there probably are more constructive ways of doing it than saying 'Good Evening' but I think to brush it under the carpet and ignore it doesn't help either. I might be mellowing in my old age and I might sort of, you know, have a word to them afterwards in a slightly more constructive way if I can improve their timekeeping.

No, er, I don't have a problem with, you know, tearing strips off people and - but I also don't think that fear is the way to teach. It's positively not the way to teach, you know. I think teaching has to be very, very constructive and people who rule by fear just end up being hated and I would only, I would only get aggressive with students if they were
persistently late or if they were persistently answering questions and not giving the others to answer but by and large I would try to not rule by fear, because apart from teachers being late or not turning up, the other way to make students not turn up is for them to be frightened of you. They've got to like you. Well they don't have to like you, they have to like your teaching for that bond to occur, um, and I think that's important. It's important to achieve that bond.'

Senior Registrar, Medicine & Related Specialties

This doctor professes to believe in constructive teaching, whilst talking about 'tearing strips off people', 'bringing them down to earth', 'shutting them up', and using sarcasm. In his own mind however there were clear reasons to justify these methods.

In analysing doctors' rationalisations for intimidation, there appeared to be three main reasons why it was considered acceptable:

i. it can be used to protect other students or patients
ii. it helps students to learn by exposing their deficiencies and motivating them to study
iii. it prepares students for the demands of their working lives.

The last quotation illustrates the first of these. The doctor describes how he puts some students down (e.g. by sarcasm) in order to show respect for other students (e.g. to ensure all students get a chance to contribute). In one sense this is an illogical rationale: he is showing a lack of respect for certain students in order to prevent them from showing a similar lack of respect to others - a kind of 'do as I say, not as I do' approach.

I heard similar rationales whereby the student was humiliated or embarrassed in order to 'protect' the patient, or future patients. For example, a consultant described to me how his wife (a GP) had been told off for shouting at a student who had done something that could potentially have harmed the patient. He felt that it was obvious that the patient's safety should be prioritised over the student's sensibility.

The conviction that intimidation will help students to learn was widely held, although not ubiquitous. I heard it expressed many times in the courses I ran, in informal conversations and in interviews. Doctors gave examples of teachers for whom they had prepared very thoroughly in order to avoid being shown up in front of colleagues. They felt that pressure was required to motivate students to study hard, and that students needed to have their weaknesses exposed so that they would know what to study. One teacher commented:

'I have seen a growing trend in medical students to want to be fed a question that they know the answer to already - and that's useless, that's quite clearly useless, and I think the best teachers are the ones who push people. [...] Now, it is wrong to push them and ask PhD type questions to a junior medical student but I have seen a growing reticence, or seemingly, to be to be pushed to the standard, you know, that MBBS is required.'

Consultant, Medicine & Related Specialties
This quote supports the assertion of students that consultants will carry on asking them questions until they get something wrong. In this scenario, however much the students learn, it will not be enough, since the doctor is aiming to push them to learn more. Although this might seem harsh to students, it seemed to stem from doctors' desire for students to reach high standards. I have previously commented on the value given to achieving excellence. There was also a feeling from some that they went through this system and most people became good doctors, so it must work.

In this quote, and other discussions with doctors, they invariably gave some kind of qualification to their support for intimidation. Most appeared to be aware that intimidation was frowned upon by educationalists, and their justifications tended to be defensive.

The third rationale for using intimidation was that it prepared students for working in the medical profession. The following quotes give examples:

'It's only later on do you realise how useful that sort of teaching is, actually being put on the spot and having to present to big numbers of people on the spot, because then it's more important when you are a physician or registrar because you have to present cases, case reports and things like that - very important in your overall grounding [....] - it's not so important when you're a house officer, it's when you become a doctor [xxx] present a case to your peers and it's very much better if you've done it many times before.'

*Senior Registrar, Surgical & Related Specialties*

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*Interviewer:* There seems to be a lot of putting people on the spot [in reference to previous statement about this by interviewee] in terms of sort of teaching methods and so on. What do you.....?

*Teacher:* It's still very ..... well, that's the old ritual humiliation bit isn't it? Yeah, putting people on the spot. But they're going to be put on the spot again you see. I mean, it may be being - it's going to be the same, but perhaps not quite as sort of crudely where in, you know, the ward round, when you get asked in front of your six colleagues and friends, 'What's this? What's that? What do you think of that?' without very much preparation. [.....] [In the new curriculum] I think there'll be less on the spot sort of demands, but the demands will be there and in a way they must be because it's not a joke is it? They're going to be professionals. They're going to have to come up with decisions.

*Senior Lecturer, Medicine & Related Specialties*

Doctors tended to feel that their teaching should mirror the real work and assessments that students would have to undertake. They felt that they would be failing students if they didn't prepare them to be able to present and answer questions confidently, as this would be something they would have to do throughout their careers. When I shadowed doctors I began to understand better why their questions and answers could seem quite abrupt. Doctors sometimes had very busy clinics in which they were having to deal under pressure with large numbers of patients. It would have seemed incongruous for them to then go and have a very relaxed, facilitative teaching session.

Doctors generally appeared to be unaware of the effects which intimidation had on students' feelings or actions. For example, doctors often complained that students didn't ask enough
questions, whilst students told me that they were afraid to ask questions because of the response they might get. This could be difficult to understand for doctors who genuinely welcomed a dialogue, but were affected by the effects which their more aggressive colleagues had on students. Generally, consultants seemed to have a limited awareness of how powerful and frightening they could be to students.

GPs had a completely different outlook on intimidation. It was very rare for students to complain of intimidation by GPs, although they complained about other things there! Although I did not interview or observe GPs specifically for this study, I was based in the General Practice Department, ran courses for GP teachers, attended GP-led seminars, worked on projects with them, and observed them in committees. Their own teaching was much more interactive and collaborative in style (something which students often complained about as they did not think they were getting enough factual teaching). They tended to create a more liberal and student-centred teaching atmosphere. I rarely heard a GP rationalise intimidation, and some were explicit about having gone into general practice to avoid the competitive hospital atmosphere.

One hospital doctor suggested that intimidation is a defence mechanism connected to doctors' lack of self confidence. By keeping the students in fear, doctors will not be challenged, and their ignorance will not be exposed.

**A figment of the imagination?**

Doctors tended to dismiss any complaints from students about intimidation as unimportant, and I sometimes heard comments suggesting that the students imagined it all. From my data it appeared that the consensus of opinion amongst doctors was that there was some intimidation, but: a) it was exaggerated by students, b) there was much less than when they had trained, and c) it was justified anyway.

Could it be the case that students exaggerated the amount of intimidation? I started to gather counter evidence. For example, some doctors claimed that students came to the course with preconceived ideas (e.g. from television), that they would be subject to intimidation and almost looked for it. Certainly students admitted to 'myths' and tales circulating. Colin, a third year student commented:

'Before I came to King's, I had heard a myth that the consultants are like a group of Jurassic dinosaurs, going around and being generally nasty to medical students.'

Because about half the students in each year group took an additional year to intercalate a BSc, and rejoin the course with the next cohort, there was much more social mixing between year groups than in most courses. Many students seemed to have heard tales from students in previous years, and were thus expecting the worst when they arrived in the hospital. It was
difficult to assess if students' perceptions of the teaching they subsequently received was coloured by such hearsay. It would certainly be plausible to suggest that they may have been more likely to perceive intimidation if they were expecting it. On the other hand, having expected the worst they may tolerate it more readily. The same student, Colin, continues:

'and okay, maybe I did here experience some unpleasant situations, but I would say 90% of the consultants are actually far nicer than I had anticipated really. Honestly, I had been told that consultant surgeons are very aggressive people, but that's not the case at all, and you don't see unpleasant situations really because, as I said, before you're in General Surgery and General Medicine - we don't have the vocabulary before we go into the first firm and sometimes your consultant surgeon or even registrars, they don't know how to approach us. They don't know really how to teach. They don't know how much we know, and sometimes we ask them questions which they don't really understand and it can be quite embarrassing at that time, especially when you're put into hot water and have to deal with it quickly.'

Surgery was widely perceived to be the most intimidating of the specialties, and my own experience illustrated the power of the stereotype. When I was working with surgeons, colleagues often made derogatory or cynical comments about how I might fare. I did not feel that the surgeons I knew fitted the stereotype and did not encounter any particular problems. However the myth seemed to have a life of its own and it was sometimes hard not to go along with it, even though my own experience was different. It would be easy for students with prior expectations, to take one incident that reinforces their fears out of many that do not, and blow it out of proportion. Nevertheless, it is the nature of intimidation, that it is often the fear of certain behaviour, rather than the behaviour itself, which produces the intimidating atmosphere.

Another reason why students may imagine or overplay the intimidation is related to their own insecurities. Many students I interviewed and talked to informally, reported feeling extremely anxious at the start of the clinical course. 'Daunted' was the word most commonly used. They were overwhelmed when they saw how clinicians effortlessly combined a seemingly immense knowledge base with adept clinical and interpersonal skills. Students could not imagine that they would ever be able to emulate these doctors, and therefore felt intimidated by the context in which they were working, irrespective of their treatment by staff.

A third reason why students may overplay intimidation is to shift the emphasis away from their own inadequacies. There is a huge amount to learn and so students may often not have covered topics relevant to the patients they met. They may feel indignant at being rigorously questioned when they do not know the subject. Rather than accepting that they have not done sufficient work, they focus on the intimidation. This shifts the blame, and distracts them from recognising their own ignorance or accepting responsibility for learning.

One first clinical year student, describing how she had elected to do a BSc in order to put off the clinical course, illustrates some of these points:
Interviewer: What was it that was scary about clinical?

Student: Well, a lot of things - the fact that you have to know a lot of stuff. Well, this is what I was told before, that you have to know your stuff; that you have to do lots of work, you get no holidays, the fact that doctors pick on you. That really scared me, the thought of doctors picking on me. [...]

Interviewer: And has that happened - doctors picking on you?

Student: Um, the first week it did, but I suppose that was because I knew nothing in the first week and now I've actually started to learn my stuff, so who knows? If they ask me questions, I can actually answer it, so it's not so bad. Initially, in the first week, I thought 'Oh no, if this goes on for the next 3 years, how am I going to cope with it?' But it's alright now I think because I've learnt stuff now that I can actually answer their questions, which I find satisfying.

Interviewer: So do other students find it similarly do you think?

Student: Um, I think it depends on which firm you are on and how much you know, 'cos I know one of them on a medical firm and she said 'I'm sure my forehead has just got 'pick on me' written across the top of it, just pick on me' [...] I think some students find that, because another person on my firm was saying 'I'm sure that doctor hates me. He's always having a go at me' and - but looking at what happened [...] I don't think that this doctor does hate him, because I don't see this doctor picking on him, but what I do see is this doctor picking on me!' This illustrates how students' own personality, insecurity and level of knowledge may affect their perception of intimidation. This student seems to accept the doctors' right to 'pick on' students, and takes responsibility on herself to prevent it by working hard.

Another factor which may contribute to students' feelings of insecurity is the frequent references to finals, which I reported previously. Students were always very receptive to guidance about finals, but I felt that coming so early in the course, it tended to give the exams a looming presence which may not have been helpful in developing students' confidence and expertise.

A note on language

One indicator of the teaching atmosphere was the language that doctors used to describe their teaching. This interested me because it was very different from my experience of the language used by school teachers. For example, a common phrase doctors used was 'firing questions at students'. In schools, this would be 'asking questions of students'. Military metaphors were not unusual and the language was often quite 'macho'. Some of the more vivid examples from interviews I conducted are given below:

'What I'm best at is being presented with [....] six patients with [named a disease], line 'em up and bang away at them. And that's initially on a firm you tend to be very clinically orientated but then as [the students] become more confident and they get to know you, you start to grind them, sort of grind on with the management, the specialist pharmacology and therapeutics.'

Senior Lecturer, Medical & Related Specialties
'I think it's fine to [...] maybe have one lecture a week like that and maybe, perhaps make it a little bit more interactive so that you're - so that they're coming at you and you're - at the same time as you're going at them.'

*Consultant, Surgical & Related Specialties*

One of the most common phrases doctors used was 'putting students on the spot'. This could mean asking students to clerk a patient in front of others, asking them difficult questions, asking them to present information, etc. (In students' parlance, this was 'being picked on'). 'Ritual humiliation', as already discussed, was another commonly used term which gives an indication of the culture.

**Intimidation and humiliation of doctors**

Doctors as well as students sometimes felt open to intimidation, although it would not often be expressed in those terms. I have already mentioned that junior doctors felt vulnerable to humiliation from more experienced doctors as they tried to make their way up the hierarchy. A number of doctors described incidents they had had as junior doctors, or mentioned that their postgraduate meetings including 'grillings' of junior doctors.

In addition, a new type of 'reverse humiliation' seemed to be making an appearance in medical education: that of doctors being shown up by students. I witnessed a number of occasions, and heard about others, when this had happened. The formal committees and review meetings and the evaluation questionnaires for students were examples.

*Curriculum committee meetings:* Both the old and new committees included student representatives who were always given an early slot for feedback. In the new structure these opportunities were vastly increased as the number of committees and frequency of meetings increased. On occasions, I considered public complaints by students to be unfair or inappropriate, and I heard the view expressed that student input had 'gone too far'. It was clear that some doctors found it difficult to accept the reduced power differential which allowed students to voice complaints openly.

*End of year reviews:* All firm heads in the old curriculum were invited to end of year review meetings and received copies of collated scores and summarised comments about each firm. At the meeting, each firm was considered in turn, and representatives were asked to comment where complaints had arisen. This appeared to have an air of public humiliation, as complaints were aired in front of all other firm chiefs when it was too late to do anything about it. Sometimes there were good reasons for the problems, or there had been particular student problems, but these would not be circulated to staff as the complaints had been.
Evaluation forms: On a couple of occasions I received unedited collations of students' free comments from evaluation questionnaires. These included some derogatory and personal comments about staff and courses, which had been circulated to other staff.

In the last chapter I gave an example of a doctor against whom a complaint had been made, and who had felt aggrieved at the way it had been handled. There was no doubt that towards the end of my study, doctors were starting to become more accountable for their teaching, and this was often in a visible way, such as in committee meetings or other open fora.

Summary and discussion

This section has focused on intimidation in teaching as one aspect of the power relations within the medical hierarchy, and one practice indicating the lack of respect for individuals within medical education.

I have demonstrated, both from the experiences of students, and by doctors' own admission, that intimidation is considered acceptable within the culture at KCSM. I was often surprised by how openly doctors talked about it, even to someone they knew to be an educationalist. The fact that they were willing to do so shows how much it is part of the culture. Even though many doctors hedged their comments with qualifications, denied that they personally did it, or professed not to believe in it themselves, others still openly professed its merits.

Doctors also had a clear rationale for its use. The three main reasons given were all linked, and related to doctors' wish to maintain standards and produce high quality doctors. Intimidation was seen as necessary to protect patients and colleagues, motivate students to work hard, and prepare them for their later interactions with patients and other doctors. Doctors talked about how medicine was a serious profession. Once qualified students would be dealing with life and death issues and their education needed to prepare them for this. They seemed to see intimidation as a means to the end of providing a good service for patients and perhaps redressing what many perceived as the falling standards and declining commitment amongst students and junior staff.

It is worth considering what evidence there is for this assertion from the literature. The work of Marton, Saljö and others has shown how deep learning, in which students seek to understand the underlying meaning and structure of knowledge, leads to qualitatively better outcomes than surface learning, where students aim to reproduce knowledge. One of the main determinants of the learning approach students take is the context in which they are learning. Studies have shown that supportive environments are necessary for deep learning, and that students who are overly anxious employ less effective learning methods. Fransson for example found that students feeling threatened, anxious and uninterested in the material took surface approaches to
Interested students, lacking threat or anxiety, took deep approaches where they aimed to understand concepts and relate them to previous knowledge.

Fransson found that the approach to learning was affected not by the situation per se but by the reported feelings of the students. I have shown how students' perceptions of and responses to intimidation at KCSM varied, and how their confidence or vulnerability played a part in their experience. Thus there are two sides to intimidation, the 'giver' who may or may not intend to intimidate, and 'the receiver' who may or may not perceive themselves as intimidated. Clearly students' perceptions of the learning environment may affect their approach to learning as well as their confidence and self-esteem.

A study by Schuchert in 1998 showed a significant correlation between students' self reported experiences of verbal abuse during medical school and lower levels of confidence in their clinical skills. This correlation, although not proving causation, was significant regardless of the sex, race, age, levels of ability or general level of confidence of the students. This finding is ironic since confidence is a quality which doctors prize in medical students and junior doctors.

A study by Spiegel et al found that interpersonal stress between students and their trainers was inversely related to morale, with the relationship stronger for females. Furthermore they found that levels of morale and interpersonal stress strongly predicted the academic performance of females, and, to a lesser extent, males. This suggests that such stresses may affect students inequitably, causing female students in particular to under-perform.

These studies suggest that the use of intimidation may actually be counterproductive in achieving the higher standards and increased confidence in students which its proponents expect.

I was curious as to why some students who clearly disliked intimidatory teaching nevertheless defended and sought to justify doctors' methods as being in their own interest. One reason may be the need to believe that their suffering has a purpose. Many doctors justify their own painful experiences as students and junior doctors in this way. Students want to believe that they are getting a good education, know they can't change the system, and gradually grow to accept it. Thomas found a similar phenomenon in other university subjects where students excused and rationalised bad behaviour by teachers as a way of coping with the experience.

Lukes describes how processes of socialisation can lead to a position where one group can influence or even determine another group's thoughts and desires. In these situations, conflict may not arise because the insidious use of power acts to prevent it. As I have shown, some students did have grievances but were afraid to voice them because of their relative
powerlessness in the system. Other students may not have grievances, or may even believe that intimidation is useful. Nevertheless their interests may be harmed if the intimidatory atmosphere leads, as the literature suggests, to underperformance.

I wondered whether in fact the main purpose of intimidation was to socialise students into the existing hierarchy. Their acceptance of it functions to demonstrate their acceptance of the hierarchy, and thus to prove themselves suitable for membership of the medical community. Certainly, there was a strong feeling amongst students that non-compliance would affect their future in the profession. In this way it may be seen as a part of the process of professional socialisation into the norms and values of medicine.

When I have presented these findings to non-medical colleagues, they have often commented on similarities to army training and the public school ethos. Certainly many doctors and students have been to public schools. However the student constituency is changing and this may result in challenges to practices currently considered routine and acceptable. Doctors themselves pointed to the increase in female students as a factor in reducing the level of intimidation.

I was interested to explore the culture in which intimidatory processes were considered acceptable, and this will be the focus of the next chapter.

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2Ibid.
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Chapter 12
Discussion of Key Themes

In this section I will explore the theme of professional socialisation in more depth, drawing on and extending the findings of the last three chapters. The discussion is more speculative than in previous chapters and suggests a number of possible explanations, metaphors and correlations which provide ways of interpreting and extending the data. I make particular reference to Hafferty's work on the emotional socialisation of medical students, and suggest links between his work and my own.

Professional socialisation

In my study of students, I focused on the first clinical year as this seemed to be a time when students were particularly aware of the pressure to conform. Many of the things which students said emphasised their perception that they were not treated as individuals. (This was before the merger of the two schools, which exacerbated this problem). Students found that as new entrants they were expected to conform to the norms and values of the profession, in the way that other studies have shown. Although sometimes expressing resentment about this, they were keen to learn what was necessary, please their teachers and earn good grades.

The conformity required of students seemed to contrast with the large measure of autonomy in clinical style and in teaching practice, which consultants appeared to enjoy (although this was starting to change). Watkins attempts to explain this anomaly in his study of medical culture. He describes medicine as being:

'organised along the principle that once you have ensured that people conform loyally to the right ideas you can then allow them a considerable degree of independence of action. Indeed this explains how intelligent people can consider themselves to be individualists when in fact they are extremely conformist.'

For doctors, their efforts to instil certain attitudes and behaviour in students was about ensuring that the standards which they had internalised from their own training were maintained. The pressure to conform thus appeared to originate from the sense of professional identity which doctors held. Historically, ensuring common standards was important in raising the status of medicine and maintaining self-regulation, and a strong sense of professional identity has endured.

From what students told me, it appeared that part of the problem of being expected to conform was that they did not share some of the standards which were considered important by doctors at KCSM. I thought that students from backgrounds different to the norm in medicine might find it particularly difficult to fit into a medical culture that had developed at a time when the
medical profession consisted almost entirely of middle class white men. I found some evidence of this, particularly the early stage at which female and ethnic minority students started to feel that their career choices were constrained.

My overall impression however was that the tensions between students and doctors were more generational than related to differences in gender or ethnic background. (This is a finding based on limited data, and is not to say that a more focused study could not have revealed considerable differences between students). In my data, white male students raised similar concerns to other students, and appeared to have more in common with their female and ethnic minority peers, than with the white male consultants whom I interviewed. This led me to consider generational differences.

The students were a diverse but also homogenous group. Outwardly they appeared diverse in their choice of dress, their age, ethnicity and gender. They came from a variety of cultures and backgrounds, and encompassed a variety of religions, including Islam, Sikhism, Judaism, Christianity, Hinduism, atheism and no doubt others. However they shared many attributes too. They had all achieved success at school and were articulate enough to have survived the selection interview. The majority were middle class, and had a shared history of growing up in Britain in the 1980s and '90s.

The doctors were a more homogenous group (particularly at the start of the study). The majority, particularly at the higher levels were white men. Many came from medical families. They dressed smartly in suits and ties. They had confidence and status. Most had wives and children, now grown up, evidenced by the photographs displayed on their desks.

The students and doctors grew up in different eras (see Box 2). It is perhaps not surprising, given this, that students struggled against the socialisation process. Doctors expected a lifetime commitment to medicine and to excellence. Students had been brought up to expect more from the course, and from their lives. Many did not accept the need for the same long hours and commitment to the profession above all else. This did not mean that they were not committed in their own way, but societal expectations have changed. In most families both partners are working, and many men as well as women want and expect to spend time with their children. Students expect to receive teaching, not just to observe clinical practice - especially as they are now contributing towards the cost of their education and often building up large debts. They expect to study hard, but they also expect to have free time for work and leisure.

These generational differences seemed to lead to at least some of the tensions in the school. In addition to providing suitable role models by attaching students to practising doctors, it seemed that sanctions were also required to ensure conformity. As I have shown in the last chapter, students were keenly aware of the price they might pay for non-compliance, such as poor grades, poor references or humiliation in front of their peers.
Box 2. The life and times of ......

Students entering the clinical course at the start of my study were mostly born around 1977-8. They were Thatcher's children. They grew up at the time of boom and bust, of materialism, individualism, 'no such thing as society', Canary Wharf, sex scandals, financial scandals, 'yuppies', croissants and cappuccinos, mobile phones and lap tops, the Brixton riots, poll tax, Michael Jackson. They didn't see man land on the moon, never knew the swinging '60s, Ashbury, hippies or punks, didn't experience the Cold War, the 3 day week, or a Labour prime minister until 1997. They grew up with political correctness, a multicultural society, comprehensive education, heart transplants and genes.

The older consultants grew up in the 1940s and '50s in the aftermath of the war. They lived under the threat of communism, at the time of nuclear proliferation. They trained to be doctors when it was a vocation, a public service, and a revered profession. What they said went. They accepted the hierarchy, worked long and hard, and made sacrifices to get where they are now. The younger consultants grew up in the 1960s and '70s, the social and sexual revolutions, the Beatles, Rolling Stones and glam-rock, Harold Wilson, Jimmy Carter, minis and hot pants. They also went through the long nights and days on the wards when their peers were out enjoying new found freedoms. The newer consultants had more in common with students, but they themselves had accepted the medical culture in order to progress.

Watkins describes how the conformity he observes:

'is achieved by a very liberal medico-political system and a very libertarian system of organisation of practice coexisting with a very illiberal system of victimisation in the junior grades.'

I was very surprised when I first became aware of the intimidation which some students perceived, and some doctors freely admitted using. It seemed ironic that in training students for what I had considered a 'caring profession', they should be subjected to such treatment. In the next section I consider why this is acceptable in medicine.

Intimidation, 'masculinity', and emotional socialisation

Intimidation was justified by doctors in terms of seeking to achieve high standards, which are clearly important, both for patient care, and for medicine's status as a profession. However the same ends might, as educational research suggests, be better achieved by providing support and encouragement, with assessment to prevent unsuitable people from qualifying. I suggest that its acceptance is related to the gendered nature of the profession.

Occupations, such as medicine, which have traditionally been dominated by men, tend to be suffused with masculine values. Hofstede defined masculinity in work cultures as the extent to which a culture values attributes which have traditionally been associated with men, such as power, status, materialism, leadership, rationality, and analytic and instrumental characteristics. In such a culture, competition, and intimidation of those lower down the hierarchy, may be the norm.
Hafferty has described what he calls the 'emotional socialisation' of medical students, whereby students are socialised into the expectation that they will not show emotions. He suggests that this starts right at the beginning of their course with the dissection lab, where students are expected to distance themselves from the human cadavers and learn to treat them as objects. He found that students faced a 'conspiracy of silence', where they could not express personal fears and anxieties. Hafferty saw this as a test of students' 'emotional competence' to become a physician. He describes how the most prominent of the emotional norms was: Emotionalism=weakness=lack of scientific objectivity, thus rendering the student unfit to be a doctor.

Intimidation seemed to be another rite of emotional passage through which students have to pass. Again, they are expected to cope with difficult situations without emotion - the 'men don't cry' syndrome. A view I heard expressed both inside and outside KCSM was that medicine was a tough profession, and if students couldn't cope with the training then they hadn't 'got what it takes'. Hafferty reported that dissection teachers did not recognise that students experienced difficulty unless they broke down or ran from the room. Similarly at KCSM, doctors did not consider intimidation to be upsetting to most students. Hafferty suggests that there is a component of the 'feeling rules' which govern medicine that discourages reflection not only on one's own feelings, but also on the feelings of others. This would explain why doctors at KCSM tended not to acknowledge the distress which some of their teaching methods caused to students. My suggestion that this culture is linked to the historical dominance of men in medicine is supported by Hafferty's observations that women students were not expected to be as detached as the men, and were more open about their feelings in interviews and with peers.

The intimidation was one part of the picture, but as I found, there were also doctors who went to great efforts to help students, either on a personal level, or through their work on the curriculum. Thus the picture was complex. The kind of fatherly role which some doctors had with their tutor group, for example, made me think about resemblances to a strict family.

Writing about organisational cultures, Morgan describes some as 'familial', and suggests that these tend to be found in formal organisations built on the characteristics associated with Western male values. These are organisations which have historically been dominated by males, except in those jobs which 'support, serve, flatter, please and entertain'. In the hospital environment, it has traditionally been male doctors who exercised the power and made the decisions, supported by large numbers of primarily female nurses and secretaries. Morgan observes that in such organisations, one person defers to the authority of another as the child to the parent. He describes how the prolonged dependency of the 'child' is institutionalized in the relationship between leaders and followers, with the 'child' looking to others to initiate action in response to problems.
Young doctors are in this position of 'prolonged dependency', since they are not legally responsible for their own decisions until they are consultants or GPs. Thus, throughout their 5-6 year undergraduate phase, 3 years as a house officer/senior house officer, and (for hospital doctors) 5+ years of postgraduate training, they are always dependent on their consultant bosses. This may explain why the exercise of 'clinical responsibility' is so sought after by students and doctors.

Morgan describes how in a patriarchal family:

"fortitude, courage and heroism, flavoured by narcissistic self-admiration, are often valued qualities, as is the determination and sense of duty that a father expects from his son. Key members also often cultivate fatherly roles by acting as mentors to those in need of help and protection."

I found this metaphor helpful in explaining the sometimes conflicting treatment that students and junior doctors receive. The expected sense of duty referred to above was often evident, for example, consultants complained that younger doctors expected not to work past their allocated hours. This seemed to link back to doctors' notions of standards, which required enormous commitment and dedication to medicine. There seemed to be a belief that it was disloyal not to always put medicine first. At a couple of meetings I attended, I heard a GP and a psychiatrist talk about the huge expectations in the medical culture, and how medicine is expected to be a doctor's 'first family', taking preference over their real family. This may again be related to gender perspectives, as it has been common for men to see their identity as more closely connected to their work than women, and to put their careers first.

McKegney also writes about medical education in terms of a family system, and uses concepts from family therapy to explore its effects. She equates department chairs and senior staff to grandparents who pass on the traditions of the family. Teaching staff including junior doctors and basic science staff are the parents, other health professions the 'in laws', house officers are the school age children, and medical students the youngest children. She describes the consequences of an abusive childhood, such as the development of a limited emotional range, unrealistic expectations of self and others, isolation and denial. She parallels this with the development of doctors following the physical and emotional abuse of their training (including sleep deprivation, excessive working hours, lack of social support, negative feedback and blame). She describes how they accede to the culture of high expectations, inability to admit human needs or mistakes, and poor communication and feedback. The cycle is reinforced as doctors move up the ladder and behave to their juniors as their superiors did to them.

McKegney asserts that 'denial in the medical education system is strongly linked to the very human need to believe that a painful experience was 'worth it.' She believes that nothing will change until the medical profession is able to address the denial. This may be difficult, since,
as Hafferty describes, medical schools prefer students to locate the stress internally, encouraging individuals to see problems as personal rather than related to the system. Students are not encouraged to find an outlet for the natural emotions they experience during the training, nor to develop coping strategies. This lack of self-care may contribute to the high levels of stress, alcoholism, drug abuse and suicide which have been found in the profession. Sinclair suggests that 'the unwillingness to examine, or unawareness of, internal mental events' is one reason to account for the high rates of mental illness amongst doctors. He suggests that the 'pathogenic (iatrogenic, indeed) effect of medical training appears to have been effectively ignored by the institutions that provide it.

These would be serious issues in any profession and would suggest a need to re-examine the educational process. They are of particular concern in medicine as they would appear to be counterproductive in terms of engendering students to care for patients in a compassionate way. This is an area where students will be learning 'by osmosis' and role modelling. If doctors believe it is acceptable to treat students in this way, might they not also treat patients with similar lack of consideration? By intimidating students, what values are doctors portraying? What kind of respect for individuals? This appeared to me to be a major cause for concern because of its potential to influence the way in which students treat others, including patients.

**Doctor-student and doctor-patient relationships**

Conrad examined insider accounts of experiences of medical schools and noted the lack of emphasis on caring in medicine and medical training. He states:

'Perhaps the most consistent theme that recurred in these accounts was the scarcity of humane and caring encounters between doctors and patients. [....] The medical training was set up in a way that discouraged and often prevented such caring.'

The traditional dualism of the academic world is still evident, seemingly preventing a belief that reason and emotion both have a part to play in medicine. Conrad discusses the strong focus on technical aspects of doctoring, noting how patients were often ignored during ward rounds. He found that very little in the curriculum focused on the doctor-patient relationship, and concluded that:

'There is almost nothing in medical training that encourages compassion, empathy, and 'care' for patients: indeed there is a great deal that militates against those qualities.'

Konner, in an account of his training in America went further, suggesting that:

'the stress of clinical training alienates the doctor from the patient, that in a real sense the patient become the enemy.'

It seemed clear that such a training would have implications for students' relationships with patients. I felt that there were parallels between the doctor-student and doctor-patient relationships. Both seem to be focused on achieving a worthwhile outcome.
In the case of students, they are to be made into 'good doctors' - and Hafferty has argued that good doctors are perceived to be those with good technical, rather than caring, skills. In the case of patients, they are there to be cured - to be made into better bodies. Of course, patients have to give their consent, but this decision is hugely influenced by the power differential in the relationship, the respect in which medicine is held, the way in which people have come to rely on doctors rather than taking responsibility for their own health, etc. The very term 'informed consent' suggests that there is no possibility of disagreement.

This leads me to an important hypothesis: that in medical culture there is a strong current of instrumentality, and thus often a tacit belief (i.e. a belief that is not acknowledged explicitly, but is acted on in practice) that the end justifies the means. A little discomfort (e.g. pain or humiliation) may be considered a small price to pay to produce a good doctor, or a well patient, and students' emotional needs may be seen as secondary to their responsibility to become 'good doctors'.

In both cases the individuals thoughts and feelings may not be seen as central, because the goal is of paramount importance. Thus doctors tend to have an instrumental rather than an interactional focus. This helps to explain some recent controversies, such as the cases where babies' organs, and a woman's ovaries were removed without consent. These could be justified as in the long term interests of children/the woman herself. The long-term good may be perceived as self-evident to doctors, who may thus act paternalistically without ensuring that the patients' autonomy is respected. Konner suggests that the hard time which doctors have during their training and early years as a doctor contributes to this attitude. He suggests that 'you feel justified in exercising such terrible power over your fellow human beings to the extent that you have suffered to get the power.'

Specialty differences

Within KCSM there were variations between specialties in a number of areas including their status within the school. Becher, studying university departments, noted the differences in prestige between subjects, and how 'hard' knowledge domains were generally regarded more highly than 'soft' ones, and pure subjects more highly than applied ones.

Thomas, studying the teaching of physics and English at university, noted that the higher status subjects were those traditionally considered 'masculine':

'It is by now almost a cliché to say that science is associated with masculinity and the arts with femininity. [......] These stereotypes have a much wider set of connotations. 'Science', 'masculinity', 'hardness', 'difficulty' and 'value' are all apparently associated ideas, while 'arts', 'effeminacy', 'softness', 'easiness' and 'lack of worth' are also related concepts.'
Within medicine, specialties vary in their 'masculinity', exemplified by their degree of adherence to the 'medical model' in which disease is seen as a bodily dysfunction which can be scientifically assessed, diagnosed, treated and cured. Sinclair discusses how specialties which conform most strongly to this model are regarded as high status, whilst those which value 'feminine' qualities such as communication and team work, have low status. He notes the strong association between women doctors and low status specialties, finding the lowest proportion of women in surgery, typically considered top of the hierarchy. (There appears to be a similar situation across the health care professions, those with the highest proportions of women having the least status). Wegar suggests that one of the reasons for the low status of the caring aspects of medicine is that they tend not to be acknowledged as skills, but seen as qualities inherent in women. I have already discussed how students are socialised into hiding or denying their emotions, and thus learn not to value the way in which so-called 'feminine' qualities such as empathy and intuition can contribute to patient care.

It is important to recognise that the terms 'masculine' and 'feminine' in this context do not imply that all men have 'masculine', and all women 'feminine' qualities. It is unfortunate that these terms have come to be used in relation to these patterns of attributes, as it suggests too neat a division along gender lines. In fact, several authors have found that occupational or departmental similarities and differences tend to outweigh gender similarities and differences. Thus, women who enter the more 'masculine' areas tend to follow the same pattern as the men, and vice versa. Nevertheless there does seem to be an association between a medical specialty, its ratio of men to women, its adherence to the medical model, and its status.

The concentration of women in lower status specialties may have occurred both by selection and self selection. The values of the specialty may genuinely reflect the qualities required of practitioners, with women and men wisely choosing the specialties to which they are best suited. The literature also points to gender differences in what is important to men and women at work. Hofstede found that women tended to score interpersonal aspects and rendering a service as more important than did men in the same occupations; and advancement, responsibility and earnings as less important. How far these preferences are the result of individual differences and how far they are socially determined is a matter of debate. Elston suggests that women's specialty preferences 'may be partly conditioned by knowledge of the obstacles and opportunities'. Lorber goes further, claiming that 'What is in actuality structured and institutionalized sexism is often transformed into women's seemingly free choices to limit their ambitions, not work too many hours, and put their families before their professions.' It is certainly possible that the proportion of women in a specialty and its status are mutually reinforcing.
It was noticeable from my research that the level of intimidation of students seemed to increase in relation to the perceived prestige of the specialty, the hospital, and the doctors' position in the hierarchy. It was most common amongst medical and surgical consultants based at teaching hospitals, who are at the pinnacle of the profession. It was less common in DGHs, in psychiatry or general practice departments, and amongst junior doctors. It seems likely that doctors who feel comfortable with the existing hierarchy and competitive atmosphere of teaching hospitals are more likely to seek a career there, be selected, and thus perpetuate the ethos. Within specialties, I found no evidence of different levels of intimidation practised by male and female doctors. As suggested earlier, professional socialisation appears to be stronger than gender socialisation.

The specialty differences in the proportions of male and female doctors, adherence to the medical model and levels of intimidation suggested a wider set of relationships. I began to speculate about a link between medical specialties, the type of illness model they espoused, their favoured research paradigm and their teaching methods. Thomas, studying two university subjects in which there were big gender differences, found differences in the relationship between teachers and students. In physics, relationships were much more formal than in English, reflected in the conventional laboratory and lecture based teaching methods, heavy timetable, and little opportunity for control by, or individual development of, students. In English, there was more discussion and a greater interest in students' opinions.29

Similar differences might exist across medical specialties. General practitioners for example tended to espouse an experiential learning model, with active involvement for individuals. They encouraged reflection on experience and discussion of issues rather than straight 'teaching', which suggested a more egalitarian relationship with students. An interview study of GPs' attitudes towards teaching in which I was involved found that GPs were put off involvement in teaching by expecting to have to teach using methods similar to those which they remembered from their student days, but were enthusiastic if they could use more student-centred methods.30 This approach has parallels with GPs' predominantly psychosocial model of illness. In both health and learning, the feelings and emotions of individuals are acknowledged, and seen as relevant in bringing about change. This also fits with general practice's greater openness to qualitative research in which the perceptions and conceptions of individuals are considered subjects worthy of study.

On the other hand, medicine and surgery tend to work more to the 'banking' type of teaching model which sees teaching as passing on information in a fairly uncomplicated manner. This fits with a view of knowledge as objective, the biomedical illness model, and the positivist paradigm of research which uses quantitative methods to look for causal links and universal rules. This pattern was not entirely borne out at KCSM as Surgery was one of the first departments to introduce more student centred teaching in the form of problem based learning.
Initially, this was largely due to an influential individual, but it was taken on and supported by other surgeons. In general however, there seems to be a logic to these suggested correlations. There has been work exploring different conceptions of teaching held by teachers, and in classifying different subject areas. However I am not aware of work linking ontological, epistemological and teaching approaches, and this is an area which merits further research.

In this chapter I have suggested that gender has had a significant impact on the culture of medicine which has implications for student learning. It has influenced the relative status and prestige of the different specialties, the values held by the medical profession and the emotional climate in which students and doctors work. Some aspects of masculine environments may be construed as positive (for example, competition may encourage high standards), other aspects (e.g. the lack of emotional support) as damaging. The change in the student constituency appears not to have had a major impact on the culture to date, but it seems likely that this will change as the newcomers work their way through to the higher levels of the profession.

References

24. Hofstede G. op. cit.

26 Hofstede G. op. cit.


32 Becher T. op. cit.
SECTION D
Discussion

Introduction

The three areas which I identified earlier as wishing to explore: the content, methods and social climate of the school, have now been discussed in varying amounts of detail. My overall focus has been on the culture of the school, as portrayed by what is taught, how it is taught and, most of all, by the kind of place it is.

In this section I draw together the key findings, and discuss their implications in relation to current and possible future developments in medical education. In doing so, I highlight issues which need to be addressed by decision makers at a local and national level. I then evaluate the contribution of the study to the existing literature on medical education, and consider its generalisability.
Chapter 13
Summary and Concluding Discussion

Introduction

In this study, I have explored the workings of medical education through a case study of one medical school/teaching hospital. In this chapter I will summarise the main findings of the research under three main areas – models of education, structural issues, and the culture of teaching and learning.

In the first part of the chapter I explore the tension between the apprenticeship and academic models of education. I first summarise my findings which indicated differing espoused models of education between doctors and students. I then develop an analytical framework in which I delineate some of the contrasting characteristics of the apprenticeship and university systems. I use this to illuminate how the balance between the two models was being reworked at KCSM, and to explore the trends and tensions involved. I then consider and discuss the issues and implications with regard to current and future patterns of medical curricula.

In the next section, I examine the structure within which teaching and learning at KCSM took place. I summarise findings about how the structural elements impacted on students' and doctors' actions and experiences, and consider how they could be adapted to support medical teaching better, and to facilitate curriculum change.

Lastly, I consider the culture at King's College Hospital in terms of its impact on both the content and process of student learning. My findings raise questions about the most appropriate setting for the clinical apprenticeship and I evaluate options outside the traditional teaching hospital base.

In the final section of the chapter, I draw together the conclusions of the study and discuss the contribution these make to the literature on medical education. I argue that greater account needs to be taken of the structural and cultural context in which medical schools operate to ensure that this supports rather than inhibits their aims and goals.

Two models of education

My research focused on the clinical apprenticeship part of the course. During the first half of the study I collected data from doctors and students which revealed a number of key tensions between the groups. These were primarily around their differing expectations of each others' roles and of the structure of the course.

Doctors appeared to expect bright, motivated students with lots of initiative and commitment. They expected them to be regularly on the wards, clerking patients and taking advantage of any
learning opportunities which arose so as to gradually build up a fund of clinical experience. Many assumed that if students immersed themselves in the hospital they would learn without needing particular direction. Students expected doctors who would teach them the relevant skills and knowledge, help them learn in a structured way, and get them through the necessary examinations. They expected to have clear learning goals, and a structure which ensured that they all received similar experiences.

On the whole, neither group lived up to the expectations of the other. Doctors felt that students did not take the work seriously enough and worried about the lowering of standards. They were frustrated by their perception that students were unwilling to take responsibility for their own learning. They complained that students did not show initiative and wanted to be 'spoon fed', whilst students felt that their initiative was depressed by their sense of an unsupportive, sometimes hostile environment.

Students found the clinical learning climate difficult to adjust to after their pre-clinical course, and were frustrated that doctors appeared unwilling to give them the guidance they needed. They were not used to learning in an environment where other functions took such obvious precedence over their education, nor to having to ask for teaching which they had been led to expect was theirs by right. They often felt that time spent attending routine clinical work was boring and unproductive, and wanted more formal teaching. Thus they tended to reject a dispersed, situated learning role in favour of a more focused, formal one. They saw passing exams as the primary goal, whilst doctors saw gaining clinical experience as paramount.

I concluded that students and doctors held different conceptions and models of education. Students had come from school and the basic science courses, which were both primarily based on explicit, often didactic teaching. They had concerns about the amount of knowledge they were expected to acquire pre-clinically and disliked some of the teaching methods. However they were comfortable with this educational model which gave them a clarity and certainty about what was required, and aligned with their previous experience. Students found the transition to the clinical course difficult largely because the expectations of their clinical teachers were unfamiliar to them and there was a lack of clear direction.

In exploring these differing conceptions of the nature and purpose of the education, and referring to the differing educational models held, I am not implying that these were consciously held models. Indeed, some of the tensions were due to the fact that these were tacit models, which doctors and students held without necessarily being aware of their underlying beliefs. Thus the symptoms of the problem tended to be discussed (e.g. students not clerking enough patients), rather than the underlying conceptual differences (e.g. students valuing, and perceiving examinations as based on, book knowledge more than clinical experience).

It was not only the students and clinical teachers who held different teaching models, but similar differences existed between the pre-clinical and clinical staff. As already indicated, the
teaching practices of pre-clinical staff were more in line with the expectations of their students. This accounted for one of the major discontinuities in the course, that between the university based science teaching and the hospital based apprenticeship. This division, evident in many traditional medical schools, had historical roots in the differing training pathways of medicine, surgery and apothecary (the latter of which later evolved into general practice).1

Traditionally, physicians came from the gentleman class and were university educated, often receiving a liberal education, studying subjects such as classics and philosophy before moving on to medicine. Until the late 18th century, medicine had remained primarily an intellectual subject, based on the study of ancient texts, conducted in Latin, and confined to a small elite who met the social and class tests for university entry. Surgeons and apothecaries on the other hand traditionally came from the tradesmen class and had a primarily practical training. Neither group went to university, both moving from school to learn their trade through apprenticeships.

During the 18th and 19th centuries, the status of the apprenticeship professions gradually improved, and the division between surgeons, physicians and apothecaries started to break down. Both medicine and surgery became necessary subjects for study, and the huge increases in anatomical knowledge led to an acceptance of the need for clinical training for all doctors.2 The requirement for a liberal education gradually diminished and an increasing emphasis on laboratory science took its place, originating in Germany in the 1850s.3 This trend was catalysed in the United States and Canada by an influential and highly critical review of medical schools by Flexner in 1910, which highlighted the importance of studying the basic sciences.4 The report accelerated the development of a staged professional education with a clear separation between the basic and clinical sciences (correlating with the university based and apprenticeship parts of the course). A Royal Commission in Britain endorsed this approach which became the pattern for medical education across North America and Europe.5

At KCSM in 1995 there was still a marked separation between the two parts of the course and their teachers (as described in Chapter 7). The differences in aims and ethos between the two educational models operating in different parts of the course are worth exploring in more depth in order to illuminate some of the issues faced by students having to move from one to another. Below I present a framework which summarises some of the differences between the two models, and then explore in more depth the origins and characteristics of each.

Figure 11 shows some typical characteristics of the academic and apprenticeship models, based on my research at KCSM, and informed by the literature. The features included are not comprehensive or exclusive but are areas selected as relevant to my themes. It should be recognised that both academic and apprenticeship systems take various forms, and the two models represent ‘ideal types’ (i.e. show archetypal characteristics of each system). In professional education, many courses will fall somewhere between them. There are also things which both systems have in common, such as the existence of a body of skills and knowledge which is passed on to the learners.
Figure 11. ‘Ideal type’ characteristics of the academic and apprenticeship models of education

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<th>Apprenticeship</th>
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<td><strong>Apprenticeship</strong></td>
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<td><strong>How it teaches</strong></td>
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The characteristics on the apprenticeship side are clearly related to the world of work and to preparing individuals directly for their future role. There is a clear expectation about what individuals will be able to do at the end of the apprenticeship. A level of skill and knowledge is required; the latter may be procedural knowledge rather than understanding of underlying principles and mechanisms. The characteristics on the academic side suggest a broader education, through which individuals would come to have a wider range of theories, principles, knowledge and ideas to which they can refer. Traditionally an academic education aims to broaden the mind and develop powers of reason and analysis. It requires an understanding rather than simply a memorisation of concepts and issues, many of which are theoretical rather than obviously practical.
These distinctions have similarities with Barnett's 'rival versions of competence' in which he distinguishes between academic competence, built around a sense of mastery within a discipline, and operational competence, which essentially reproduces wider societal interest in performance relevant to work.6

There has been discussion about whether the current undergraduate medical course is primarily a training or an education. Sinclair for example holds that it is a training, whilst recognising that the optional BSc provides an educative function.7 It is the balance between these two approaches and conceptions of competence that appeared to be being reworked at KCSM, and is of wider relevance to others involved in medical education. Before discussing the changes at KCSM, I will explore the meanings and practices associated with the traditional academic and apprenticeship models in more depth.

The current model of a university derives from the Ancient Greek academy at the time when the antecedents of science and medicine were being developed. The emphasis was on philosophy, argument, dialectic and the development of reason. Education was an intellectual exercise, a training of the mind and a search for knowledge and wisdom, all of which were privileged over the development of practical abilities.8 By the 19th century however this view was being contested by a more utilitarian approach as the role of the university, professional associations and the emerging state were debated.9

The introduction of professional training into universities with its combination of apprenticeship and academic work was not welcomed by all. Mitchell states that it 'raised [...] fundamental questions about the purpose of higher education as provided by universities. The communication of the practical, applied skills required by vocational training seemed totally at variance with the aims and methods of a liberal education'.10 Professional education differs from other university subjects in that it prepares graduates to be licensed practitioners, and therefore has to provide a practical training as well as an academic education. This practical training element has traditionally been provided through apprenticeships.

Apprenticeship systems exist in order to maintain a skilled workforce and are usually associated with lower status trades. Those studied in different parts of the world include tailors, butchers and midwives.11 Lave and Wenger conceptualise apprenticeships as a form of 'legitimate peripheral participation', with apprentices seen as part of a particular community of practice engaged in replacing itself.12 They play a peripheral role, but learn through having access to the community and its members, including apprentices at a higher level than themselves. They provide a relatively cheap source of labour to do routine tasks, whilst at the same time learning their trade.

The differences in purpose between the two models lead to further differences in the expected methods of learning. Universities, like schools, generally work on the basis of teaching as the way to educate students. Teachers are the experts, well qualified in their subjects, and with the responsibility for ensuring that students learn. They tend to rely on traditional methods such as
lectures, seminars, tutorials and supervised laboratory work. The teachers provide information, demonstrate skills, set work and provide feedback. They then set formal examinations to assess the extent to which students can reproduce the required skills and knowledge.

Teachers on vocational courses may or may not be practitioners in their field. It would be common for many, if not most, teachers to have had relevant professional experience, but they would not normally be expected to be current practitioners. Rather, they would be expected to be active researchers in the field.

In an apprenticeship, there is little explicit teaching and no examinations, rather apprentices gradually move from a peripheral to a more central role. Becker's study of Kansas medical school illuminates some of the differences between an apprenticeship and a school system:

[In an apprenticeship] 'No one functions as an official teacher. Everyone has his own job to do, his own set of occupational constraints and rewards. The apprentice does not have a teacher's time and attention guaranteed to him as does a pupil in a conventional school. This leaves the actual training to the apprentice's own initiative. Competent practitioners will teach him if he can persuade them to, and actual training is thus in some part a function of such formally extraneous traits as the degree of his aggressiveness. A pushy punk learns more than a quiet young man. An ideology common among journeymen suggests that if an apprentice is any good, he will make you teach him: if he does not push, he probably does not have what it takes. This differs diametrically from a conventional school in which learning occurs at the teacher's initiative: you move on when the teacher thinks you are ready.'

This suggests that in medicine learning is perceived as the responsibility of the individual rather than of any designated 'teacher'. All university courses would expect students to do a certain amount of undirected work, but in medicine this seems to be more central. In the traditional clinical apprenticeship, everything was considered a learning opportunity. Clinical services were organised to allow junior doctors to learn from those higher up the hierarchy, as well as providing regular in-house service-based educational sessions. The way in which the system was structured clearly demonstrated an acknowledgement and facilitation of learning. Much of it was implicit, but there was a recognition of this everyday type of learning, exemplified by the value attributed to 'clinical experience'.

On the other hand teaching was largely invisible. As Jordan suggests, 'Apprenticeship happens as a way of, and in the course of, daily life. It may not be recognized as a teaching effort at all.' At KCSM at the start of my study, doctors often did not see themselves as 'teachers' and their educative role was largely taken for granted. Teaching was not seen as a pre-requisite for learning medicine, and there was a lack of support for or explicit recognition of teaching. This explains the invisibility of teaching which I found at the start of the study.

These differing expectations about the role of students versus apprentices reflect the different functions of a university, where teaching is a primary purpose, and an apprenticeship, where work is the primary task.
Another distinguishing feature of an apprenticeship is the emphasis on inducting newcomers into the culture of the community. Studies of apprenticeships have suggested that learning the mores and way of life of the community is as important as learning the knowledge and skills required to practise.\(^5\) Graves describes how the apprentice learns the culture of the work situation: the language (often a special, almost secret, vocabulary), the work patterns, hierarchy, traditions, things which can or cannot be discussed, and so on.\(^6\) Lave describes how, in such systems, learning is an emerging property of a whole person, rather than being divided up into component parts. She suggests that:

'Developing an identity as a member of a community and becoming knowledgeably skilful are part of the same process, with the former motivating, shaping, and giving meaning to the latter, which it subsumes.'\(^7\)

Certainly in an apprenticeship system, what is being learnt is of obvious relevance, which makes it meaningful and motivating for students. However, the emphasis on socialisation can lead to perpetuating a static system which may be inappropriate, particularly in a fast changing, external environment. The community is not open to outside influence, and thus does not benefit from the ideas of a range of individuals with different perspectives. This may allow an uncritical approach to tradition, with apprentices being trained for the present rather than the future. Existing problems may be perpetuated by the reliance on role models who may themselves require professional development. On the other hand, an academic education may facilitate what Agyris and Schön refer to as 'double loop' as well as 'single loop' learning.\(^8\) Single loop learning is when one audits what one does (as happens in hospitals and medical schools through audit and evaluation activities). Double loop learning is when one examines also the fundamental principles and values on which a system is based, and questions whether these are still appropriate. It is this reflexivity which Cribb and Bignold suggest is currently missing in medical education.\(^9\)

Understanding the differences between the academic and apprenticeship models can illuminate some of the difficulties encountered by students as they had to negotiate their way from one system to another at KCSM. This meant having to adapt to different forms and methods of learning, the different expectations of their clinical teachers, and a new and complex learning environment. Doctors tended not to be aware of these issues, and generally provided minimal induction or guidance as to what was expected. The type of learning required was also changing as the balance between the academic and apprenticeship emphasis was being re-worked at KCSM. In the next section, I describe the various obvious and more subtle patterns of change which I observed, and then reflect on the wider issues they raise.

**Changes and trends at KCSM**

During the period of my research, major changes took place at KCSM as a new curriculum was introduced, following the General Medical Council's recommendations.\(^20\)

There was recognition that the traditional apprenticeship had become increasingly strained as patterns of health care delivery and management had changed. In the new years 3 and 4, the new structure dismantled some of the old apprenticeship style attachments. It brought in new
cross-disciplinary courses which required students to move between different specialties during the week. It catalysed what may already have been a trend towards more formal teaching, and less clinically based service work at both undergraduate and postgraduate level. There was an increase in planned and organised teaching as opposed to ad hoc, flexible arrangements. This tended to result in more classroom based rather than service based teaching, and an increasing use of simulations. These methods moved the emphasis from learning in a highly interpersonal and unpredictable real life situation to a much more formalised and controlled environment. As a result the nature of the learning itself shifted from the acquisition of tacit professional know-how towards that of propositional knowledge and theories.

The introduction of problem-based learning and special study modules signified an increasing emphasis on students developing their learning skills. This represented a new attempt to deal with the longstanding problem of the growth in scientific knowledge, and the more recent problem of increasing specialisation of hospital services. It reflected a trend in higher education to focus on developing 'transferable' and 'life long learning' skills to enable students to keep up to date with an ever changing body of knowledge. It indicated a renewed emphasis on the traditional academic skills of critical thought, enquiry and reflection.

The loss of the apprenticeship structure was a continuing concern for doctors, expressed time and time again. For students, the new model was more familiar, although it had disadvantages in that it reduced their legitimacy in the workplace and emphasised their lack of belonging to the clinical world.

These shifts in teaching and learning methods and organisation, represent changes in the balance between the old apprenticeship and university elements of the medical course. Looking back at Figure 11, it can be seen that, although not all the changes were in one direction, there seemed on balance to be a move towards the students' conception of what a curriculum should be and away from that of the doctors. In years 3 and 4 there was an increase in classroom teaching and a movement along the continuum which I described in Chapter 6 from learning in a real-life context, to simulations, to theoretical teaching. This is in contrast to what Barnett suggests is the general trend in higher education towards an acceptance of operational competence, caused by external pressures to make higher education more relevant to the world of work.21

However the picture is complex, as there were also changes in the other direction, particularly in the early years. In years 1 and 2 for example the introduction of patient contact and professional skills brought the applied aspects of the course forward, and in both the early and later years there was a greater emphasis on making written examinations clinically contextualised. The introduction of clinical and communication skills assessments in years 2-4 also brought a new emphasis on professional skills which had not previously been assessed until the final year.
The main apprenticeship element however appeared to be more delayed. The new curriculum provides mostly planned teaching from years 1-4, but students officially become 'assistant house officers' in year 5, a structure planned to bridge the gap between the medical course and first year of work. In this year, students get their first taste of the more traditional apprenticeship where they are attached to a single firm, become, in effect, one of the team, and contribute directly to patient care.

Some doctors I spoke to (prior to the implementation of the new year 5) suggested that the real medical apprenticeship did not now start until students became house officers. However junior doctors' apprenticeship was also undergoing change in a similar direction as hospitals were expected to provide more formal training and protected time for learning. As with the undergraduate developments, there seemed to be an increasing separation of 'learning' from 'work'. Doctors' conception of 'teaching' seemed to be one of formal sessions, often classroom based and theoretical rather than practical. This was at odds with what they thought was effective in promoting learning, which was gaining clinical experience. Macdonald, studying medical teachers in Scotland also found 'excessively narrow perceptions of teaching which are constricted due to the formal and informal distinctions.' She continued: 'This leads to an unnecessarily rigid and impoverished perspective of the teaching process.'

The tendency to count only formal teaching as such was increasing, perhaps in response to universities becoming more formally accountable for their students' education. Thus at both undergraduate and postgraduate level, there was an emphasis on emulating the university style of academic learning away from the workplace, rather than the apprenticeship style of learning through experience. It seemed to have become necessary to be able to demonstrate what students had been taught (i.e. to point to a place in the curriculum) and learnt (via formal assessments). Hence, the conception of education was being narrowed in this respect.

Examining the language used in the old and new curricula is quite revealing of their differing natures. In the old curriculum, it was about firm chiefs, clinical material (patients), apprenticeship, putting students on the spot, learning by osmosis, see one do one teach one. It was based in the real world of clinical medicine, run largely informally on good will, within the existing hierarchy. In the new curriculum it is about timetables, symposia, seminars, rotations, special study modules, and the core curriculum. It is a more impersonal, ordered system with rules and regulations, defined roles, boundaries, clarity and formality.

The separation of 'learning' from 'work' epitomises the old theory-practice divide. This is less (although still) evident in the division between the early (pre-clinical) and later (clinical) parts of the course, but seems to be becoming more evident within the clinical course as classroom and clinical teaching are increasingly separated.

Questions and implications for curricula
Barnett suggests that the 'academic' and 'operational' versions of competence are rivals, between which there can be no easy rapprochement. The resistance to the new curriculum at
KCSM demonstrated some of the difficulties of trying to redefine the balance between different aims within a traditional medical school. Nearly all schools in the UK have now moved away from the Flexner model to varying degrees, and a number of other curriculum models are in operation, being developed, or could be envisaged. In this section I will discuss these curricula, and the role of different teaching methods, in relation to the theory-practice debate and the balance between the apprenticeship and academic elements of the course.

This is topical given the British government’s recent discussions about creating a 'University of the NHS'. Such a model, based on learning in practice, and under the control of the NHS rather than the university, could cut out much of the academic part of the course. Similar trends have already been seen in other vocational courses, such as teacher training which has had to reduce its academic content and increase the amount of practical training. Such developments suggest a rather impoverished and utilitarian view of the educational process, in which understanding and creativity are downgraded in favour of a more technical orientation.

Moving medical education away from the university would also be unpopular with the medical hierarchy since there is a strong belief in the necessity of a scientific training. In addition, a university education is seen as one of the essential characteristics of professional status, and a challenge to this would be a threat to medicine’s status. Within the health care professions, medicine has the longest standing and most lengthy training, and also the most status and power. Friedson’s studies have shown how this has enabled it to maintain autonomy over practice, prevent outside control, and dominate related occupations. Some of the allied health care professions have attempted to challenge the dominance of medicine and raise the status of their own occupations. A key plank of these efforts (described by Witz as ‘professional projects’) has been making them graduate entry occupations. If medicine were to lose its university training, its supreme success in achieving professional status (described, for example, by Field and Taylor as the ‘archetypal profession’) could be compromised.

The 'University of the NHS' has not yet been established, but the fact that it has been suggested is a sign that medicine does not hold the same unchallenged position in society that it once did. Over recent years, it has been subject to a range of challenges from, for example, litigation, anti-vivisectionists and managerialism. This may be just one more in a range of challenges to medicine’s autonomy which Gabe et al suggest are bringing about a reconfiguration of professional power, in a move from modernity to post-modernity.

There are a number of other approaches to medical education which have been introduced or could be envisaged.

A recent development in Britain is the introduction of graduate entry courses. Previously, graduates have had to do the full medical course even if/when it overlapped with their previous degrees (except in a very few special cases). The graduate entry courses focus primarily on developing clinical knowledge and competence. The course length is reduced on the expectation that graduates will have gained some transferable academic skills, such as the ability to think critically, analyse information, argue a case, communicate, research and study.
independently, plus some basic scientific knowledge (for science graduates). This approach could be seen as an extension of the Flexner model, with each part of the course lengthened. Although it is seen as a quick way of increasing the number of qualified doctors, it actually takes longer overall for students to qualify than in the old pre-clinical/clinical course. However it may widen the pool of potential medical students by allowing those with non-science degrees to qualify as doctors in a shorter timescale.

A similar but alternative route would be to have a degree in medical science, which would be a pre-requisite for entering an apprenticeship in medical practice. The former could be taken as any other degree (and transferred onto from other science subjects), only the latter would lead to a license to practice as a doctor. Gaining the degree would be a necessary but not sufficient condition for proceeding to the clinical course. This would have the advantage of allowing students longer to decide whether or not they are suited to a career in medicine, and giving those who decide they are not so suited a way of exiting with a worthwhile degree. Both the above options however tend to perpetuate rather than address the theory - practice divide.

In direct contrast, a different model would be to admit students with previous clinical experience and provide them with a more academic education. In this system, other health care professionals could undertake transition courses to become doctors. Building on their existing knowledge and patient management skills, they could develop the more specific competencies and understanding required to practice medicine. Such students may find it easier to integrate theory and practice. This entry route would help to break down the barriers between the health care professions, and provide a wider variety of career options and pathways for those in the professions allied to medicine.

Another curriculum structure which seems perhaps the most likely extension of current trends (but is in direct contrast to the 'University of the NHS' idea), would be for medical schools to continue to increase their influence and control over the course. In effect, medical education could become a university based course throughout the 5 years, losing its traditional locus in the NHS. The interweaving of theory and practice would be similar to that in, for example, nursing and teaching degrees, in which students are based in a college, with a variety of practice placements. The placements offer work experience, and an opportunity to put into practice some of the theory learnt in college. The attachments might be spread widely over a range of teaching hospitals, district hospitals, general practices and community services to provide a balanced experience of health care. Practising doctors would have less influence over the content of the curriculum which would be decided by professional medical educators, who would not necessarily be current practitioners. Doctors would thus have another potential career option to train and specialise as a medical educator. In this model, theoretical learning and its application are separate processes. However, their proximity in the course might help students to integrate theory and practice more easily than in the two stage courses.

The further separation of the health care system from the education system could lead to greater diversity of practice, as students would not be so influenced by the existing traditions
and culture of medicine. Such a university based system, freed from the influence of interest groups within hospitals, might result in very different kinds of courses. For example, there would be more opportunity for multi-professional health care education. This might comprise common foundation courses for several groups of health care professions (such as the one at St George’s Hospital Medical School), or collaborative learning and problem solving sessions between a number of groups of students (such as that piloted in Liverpool). Ultimately it could be envisaged that students would enter a generic health professional course, and, based on their achievements and selection of modules, gradually specialise and gain a qualification in a particular field.

There may be both gains and losses for health care trusts and their managers from a more university based course. They may gain from relieving doctors of the extra time required to teach. However teaching is also a good way of learning, and doctors may lose some of their own motivation to learn if they no longer teach. The trusts would lose funding, and would almost certainly lose some of their influence over the curriculum. Thus the curriculum may become more remote from everyday practice, and the graduates of such courses might challenge existing practices more. However, it could also be argued that the socialisation process would simply be delayed until the new graduates started work.

In addition to the course structure, the type of teaching and learning methods will also affect the balance between theory and practice, and the likelihood of students being able to integrate the two. At one end of the spectrum are the classroom-based theoretically orientated types of teaching methods, at the other end the work-based apprenticeship type learning. In between are a range of simulations which attempt to bridge the gap.

Problem-based learning is an increasingly popular approach which promotes learning in the context of clinical scenarios. In terms of Bernstein's models, it is an 'integrated code' which forces teachers and students to work outside the confines of individual disciplines, and thus should help to provide a cohesive experience for students. Although PBL could be based around real patients, in practice schools tend to use paper cases. These are divorced from the real world, yet mirror it, and in some senses improve on it as cases can be presented in a logical progression to help students develop their analytical skills and knowledge. Learning medicine in the context of such cases should, it is claimed, help students to be able to apply their knowledge when they encounter real cases.

It seems likely that various forms of simulation will increasingly play a part in medical education. Innovations such as computer simulations, virtual reality applications, simulated patients and ever more sophisticated mannequins will provide opportunities for students to learn and develop specific knowledge, skills and competencies outside the real clinical environment. These various forms of 'virtual apprenticeship' offer more protection for patients from unskilled students. They also safeguard novice students from having to learn directly on patients, and allow them to develop competencies in a less stressful environment. However the line between 'virtual' reality and reality itself must be clear in the students' and teachers' minds,
and students must also learn to function in the more complex and unpredictable world in which they will assume real clinical responsibility.

Simulations do not develop the craft knowledge which characterises professional practice in the way that an apprenticeship does. If the genuine apprenticeship part of the course diminishes, this 'craft' learning will simply be shifted further into postgraduate education as theory is re-learnt in practice. Finding the right balance between providing practice in protected environments and 'real' clinical practice, and ensuring that undergraduate and postgraduate education are properly co-ordinated is a challenge for medical educators.

Some of the above methods, together with forms of open learning, may be increasingly used to address the increase in student numbers. Such forms of independent learning are one way of easing the amount of teaching required. If used appropriately, with sufficient support and guidance, these may lead to doctors using their expertise more effectively to direct, motivate, review and evaluate learning rather than to transmit information. Education would be required however to help doctors acquire the appropriate facilitation skills and to reconceptualise their role in this way.

In considering current and possible future patterns of medical education, fundamental questions need to be asked about the future roles of doctors and patterns of health care provision. Changes continue apace: recent developments such as the growth of public access to health information through the Internet, and the mapping of the human genome, are likely to have profound impacts on the nature of health care. The diversity of healing beliefs and practices that was evident prior to the rise of the current medical profession has returned in some measure with the increasing use of complementary and alternative medicine in the West. Their popularity with the public suggests, certainly at one level, an implicit criticism of or dissatisfaction with some aspects of traditional medicine. The roles of doctors in relation to those of other health professions has been questioned, and the boundaries are both shifting and overlapping. The increase in technology and pharmaceutical products has raised many ethical questions. The autonomy of the medical profession is increasingly being questioned, and the public may demand a greater say in decision making about their treatment, and greater choice in the kind of practitioner they want in a national health care system. It is only through considering doctors' future roles that the role of undergraduate medical education can be more clearly articulated, and the most appropriate education provided.

The various curriculum models and teaching methods I have discussed offer differing balances between the apprenticeship and academic elements of the course, and show a range of approaches to achieving the integration of theory and practice which current thinking requires. Which versions are favoured may vary between medical schools depending on the kind of doctor they wish to produce. How far do they want their students to become competent practitioners and how far to develop as scientists and researchers? Do they want individuals who can understand, critique and develop the role of their profession in society, or do they prefer doctors who won't 'rock the boat'? It may be that no single structure offers the 'best'
format for medical education. A greater variety of curricula and greater flexibility in terms of entry routes and possibly exit qualifications may be the best option. This would allow schools to offer a format best suited to their individual context and resources, and students to choose a route and school best suited to their personal circumstances and learning preferences. This may widen the base from which medicine can recruit, and lead to greater diversity, choice, and expression of individuality within health care education. Such diversity has been welcomed by the GMC which chose not to prescribe a common curriculum for medical schools in Britain. This contrasts with other countries such as the US, where the common licensing examination forces a greater similarity of approach, and the Netherlands, where there is a common blueprint to which medical schools must work.35

Whichever curriculum model or models are used, my study suggested that change may not happen unless the structure and culture of the organisation support the new goals and practices. In the following sections I will summarise the findings relating to the structure and culture at KCSM, and discuss the issues which arise from this.

Structural issues

My research at KCSM identified a range of difficulties for students and their teachers which could be attributed to structural factors, at least in part. For example, students experienced conflicting messages from different parts of the course, a lack of equity in teaching provision across firms, and difficulty in adjusting to the varying norms and values of the different disciplines, specialties and parts of the course. These problems indicated a lack of cohesion within the course, caused by factors including the major divide between the pre-clinical and clinical courses, lack of continuity in the teacher-student relationship and lack of communication between and betwixt the medical school and its teachers.

For doctors, the task of teaching was hindered by factors such as conflicting priorities, lack of resources, and poor communication with the medical school. Teaching tended to be seen as the least pressing of their tasks because it was not perceived to be rewarded (e.g. by promotion processes) or supported (e.g. by SIFT funding), in contrast to the clearer expectations of and reward related to their clinical and research work. Doctors had little knowledge of the structure of the medical course, little guidance about what they should be teaching, and little opportunity to meet and talk to other staff about their teaching. These conditions clearly impacted on the amount and quality of teaching which students received.

In Chapter 7, I traced these problems further back towards their root causes. I concluded that they stemmed from divisions in responsibility for medical education - between the different schools of the university, between the hospitals and university, and ultimately between the government Departments of Health and Education. As a consequence of the latter, the majority of funding for medical education was not under the direct control of the Department for Education, nor thus, of the medical school administration. This caused a structural problem for the medical school which thus had responsibility for medical education, but lacked direct control over the resources intended to support it.
The way in which national structures affect individual medical schools may be partly determined by local tradition, the personality of key figures in the school, and the degree of accountability demanded of the school. What was clear at KCSM was that the structures had an important influence on the work of doctors and students. This is shown in Appendix 14, where I illustrate the relationship of the six main analytical themes to each other. By examining the links between themes, it became clear that 'Teaching Structure' was the one area that could impact on all the others.

During the course of my study, I observed changes in the way in which the teaching was managed. At the start of my research, the management structures for the undergraduate course within KCSM were weak. Teaching was left largely to the departments and firms to conduct as they wished. With the introduction of the new curriculum there were many changes, including a centralisation of decision making and a major increase in management structures. In the old curriculum, the same structures had been used to manage clinical work, research and teaching. In the new curriculum they were separated, with the development of a teaching structure which cut across the existing Departmental structure. (Similarly, a new cross-departmental research structure was also being established). This separation of teaching management from that of research or clinical work made the monitoring of and accountability for teaching more visible. There were more explicit expectations about what should be taught and the consistency with which it should be taught. This was evident in the introduction of a core curriculum and the increased level of more uniform, centralised and reliable assessments.

These changes reflected those at national level where there was also increased, and increasingly separate, management and accountability for the various roles undertaken by doctors. The introduction of the RAE, QAA and GMC inspections, and clinical performance targets provided different mechanisms and routes for monitoring each element of doctors' work. They were also associated with different systems of reward, the RAE having direct financial consequences and therefore a particularly strong impact on schools. The QAA and GMC both inspected teaching, but varied in the functions they assessed and the parameters on which they did so. These mechanisms tended to put the different roles taken by doctors and academics in opposition to each other, rather than rewarding the whole enterprise.

The separation of the various functions for accountability purposes mirrored the gradual separation of 'learning' from 'work' (described previously) as the apprenticeship nature of the course started to decline. These changes were embodied at KCSM by an increasing separation between the medical school and hospital trust as a new teaching centre was built on a site next to, but separate from the hospital. They were also evident in funding arrangements which had traditionally been interdependent with a pooling of buildings and resources. These too were becoming increasingly separated, with visible battles over who should fund what. There were also divisions between hospital and academic employees, with NHS doctors expressing resentment about the perceived lack of commitment to teaching of their academic colleagues.
was not able to establish whether this gap was widening, but it seems likely that it may in
future if the two institutions continue to move further apart.

These multiple separations help to explain students' oft expressed feelings of 'being in the way'
in the hospital. In Lave and Wenger's terms they had moved from being legitimate participants
in a social system towards becoming another set of 'clients' for whom doctors had to provide a
service. The de-alignment of teaching from the clinical service meant that teaching required a
more conscious effort and organisation by doctors. The structures to support, facilitate and
reward this effort were starting to be set up, but there was still much to be done if the new
curriculum was to be fully accepted and implemented.

At the other end of the system, the basic science and clinical academic teachers were being
brought closer together. In the past, the courses were differentiated into clinical and pre-
clinical and there was a clear divide. The integration of courses, to various degrees, led to a
greater unity of purpose, despite some tension due to differences in emphasis. These changes
were also embodied with the building of the new basic sciences accommodation on one of the
clinical teaching sites and the consequent relocation of the old 'pre-clinical' teachers onto a
clinical site.

So what structures are required to support medical teaching? If all doctors in teaching hospitals
are to continue to teach, there needs to be a greater recognition of this role in many practical
ways. The motivation to teach may be largely intrinsic, but its facilitation would be greatly
enhanced by the provision of appropriate facilities and resources, most particularly the time to
learn to teach, prepare to teach, and actually deliver the teaching. Examples of changes which
could be made include ensuring greater continuity of relationship between teacher and student,
ensuring protected time and space for teaching, developing doctors' understanding of the
learning process (including the effects of stress and anxiety on learning), and rewarding
teachers to the same degree as researchers. These changes are unlikely to happen unless
fundamental structural issues are addressed. This will require action at both a national and
local level.

There have been a number of statements of partnership between the university and health
sectors, which stress the importance of collaboration. In practice however, the current
structures do not support these sentiments. A recent Nuffield Report on the relationship
between the university and NHS stated that: 'There are [...] very few incentives to align
research, education and clinical service strategies'. This is perhaps understating the point –
the separate mechanisms for accountability actually put different activities in competition with
each other. Establishing new forms of accountability which acknowledge and support the
range of functions of health care providers and medical schools, and require collaboration
between the two, would be an important step forward.

Another key area for change is the funding structure for clinical teaching. It is widely
acknowledged that the way in which SIFT currently works does not ensure the necessary
facilities and resources for teaching, nor allow the flexibility required to support curriculum change. There are changes in progress: in April 2001 the three NHS education and training levies for nurses, professions allied to medicine and undergraduate and postgraduate medics were merged under one unit in the Department of Health, and officials are working on closer integration. Such changes will impact on medical schools although whether current plans will address the issues raised in this study is not yet known.

At a more local level, medical schools could modify the criteria for staff selection and reward to incorporate teaching on an equal basis to research. This would give departments license to recruit enthusiastic and skilled teachers, and doctors license to spend time on teaching. They could introduce compulsory training for teaching, and ensure that Royal Colleges and Continuing Medical Education requirements recognise such training.

Changing the structures in such ways would have an impact on the other important area identified in my research - the culture in which medical education takes place. In the next section I focus in more depth on the culture of medicine in the clinical course at KCSM. I examine how it impacted on students, and discuss the kind of changes which will be required if the new values of the government and the GMC are to become part of the culture of teaching hospitals.

The culture of teaching and learning

In this section I will review how the culture at King's College Hospital (KCH) affected students' experiences in terms of both the process of learning, and what was learnt. In doing so, I raise questions about whether teaching hospitals are the best place for student learning, and I discuss and evaluate other options.

The culture varied across different specialties and firms, and I looked specifically at the main hospital specialties of medicine, surgery and related specialties. The cultural values and beliefs which I found amongst doctors at KCH, particularly during the early part of the study, included the following:

- the apprenticeship system as the best way to learn medicine
- medicine as a practical craft, learnt from masters and through experience
- learning as the responsibility of the student
- the need for students to take the initiative and not be 'spoon fed'
- medicine as a tough profession: not all students have 'what it takes'.
- scientific training as an important basis for medicine and for professional status
- the importance of striving for excellence and maintaining clinical standards
- loyalty to own specialty and profession, and rivalry with others.

These have all been discussed in more depth in the Findings section. From my research into the students' perspective it was clear that they often found the clinical teaching and contact with patients motivating. However there were also aspects of the hospital environment which
they found unconducive to learning. In particular, elements of the culture gave the impression that students' learning was not considered important, and that students were expected to conform rather than to develop as individuals. These elements included frequent late or cancelled teaching sessions, teaching methods which led students to feel humiliated, a perception that certain groups of students would be disadvantaged by virtue of their gender, ethnicity or other characteristics, and a lack of acknowledgement of students' previous knowledge and experience. Also, as discussed in the previous chapter, the enduring predominance of traditional 'masculine' values in the hospital provided a climate in which the scientific rather than caring aspects of the job were emphasized.

In many cases these values were reflected in, or possibly determined by, the structures (or lack of them) which I have already described. For example, the belief in the apprenticeship model was associated with a course structure and funding system which allows students to be attached to practising doctors. The emphasis on scientific knowledge was associated with the examination structure, and the need for conformity with the hierarchy and system of patronage.

There is evidence from educational research to suggest that individuals need supportive environments if they are to learn effectively. Some of the aspects of good teaching identified by Ramsden from a review of studies, such as 'Concern and respect for students', 'Clear goals', and teachers 'learning from students' were in direct contrast to some of the students' perceptions of learning at KCH. Although students cited excellent individual teachers at KCH, their comments indicated that the general climate for learning there was less conducive than in general practice or the DGHs. It was clear from the doctors that there were tensions relating to the various roles and culture of the teaching hospital. Although education was well integrated into the hospital structure, the possibilities for the new type of planned and organised undergraduate learning were constrained by other requirements. Doctors were under pressure to deliver clinically and in research, and the conflicting priorities made it difficult for them to put time into teaching. This was exacerbated by the selection and reward procedures for staff which focused primarily, and sometimes exclusively, on their research rather than their teaching record. These issues raise the question of how suitable teaching hospitals are for undergraduate education, a question to which I shall return shortly.

Examining the culture of the learning environment is important not just for how it facilitates or hinders student learning, but also for how it affects the content of the learning. This 'hidden curriculum' is what students learn when they are socialised into the norms and values of the organisation, and thus learn to fit into 'the kind of place it is'.

The traditional values at KCH were often at odds with the new values espoused by the GMC in 'Tomorrow's Doctors' and reflected in the new curriculum. The nature of teaching hospitals with their focus on disease, specialisation and secondary/tertiary care makes it difficult to facilitate the public health emphasis recommended by the GMC. Similarly the GMC's emphasis on multidisciplinary teamwork and integration between disciplines is inconsistent.
with the traditional autonomy of medicine, dominance of medical staff in decision making, and rivalry between specialties.

There is also a clash between the culturally important medical values of responsibility and clinical experience, and the externally driven need for a more formalised education. The greater accountability for education has led to an increase in formal, demonstrable teaching and assessment. These tend to focus on theoretical knowledge and practical skills which are easier to teach and assess than clinical experience and responsibility. There are attempts to find new and more valid and reliable ways of measuring clinical performance, such as through the use of video evidence or professional portfolios. At undergraduate level however, the reliance on formal examinations persists, albeit in a variety of changing formats.

Thus my study suggested that staff resistance to the new curriculum was more than just resistance to change, but was also a defence of the traditional values of the profession and the teaching hospital. The recommendations in 'Tomorrow's Doctors' were in many ways ahead of, or at least different to, the values and behaviour of many of the teaching staff. Doctors were increasingly required to teach in ways which were inconsistent with their beliefs about how aspiring doctors should learn.

If the curriculum changes are to be fully incorporated, doctors need to be convinced about their rationale so that the culture gradually changes to incorporate them. Atkinson describes the 'massive cultural inertia' in medicine which 'preserves and cherishes' many of the features of teaching which he described in his study of 1981. Changing such a culture is not something which can easily be achieved.

The effect of the teaching hospital culture on what and how students learn raises important questions for medical education: Can the learning environment be made more supportive for students, and if so, how? Can the culture be adapted to incorporate the 'new' values espoused by the GMC? I will discuss these questions below, and explore alternatives to the teaching hospital as the major site of undergraduate learning.

Where should clinical learning take place?

Could teaching hospitals be made more conducive to student learning? One development which could contribute to this would be greater education in pedagogy. The success of problem-based learning curricula elsewhere in generating greater student enjoyment and motivation suggests that training doctors to use more participatory learning methods can have benefits. I observed in Chapter 10 that doctors' lack of education about teaching (combined with their necessary preoccupation with practical and time-related issues), meant that many had little understanding or knowledge about the process of learning and teaching. If all doctors were properly prepared and educated for their teaching role, it is likely that their teaching practices would become more effective. Such education could be incorporated into SpR and SHO training as well as into firm-based education programmes and continuing medical education.
This kind of training is likely to become more widespread given the current drive to improve teaching in higher education, evident in moves such as the establishment of the Institute for Learning and Teaching. Such initiatives may take time to embed and become part of the culture, and further work needs to be done in educating doctors as to why change is necessary.

Increasing the fora for educational debate, and involving staff in change, also has educational effects. At KCSM, the introduction of numerous teaching committees and working parties made teaching a noticeably more visible activity. The frequency and level of educational debate rose as doctors discussed the issues and became more informed about education. The concept of ‘teaching skills’ also became more commonly accepted.

Greater professionalism in medical teaching is only likely to become a reality however if structural changes are introduced to support it – as discussed earlier. These would in turn have an impact on the culture of the hospital by giving teaching greater prominence and priority and thus helping to raise its status and profile.

There may, however, be limits to the extent that teaching hospitals can be changed to improve teaching. There will, for example, be a limit to how far doctors can achieve excellence in all the areas now expected: clinical work, research, teaching, and for some, management. In addition, there may be elements of the current culture in teaching hospitals which are important in supporting their other functions. For example, specialist units are thought to provide a better quality of care for patients, and the strong research focus may be necessary in order to survive in an increasingly competitive RAE funding system. It is worth questioning how compatible teaching undergraduates is with the other functions of the teaching hospital in today’s environment.

One option would be to develop separate career paths for teaching and research within the teaching hospital, as many schools in the USA have done. This may reduce the number of students that could be accommodated, but might improve the experience of those present. An alternative would be to consider whether undergraduate teaching should be moved out of the teaching hospitals altogether.

There are a range of other reasons why this might be a good idea. Even for those with an interest in and the ability to teach, it is questionable whether teaching undergraduates is the most appropriate use of their talents. Doctors at KCSM often made the argument that students should be taught by those at the cutting edge in order to motivate and inspire them. This is rarely the case in other fields, for example top sportsmen or musicians rarely teach beginners, but give master classes to those aspiring to high levels, and provide concerts or matches to which all have access. Teaching undergraduates well is time consuming, and many specialists find it difficult to teach at an appropriate level for undergraduates. Their expertise may be better employed to guide those further on in their careers, whilst offering occasional open lectures to ‘inspire the masses’.
There would be advantages to using DGI-Is and the community far more for undergraduate teaching, and leaving the teaching hospitals primarily for postgraduate education. The practical and philosophical reasons for such a move (in terms of the shifting patterns of care and the need for a more community oriented curriculum) have been well rehearsed elsewhere. What has been considered less is how the structure and culture of these health care providers might facilitate a more effective learning experience for students. I will review briefly the practical reasons for such a move, and then explore in more detail the structural and cultural issues.

At a practical level, the patients which students see in teaching hospitals are unrepresentative of the patient population and lead to students learning skills and knowledge which may be of little use later on. Fifty per cent of students will become general practitioners, and yet general practice learning occupies only a small part of the curriculum in most medical schools. The vast majority of the remaining students will work in district general hospitals, yet even in the new curriculum at KCSM, approximately 50% of students' time was based in teaching hospitals, and most of the rest in the basic science faculty. The specialist nature of the patients and staff with whom the students have most contact exacerbate the problem of the increasing knowledge base of medicine: specialists naturally believe their subject is important and merits more space in the curriculum. Thus a core curriculum designed by specialists will tend to be more inclusive and overcrowded than one produced by generalists. Moreover, the reduced number of beds in teaching hospitals, and trends for early discharge, have reduced the number of patients available and limited the stages of diagnosis and management which can be observed for learning.

The structure and culture of DGHs, general practices and other community health care facilities gives them certain advantages as sites for learning. KCSM students invariably commented on how friendly the staff were in these environments which they found more welcoming and less hierarchical. Such an atmosphere should help students to feel valued. At KCH, students experienced a need to conform, which did not acknowledge their individuality. This is typical of an apprenticeship where the emphasis is on socialising newcomers into existing patterns rather than exploring new possibilities. Allowing students to develop in accordance with their individual strengths and personalities will require a greater openness to new ideas, and the ability to listen to and learn from students and young doctors. Such attributes are more likely to occur in flatter, less hierarchical organisations where teamwork is valued more than competition.

In terms of the hidden curriculum, students should gain, particularly in general practice, from doctors' engagement with local community health issues. When in general practice, students tend to learn more about patient-centred approaches, communication skills and the importance of social and psychological factors in health and disease - all in line with the GMC's recommendations. If these values were, as might be expected, also applied to student learning, general practice might offer not only a more rounded and patient-centred view of health and
disease but also a more supportive and empowering education. It already has a more professional approach to teaching than other specialties, since there is a formal system of training and accrediting GPs and their practices for supervising postgraduate trainees.

In terms of structural issues, there are also some obvious advantages to teaching in DGHs and general practices. For sites new to teaching it should be possible to ensure that SIFT is used to support teaching directly rather than being part of a general service budget. This has happened in some of the new DGHs used in year 5 at GKT,53 and greater accountability for SIFT in terms of the quantity and quality of teaching has been negotiated for the new medical school in East Anglia.54 Such factors should help to ensure that doctors are properly supported by giving them the time and resources to teach well.

The large number of possible DGH and general practice sites would allow students to be more widely dispersed and access a much wider and more representative pool of patients. This would reduce the patient: student ratio, and increase the teacher: student ratio. In addition, the greater number of generalists at DGHs would make longer student attachments more feasible. This would provide greater continuity in the teacher-student and student-patient relationship. These factors would facilitate a more individually tailored education which should bring benefits in terms of student learning and teacher and patient satisfaction.

Against these advantages would have to be balanced possible concerns in terms of overall cost, fragmentation of the student body, potential loss of academic rigour, and difficulties in quality assurance. The cost of teaching in general practice is likely to be no less than in hospital.59 Oswald found that in his community based course, a greater proportion of SIFT was used for student placement costs (such as teaching time) rather than for facilities.56 There would be greater costs involved in training, monitoring and quality assurance since a greater number of sites and teachers would be used. The main cost issue may be in terms of student travel which at KCSM has been a long running complaint by student representatives. The difficulty of maintaining effective communication and a consistent education across a large number of sites should also not be underestimated. This would require greater investment in information technology, administration and management to ensure communication between doctors, students and the medical school. There would also need to be systems to ensure that academic standards were maintained by staff who may be less well qualified, and less up to date with current research in their field, than those in teaching hospitals. Possible strategies might include careful staff selection, particularly for tutorial and assessment roles, targeted training, and provision of large group, specialist teaching interventions. It is also worth acknowledging that teaching itself can be an effective way of improving academic standards by motivating doctors to develop their own knowledge and skills.57

Perhaps a more profound problem in achieving a move out of the teaching hospitals is that it may challenge the values of the medical profession and threaten the power of the most powerful too much to be a realistic proposition. Nevertheless there is much to commend it as an approach which would tackle some of the problems of the current system.
Whatever the site used, there is a need to create an environment in which students feel valued and respected, and in which they can be suitably supported in their learning. It is likely that the physical and emotional welfare of students and young doctors will only be accorded a higher priority when the needs of their teachers are also addressed. The stress and emotional distress found amongst doctors and students\textsuperscript{58,59} can only be detrimental to their teaching and learning, not to mention patient care. A system which modelled a process of caring for those who teach could reap benefits not only in the quality of doctors' relationships with students, but also in those with other health care staff and patients.

**Conclusion**

This study has provided evidence of the impact which inappropriate structures (for funding, management etc) and a relatively static and unchallenged culture can have on the workings of a school. Many of the difficulties encountered by students and doctors at KCSM were caused by a curriculum that was not supported by the structure and culture in which it operated.

The fact that all the changes in the new curriculum at KCSM happened with little or no change in the major structural discontinuities suggests that there may be difficulties in maintaining them in the long term. If medical schools do not, for example, have proper control over the funding purported to resource their work, they cannot ensure that it is allocated to facilitate the changes they wish.

These are more fundamental issues than simply reforming content or method. Bloom describes the myriad attempts to change medical curricula over the years as 'reform without change'.\textsuperscript{60} This may be largely due to the fact that efforts at curriculum reform have not been supported throughout the organisation. If there is to be genuine change, the structural and cultural issues have to be addressed.

Hafferty emphasizes the need to focus on the learning environment and medical staff rather than on curricula.\textsuperscript{61} At KCSM, the increased level of knowledge about, and interest in, education may help to ensure some enduring change. However much may depend on whether the new accountability for teaching is maintained and developed, or whether it is a short term phase that, once gone, will allow medical education to drift back into comfortable old ways.

The complexity of trying to provide the kind of education required in the current climate in structures primarily designed to provide a clinical service has not been sufficiently addressed. The size, range and diversity of the various organisations and teachers involved, the disparate management systems, different geographical locations, varying backgrounds and cultures of the main teacher groups, and short term attachments of students and junior doctors, make the task of producing a coherent and consistent education enormously demanding. The structures for resourcing, monitoring and rewarding activity will need to be designed with this in mind if they are to have a positive impact on what happens in practice.
In conclusion, the study illustrates how forcing schools to evolve or revolutionise curricula is only part of the process needed to bring about real change. Having clarified the aims and goals of medical education, it is then essential to ensure that the structure and culture of the institutions charged with delivering the curricula support these aims. It demonstrates the need for policy makers, funders, and regulatory bodies to work collaboratively, reach consensus about their goals and how these can best be supported, and to monitor the effect of their decisions in practice. Without such efforts at every level in the system, it seems likely that Bloom's 'reform without change' will continue.

Evaluation of the study and its implications

In my literature review I identified five areas of insufficient coverage of medical education. These were studies: based on British schools; exploring the whole school; taking account of the current diverse student population; exploring the relationship between government, state and medical education; and examining the impact of new approaches to medical education.

I have provided an account of a traditional British medical school during a period of change and development. The study is distinctive in its breadth, incorporating the perspectives of different players within the school, and encompassing structural, cultural and educational issues. Its longitudinal nature also provides unique insights into trends and processes of change within a school.

In the study I have identified and explored the differing perspectives and expectations of students and doctors. I have shown how their previous experience and cultural values led them to hold differing conceptions and models of education. This explained various tensions and conflicts evident in their relationship and in their acceptance or rejection of the changes introduced in the new curriculum. At the same time, the nature of the course and the balance between the apprenticeship and academic models was shifting, challenging deep rooted traditions and opening up new areas for debate.

I have not found other medical studies which have explored the differing conceptions of the nature and purpose of medical education between students and doctors in any depth. The sociological studies of medical schools have tended to focus more on social relations, and less on an educational perspective. My focus was obviously affected by my history as a school teacher which gave me a different perspective from which to approach the study.

The study thus shed new light on the difficulties of transition that students experience in moving from the pre-clinical to the clinical course. Existing studies of apprenticeships have often focused on trades for which apprentices do not already need academic qualifications. Some have been in developing countries where there was little formal education. They have therefore had little to say about the process of adaptation required by apprentices coming from a formal educational system. It is clear from my study that switching from one model to another was difficult for students as relationships between teacher and learner, and expectations about teaching and learning had to be re-worked. Strategies to ease the transition were not in
evidence but would be helpful for students. These could include educating doctors to understand the difficulties faced by students, and practical measures such as induction courses to provide a more gradual and explicit transition into clinical life.

The study has illuminated how the Flexnerian theory-practice divide is being reworked within one school. It shows how the traditional apprenticeship system is being modified to cope with the changing nature of hospital work and increased educational accountability, and highlights the gains and losses inherent in such a shift.

I have shown how the structure and organisation at departmental, school and government level impact on the everyday work of doctors and students and serve to dictate and constrain change. I have described how this environment gives clear messages about organisational values which may be contrary to the espoused values uttered in policy documents or advocated by professional bodies. The resource allocation, decision making, reward system and other structures send messages about the value placed on undergraduate teaching and learning, which were picked up and acted upon by doctors and students.

I have shown how the new curriculum implied a change in some of these values which were institutionalised in particular structures and practices at KCSM. I have also shown how curricular change has implications for the power relations within a school, and highlighted the extent to which any changes are limited by the norms and values of medical culture. Change may be imposed but the delivery of education will take place within a social and emotional climate dictated by strong traditions. I have suggested that these traditions are strongly influenced by the male domination of medicine which has resulted in the prizing of particular values and the devaluing of others. This sets a particular culture into which students are gradually but differentially socialised. The extent to which students already share these values affects their feeling of inclusion or exclusion on the course, and their expectations of their future medical careers.

I have suggested that part of the medical habitus is a focus on instrumentality rather than personal development, which may make the educational and early work experiences uncomfortable for students and junior doctors. I have shown how the use of intimidation in teaching is justified by doctors in terms of maintaining high standards of patient care, whilst suggesting that it functions primarily as a rite of passage, a form of emotional socialisation and a way of demonstrating students' acceptance of the hierarchy, rather than as an educational tool.

I have also suggested that the cultural norms vary considerably between medical specialties, and that teaching practices and beliefs may be related to conceptions of health and illness, and favoured research paradigms.

Overall, this study has shown how the micro- and macro- climate within which students and doctors work affect their experiences and behaviour. This is an important message in a culture
in which there tends to be an overriding belief in individual agency, which may lead to neglecting the social and emotional environment in which students are educated. Finally I have considered the implications of these findings for other schools, and discussed ways in which the system might be improved.

**Limitations of the study**

Clearly breadth is bought at the expense of some depth. In attempting to look at the whole clinical course, and at the perspectives of both doctors and students, a huge range of issues arose, many of which it was not possible to explore in depth. I narrowed the field and developed the focus as I proceeded. I focused primarily on a particular stage of the students' course and thus gained little information on how students developed during the entirety of the course. I spent only limited time with doctors from a small number of specialties and therefore missed much of the breadth and complexity of medical practice to which students are exposed. I explored the perspectives of doctors and students, but not those of other groups involved in or affected by medical education, for example nurses or patients who could have provided further insights. Despite this, a large number of issues were covered, and the breadth of the study was in many ways a frustration as it could have been more satisfying to have studied a single issue in more exhaustive detail.

Consequently there are many themes which would benefit from more detailed research in order to confirm, deny or elaborate them. In particular, the implications of the diversification of the student body have been under-researched and further insights in this area could have important implications for policy and practice. The similarities and differences in values between specialties is another area which merit further research, and in particular the relationship between ontological, epistemological and teaching approaches. There is also scope to explore whether there are similar correlations between the approaches and relationships which doctors have with their students, and with their patients. Do doctors essentially have a manner and an attitude towards other individuals regardless of whether they are patients or students? Or is their attitude and behaviour determined by their relationship to one or other group? Would changes in teaching practice, e.g. the introduction of problem-based learning, lead to different attitudes towards patients? These are all areas which merit further research, and my findings and conclusions in these areas have to be considered provisional at this stage.

**Generalisability**

Any claims to generalisability from case studies must necessarily be in the form of hypotheses to be tested. KCSM is clearly a unique organisation, with contextual factors which distinguish it from other schools, whilst also having aspects in common with other schools. As a 'traditional school', for example, it has similarities to other long-established schools, such as its emphasis on research and the relatively recent move away from a strict pre-clinical/clinical divide. Within London, several other such schools introduced new curricula and underwent mergers at a similar time, and staff there may recognise some of the processes described in this study.
Some of the themes I have identified may also have resonance elsewhere. The tension between the apprenticeship and university models of education is one that I believe will be applicable to other schools. The manner in which it is played out and addressed will vary from school to school, but there are likely to be common issues within Britain at least, given the similar pressures from government and the GMC. Some schools have chosen to embrace problem-based learning as the main educational method, and thus espouse a different philosophy from those staying with more traditional teaching and learning methods. An ethnographic study of such schools would provide a fascinating contrast to this study, and could provide evidence of how such a philosophy affects some of the issues raised here.

There may be ways in which the analysis has meaning for, or applies in certain aspects, to other schools. From presentations of my findings at conferences, it is clear that doctors and students from other medical schools have recognised and identified with some of my findings. For example, students from other schools have given me their own examples of the experience of intimidation or the effect of gender or ethnicity on their career ambitions and aspirations.

The introduction of the new medical schools in Britain will also serve as a testing group for some of my contentions about the influence which structural elements have on curriculum implementation. It will be interesting to see whether the structures introduced within new schools can be designed to, and have a positive impact on the work of students and doctors, or whether national constraints will over-ride the potential for local arrangements.

Final note

Carrying out the study has been a personal journey for me. I started with a particular set of beliefs and experiences of education which made it difficult for me to understand many of the customs at KCSM. As I progressed I started to understand and appreciate many of the traditions of medical education. I only fully realised how important my background was to my interpretation and selection of themes when I read Sinclair's 'Making Doctors'. His study was the most similar to mine, being a recent British study, not published until half way through my research. When I read the sub-title 'An institutional apprenticeship', I was concerned that he might have pre-empted my research. When I read the book however it became transparent how his background, interests and personal characteristics had led to a different kind of study to my own. It demonstrated how individuals can research the same area, observe many similar patterns, but contribute in different ways to analysis and theory building.

I hope that this study has succeeded in raising questions about the roles of doctors in teaching, the needs of students and the issues and implications of the current changes to British medical curricula. The effectiveness of medical education is important, and we all have a stake in ensuring that medical students receive the best possible education to equip them for their chosen profession. This study has aimed to illuminate the changing world of medical education and to describe it in a way that is accessible to the lay reader. I believe that medical education should be a subject for debate outside the profession itself, and hope that this study may contribute to that end.
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Appendix 1. Data Collection

This appendix contains detailed records of my main sources of evidence, rationale for selection of data and data collection methods. I cover observations, interviews, focus groups and document collection.

Observations

I had contact with a range of teachers and students in the course of my work, and I drew heavily on this 'everyday' involvement. These participant observations, together with non-participant observations, are summarised in Tables 9-12 and will be described in more detail below. I describe first the various sources of information, and then outline my data collection strategy.

Teaching and assessment episodes (Table 11)

- I set up and taught on two special study modules for year 2 and 3 students, and supervised two student SSM research projects.
- I organised a course and acted as a seminar leader for year 1 students
- I organised and taught on workshops for year 5 students.
- I undertook various other one-off lecturing and teaching/facilitating tasks.
- I was an examiner in the end of year 2, 3 and 4 clinical assessments (OSCEs)
- I organised a surgical firm for 4 years.
- I observed teaching sessions for the purpose of evaluating courses or feeding back to individuals on their teaching.
- I arranged supplementary non-participant observations of teaching and assessment.
- I arranged shadowing opportunities where I spent 1-2 days with doctors in order to get a better understanding of their normal working lives.

Selection of observations

The latter two categories of observations above were arranged to supplement the opportunistic data I was obtaining. I selected teaching observations and shadowing opportunities in areas to which I did not have access in the normal course of my work, or which I felt were under represented in my research as a whole. I focused specifically on clinical teaching, lectures and non-clinical assessments, and included postgraduate teaching events. I included both male and female doctors, a range of sub-specialities and different student year groups. I have included shadowing under the heading of teaching events as there seemed to be an educational element throughout doctors' work.
Table 11. Teaching and assessments observed

<table>
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<tr>
<th>Events</th>
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<th>Participants</th>
<th>No. of participants</th>
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<td>Outpatients</td>
<td>Observer</td>
<td>1-7</td>
<td>4</td>
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<td>Ward rounds/ward teaching</td>
<td>Observer</td>
<td>4-8</td>
<td>5</td>
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<td>Operating theatre</td>
<td>Observer</td>
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<td>1</td>
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<td>*Doctors' working days</td>
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<td>6</td>
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<td></td>
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</tr>
<tr>
<td>Undergraduate clinical skills assessment sessions (OSCEs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of Year</td>
<td>Assessor</td>
<td>Year 3</td>
<td>120</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year 4</td>
<td>120</td>
<td>2</td>
</tr>
<tr>
<td>Surgical Firm</td>
<td>Organiser</td>
<td>Year 3</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Communication skills</td>
<td>Assessor</td>
<td>Year 2</td>
<td>120</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>General practice firm</td>
<td>Observer</td>
<td>Year 3</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Other undergraduate assessments</td>
<td></td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Poster presentations</td>
<td>Observer</td>
<td>Year 3</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Oral presentations</td>
<td>Assessor</td>
<td>Year 1</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year 2</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year 3</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

+The clinical sessions invariably had an educative as well as clinical function. I have included them here rather than under specific undergraduate or postgraduate teaching events, as they often combined these functions.

*During the course of shadowing, I sometimes observed formal educational events. These are included separately in the relevant tables.
Evaluation and other student related activity (Table 12)

On the various courses I organised (described above) I was responsible for:
• collecting informal feedback on progress
• conducting formal evaluations involving both teachers and students.

This involved individual and group meetings, phone calls, e-mail and postal correspondence, questionnaires, and informal discussions.

I was involved in specific evaluation activities as requested by committees or course organisers:
• I had particular involvement with one year 3 surgical firm in a partly organisational/partly evaluative role. I met successive groups of students approximately 3 times each, averaging about once every 3 weeks over a 4 year period.
• I conducted focus group evaluations of the new curriculum for the Practice of Medicine course in years 1 and 2, Cardiovascular-respiratory, Gastro-intestinal-renal, and Psychiatry-Neurology firms in year 3, and the Child Health, Development and Ageing course in year 4. Further details of these will be given under the section on focus groups below.
• I was an academic tutor for a group of four students during their clinical course. This involved meeting them periodically, either individually or as a group, and discussing personal, academic or career issues as appropriate.
• I took part in a couple of selection interviews.

Table 12. Evaluation and other student related activity

<table>
<thead>
<tr>
<th>Events</th>
<th>My 'official' role</th>
<th>Participants</th>
<th>No. of participants</th>
<th>No. of occasions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate student activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical firms briefing</td>
<td>Organiser/facilitator</td>
<td>Year 3</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>Student support</td>
<td>Personal tutor</td>
<td>Year 3-5 students</td>
<td>1-4</td>
<td>10</td>
</tr>
<tr>
<td>Selection interviews</td>
<td>Interview panel member</td>
<td>Staff, prospective students</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Student information desk at registry</td>
<td>Observer</td>
<td>Registry staff and students</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Evaluation/review sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of surgical firm review</td>
<td>Organiser/facilitator</td>
<td>Year 3 students</td>
<td>7</td>
<td>40</td>
</tr>
<tr>
<td>Year 3 introductory course evaluation</td>
<td>Organiser/facilitator</td>
<td>Year 3 students</td>
<td>120</td>
<td>1</td>
</tr>
<tr>
<td>End of rotation (i.e. parallel firms) evaluation</td>
<td>Focus group facilitator Plenary facilitator</td>
<td>Year 3 students</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year 4 students</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>General practice programme evaluation</td>
<td>Focus group facilitator</td>
<td>Year 1 students</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year 2 students</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>End of year 3 firms review</td>
<td>Participant observer</td>
<td>Year 3</td>
<td>3-12</td>
<td>2</td>
</tr>
</tbody>
</table>
Teacher training and briefing activities (Table 13)

I organised and taught on courses which aimed to increase medical teachers' skills and understanding of various aspects of teaching and assessment. They were always interactive, encouraging discussion and practical application and therefore provided information about doctors' teaching contexts, practices and philosophies.

Table 13. Teacher training and briefing activities observed

<table>
<thead>
<tr>
<th>Events</th>
<th>My 'official' role</th>
<th>Participants</th>
<th>No. of participants</th>
<th>No. of occasions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher training sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-schools 2 day teaching course</td>
<td>Teacher</td>
<td>Doctors from 3 medical schools including KCSM</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>Dental 1 day teaching courses</td>
<td>Teacher</td>
<td>Dental teachers (included as comparison)</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Multi-specialty 1/2 or 1 day teaching courses on various topics</td>
<td>Teacher</td>
<td>Teachers</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Specialty based teaching sessions (continuing medical education)</td>
<td>Observer Speaker/ tutor</td>
<td>Teachers</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>Briefing &amp; evaluation sessions for undergraduate teaching staff</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Practice of medicine module</td>
<td>Course organiser</td>
<td>Year 1 teachers</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>House officer preparation course</td>
<td>Course organiser</td>
<td>Year 5 teachers</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Surgical firms</td>
<td>Course organiser</td>
<td>Year 3 teachers</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

Medical School Meetings (Table 14)

I had access to a number of relevant committees, primarily the year curriculum committees. The main ones I attended were those for the clinical years. Year 3 and 4 committees were held monthly at 8.00 or 8.30 am on a Friday morning and usually lasted for about 1 1/2 hours. Membership comprised heads or nominated representatives of teaching from specialties taught within the year, the Dean and relevant Sub-Deans, members of the secretariat, one or more educationalists and three student representatives from the year group. Attendance varied from about 10-25 people.

Other meetings I attended included sub-committees of curriculum committees, and the Medical School Board meetings, open to all academic staff as a forum for discussion and information dissemination.
Table 14. Medical school meetings attended.

<table>
<thead>
<tr>
<th>Events</th>
<th>My 'official' role</th>
<th>Data source</th>
<th>Average no. of participants</th>
<th>Approx. number of occasions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum committees</td>
<td>Education representative/advisor</td>
<td>Staff and students</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Year ½</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3-5 (disbanded)</td>
<td></td>
<td>Staff and students</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Year 3</td>
<td></td>
<td>Staff and students</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Year 4</td>
<td></td>
<td>Staff and students</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Year 5</td>
<td></td>
<td>Staff and students</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Year 3 sub-groups</td>
<td>Staff only</td>
<td>Staff and students</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Year 4 Sub-groups</td>
<td>Staff only</td>
<td>Staff only</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Year 5 sub-groups</td>
<td>Staff only</td>
<td>Staff only</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>SSM committee</td>
<td>Staff and students</td>
<td>Staff only</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>SSM exam board</td>
<td>Staff only</td>
<td>Staff only</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Overall Education Committee</td>
<td>Staff only</td>
<td>Staff only</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Equal Opportunities Committee</td>
<td>Member</td>
<td>Staff</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Faculty/School Board meetings</td>
<td>Member</td>
<td>Staff</td>
<td>15-60</td>
<td>4</td>
</tr>
<tr>
<td>Regional Postgraduate Meetings</td>
<td>Observer</td>
<td>Staff and postgraduate doctors</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

Data collection strategy

I used a pragmatic approach to data collection, which varied according to the nature of the data, my role at the time and the time available.

Teaching and assessment events: During the event I collected relevant paperwork such as timetables, and kept business notes (e.g. on students' queries/problems). In some cases (e.g. the teaching observations) I took extensive field notes which were later transcribed. In others I took short notes or wrote up general impressions after the event.

Evaluation events: I invariably produced written reports of my evaluation activities for the use of course organisers or relevant committee, and these doubled as research data. In the more informal evaluations I kept hand-written notes. The focus groups were more formal. All were tape recorded and were either transcribed, or analysed whilst listening to the tape. In two cases, a parallel focus group was undertaken by a colleague and the colleague analysed and summarised both focus groups for work purposes. These provided an opportunity to compare my interpretation with that of a colleague.
Meetings: I kept agendas and minutes of the meetings and any associated papers or reports. Agendas usually comprised updates on current problems or issues, curriculum planning issues and reports from sub-groups, assessment planning and student issues. In addition, I took varying levels of field notes depending on the time available during the meeting, my input into the meeting and the type of issues which arose. In some meetings, I attempted to take down all the points that were made as well as procedural issues, in order to avoid bias in selection. In others I noted only points which seemed to confirm, modify or negate emerging themes in my analysis.

Informal data collection

I had many individual meetings with staff about particular issues/courses. In particular I met often and informally with the chairs of the years 3, 4 and 5 committees and with the principal administrator for the undergraduate course. I also met informally/unarranged, e.g. in the canteen/corridor, with both staff and students. The staff I tended to know best were those most involved in the curriculum development who tended to be senior consultants. The students I knew best were those who had undertaken courses which I taught or organised, and the student representatives on committees. I kept field notes of some of these encounters, and they contributed to my overall knowledge of the school.

In-depth interviews

I decided to use face to face interviews to try to get more insight into doctors' and students' experiences and perceptions of medical education, and to check out ideas that were emerging from my analysis. The interview situation allows a more in depth discussion with individuals to explore areas which may not be accessible through observations, such as individual's motives or feelings. In all I interviewed 41 people, comprising 22 doctors, 18 students and 1 non-medical staff member. Below I describe my rationale for selection of interviewees, the interview process, and issues which arose from the interviews.

Selection of interviewees

I used a purposive sample of interviewees to ensure representation of a number of demographic and other factors, which are presented in Tables 15 and 16. In the ethnic origin category I used a broad classification into White, Asian, Chinese, Black. If I were doing a different kind of study I might have asked interviewees to self-define, which would no doubt have produced a much longer list. In the medical school however it seemed to be appearances that counted. Thus I used broad categories which had meaning in the context of the school and were, for example, used by staff to describe certain groups of students. The Asian category includes individuals whose families originate mainly from India, Pakistan or the Middle East, and some African Asians. The Chinese category includes individuals of Chinese descent originating from South East and East Asian countries, particularly Hong Kong and Singapore.
I attempted to achieve an approximate representation of the demographics of students and doctors within the school. Thus the strong over representation of white men amongst doctors reflected reality, particularly amongst the more senior doctors who formed the bulk of my sample. This was not the case amongst students who were a much more diverse group, again reflected in my sample.

I cross tabulated the demographics to inform my data collection. However, since there are, for example, very small numbers of female or ethnic minority doctors in certain specialties, these data could lead to identification of some interviewees. I am therefore presenting only a broad categorisation of the attributes in order to ensure anonymity for the doctors and students involved.

I will now describe the other attributes which informed my choice of interviewees.

**Doctors:** I started with people who I knew to be interested in teaching but with whom I had not had a close working relationship. I thought these people would have the knowledge and experience which would help me to build up a picture of medical teaching. Later I ensured that I included doctors who had less involvement or were known to have less interest in teaching to try to get a balanced view. I did not interview doctors who had major responsibility for developing the new curriculum because I already had plenty of contact with them through my everyday work, and I wanted to get access to the 'rank and file'. However some of the doctors that I interviewed early in my study, had, by the end of it, taken on positions of major responsibility for teaching within the school.

I included doctors from a range of specialties, which I classified into four broad categories (see Table 15). I included more from surgery than from medicine because I had more everyday contact with surgeons than with physicians. Within these, I interviewed doctors from a range of sub-specialties (for example the medicine category included sub-specialties such as renal, thoracic, cardiac, and diabetes medicine.

I included doctors employed by the medical school and by the NHS. I included doctors at different stages of their career, but weighted towards senior doctors. This was partly because I felt that senior staff would have more influence over, and therefore reveal more about the culture of the school, and partly for pragmatic reasons as it was difficult to get time with junior doctors.
Students: I initially selected interviewees that I knew, whom I felt would have something interesting to say. Later I selected students to sample a range of different characteristics: those who had and had not done a BSc, mature and school leaving entrants, and students with differing academic records. Eight of the interviews were carried out as part of a separate but related project to explore whether and how students could use their basic science teaching during their early clinical firms.

Interview process
I wrote to interviewees asking them to take part and explaining what my study was about. I then rang them about a week later in order to secure their agreement and arrange the interview. I was unable to contact some of the interviewees because the medical school student records were sometimes out of date, and some doctors had left. Of those that I could contact however, none declined to be interviewed. I invited interviewees to select where they would like to be interviewed in order that they felt at ease. Most doctors chose their own offices. A few who did not have, or shared offices, chose to come to mine. Most students also came to my office, one chose to be interviewed at home.
Table 16. Data re students interviewed (n= 19)

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>No. of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>9</td>
</tr>
<tr>
<td>Ethnic origin</td>
<td>White</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Chinese</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>1</td>
</tr>
<tr>
<td>BSc</td>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>Maturity</td>
<td>School leavers +/- gap year +/- BSc</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Mature students (started course 2+ years since leaving school)</td>
<td>6</td>
</tr>
<tr>
<td>Year of course at time of interview</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3 (1st clinical)</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Previous acquaintance</td>
<td>Yes</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Slight</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>12</td>
</tr>
</tbody>
</table>

The interviews lasted between 30 and 90 minutes. I tape recorded all the interviews, which for later transcription and analysis.

I tried to make the interviews as non-threatening as possible in order to encourage interviewees to open up. I asked questions that were open ended and did not suggest a particular stance on my part. I tried to accept all answers in a non-judgmental way, although this was sometimes difficult! Sometimes I would put counter arguments in terms of 'Some people say .......... How would you respond?' in order to explore particular views in more depth.

With the doctors I attempted to portray myself as a fellow professional engaged in research. One thing I noticed was that they did not seem very interested in why I wanted to interview them. I always started my interviews by explaining a bit about the study, but doctors often indicated that I should skip the details, and later on I tended to keep this very brief. Often at the end of the interview, doctors would express more interest, and ask what other doctors had said. They seemed to want reassurance that they were not alone in their views.

With students, I attempted to establish an informal atmosphere in the interview which I hoped would lead to greater openness. I dressed informally, offered the students coffee, and used a small interview room with comfortable chairs. My previous experience with students had led me to consider them as being relatively powerless. I felt that they were often given a raw deal in their course and expected to put up with it. As someone who tends to identify with the underdog rather than the powerful, I was, and probably came across as interested in their views.
and problems. (This was commented on by students in one of the focus groups I ran). Certainly none of the students seemed reticent to talk.

**Interview content**

With doctors, I usually started the interviews by asking about their current involvement in teaching. This usually raised issues to be followed up, and the remainder of the interview was a combination of probes and of open questions about areas of interest. Appendix 2 gives my interview schedules for doctors and students. These were used as a prompt rather than a strict agenda. In later interviews I sometimes asked specifically about issues that had arisen from my analysis, which I wished to check out.

With students I usually started by asking them about their current firm, and how they were finding it. I would then broaden it to ask them about other firms they had been on and a range of other issues (Appendix 2). I also asked questions on areas which had come up as important in an analysis of students' course evaluations I had undertaken.1 In later interviews I asked more specifically about themes that had arisen from the earlier data, such as their views towards clerking patients independently.

I wished to explore issues of race and gender with interviewees, but this was clearly sensitive. Doctors sometimes mentioned such issues in passing and I attempted to pick up on them. Students rarely brought them up unless specifically asked, but when asked, appeared not to mind talking about them. I always left the decision about whether to raise these issues towards the end of an interview when I felt I had established rapport, and only did so if I judged that it would not compromise the interviewee's comfort. I raised them more often with people whom I already knew, and usually did so indirectly rather than directly. Since these are issues not normally discussed in the medical school I judged that mentioning them indicated to individuals that these subjects were not 'off limits'.

**Focus Groups**

I undertook nine focus groups in relation to evaluation activities as part of my role in the medical school (Table 12). For all but one of these groups, selection was by asking each firm or seminar group of students to select a representative.

In addition I carried out a focus group for research purposes with seven year 3 students who were in one of the firms that I had got to know. This was specifically to explore issues related to race and gender. This produced some very useful insights, which are explored in Chapter 9.

Each group contained both male and female students, and students of different ethnic backgrounds.
With three of the focus groups - the year 3 ones, I e-mailed my provisional report to the whole group of students from which the focus group had been selected. I asked them to indicate their agreement or disagreement with each aspect of the report, and to give additional comments. I found that the comments from other students resulted in only minor modifications to the report. This suggested to me that focus groups were a good way of ascertaining the general student viewpoint.

**Documentation**

I collected relevant documentation throughout the research. Much of this related to the activities I have described above, such as committee papers, students' written evaluations of courses, medical school reports, etc. In addition I kept letters to academic staff from the medical school management and some student produced material such as an occasional satirical magazine and an informal briefing paper which students prepared for new clinical students.

I used this documentation as a secondary source of information, drawing selectively from it to assist in the development of my main analytic themes. For example, when an issue was raised by students I might check student evaluations or committee minutes to see if it had also been raised there. In some cases I analysed particular documents in more detail, for example the students evaluation forms.

**Literature**

Literature from a number of different fields has been drawn upon as the study has progressed. Initially I built up a large database of articles on medical education which served a dual purpose: as a source for my research, but also as a resource for the medical education unit within which I worked and for use in other academic work in which I was involved. The articles focused on a number of areas of interest, specifically the development of community based medical education, and other educational responses to changes in health care delivery; medical teacher education and development; equal opportunity issues and research into student learning methods.

As research progressed the limitations of current research in medical education became more apparent to me, and I started to read more extensively around general educational research. Other areas on which I focused my reading were qualitative research methodology, research ethics, and sociological studies related to health care and education.

**References**

Appendix 2. Interview Schedules

NB. These were used as a rough guide to the kinds of areas to be covered. The sequence and coverage of the questions varied according to the initial answers of the interviewees.

Schedule for doctors’ interviews

Current teaching
What sorts of teaching are you involved in at the moment?
How do you find it?
How do you go about it?
What’s a typical week like for you?

Changes in medical education
How do you think medical education has changed since you were at medical school?
How have students changed?
How do you see medical education changing in the future?

Training (for junior doctors only)
What does your own training involve?
How do you find it?
What has helped you to learn most?

Expectations
Can you tell me about a time when a student acted in a way which you thought was unacceptable?
What happened?
What expectations do you have of the students?
What do you think the students’ expectations are of you as a teacher?

Teaching and Learning
What do you think is the most relevant thing that you teach the students?
What do you think about the students’ level of ability?
How do you think students learn best?
How did you learn to teach?

Assessment
Are you involved in any assessments?
What do you think of them?
Curriculum

Have you had any involvement in the new curriculum?
What have you heard about it?
What do you think of the plans?
What do you think about integration between the science and clinical aspects of the course?
What do you think about problem based learning?

Medical school

What sort of image do you think the medical school has?
Do you feel part of the medical school?
Is teaching talked about in your department?
Schedule for students' interviews

What firm are you doing now?
Can you describe what happened at the beginning of the firm. How did you first hear about it and what happened on the first day or two? What did the firm expect from you?

How did the pre-clinical course relate to what you're doing now?
Did you do a BSc? What made you decide to do/not to do one?

What other firms have you done? How have you found them?
What have you done that has seemed particularly relevant?

Has your attitude to medicine changed since you've been here?

Can you think of two firms you've done which have been very different? How did they differ?
What was the best firm you've done? Why was it so good?
What firms have got good reputations?

How do you think you learn best? What helps most? What is unhelpful?

What sort of experiences have you had clerking patients? What do you see as the purpose?
What do you think you can learn from clerking patients?
How do patients react to you?

What is your relationship with the firm doctors like? How do you think this differs from the other relationships you've had with teachers, for example in the pre-clinical course or at school? Is it the same with all doctors here, or does it vary? How?

What sort of person do you think makes a really successful medical student? Are there any students that you think will go far in medicine? Why?

Do you think being older gives you a different attitude to studying? (mature students only)

Have you got any thoughts about what specialty you'd like to go into?
Appendix 3. Sample Coding of Interview Transcription

NB. The programme I used does not show the codings on the screen - these are accessed as a separate function. I have therefore copied the transcription and transferred the coding onto it.

Transcription extract

Mary: So, I want to ask you to sort of think back about the first year you had here and how you found that.

Student: I found it quite a big jump from pre-clinical. I didn't really feel that well prepared for it, after two years which wasn't really, didn't seem all that relevant to [...] medicine. You had no patient contact before that September and you suddenly arrived at the hospital to see patients. But we did have an introductory course into it that's quite useful. I suppose the things I found most difficult was trying to find the place to fit in, because they don't - you're not really made to feel part of the team on wards and you're only really introduced to the team in the beginning so most students don't seem to know who does what or how to approach them really either, you know, how you're supposed to approach a consultant or whose the organiser on the ward or, I mean I suppose we were told how to approach the patient, but I think that's too [...] My first hospital experience, I did General Practice first so obviously that wasn't ward based, except perhaps Public Health. My first hospital experience was being told off by a consultant on the first day. I phoned him up at home, his secretary told me to phone him up at home. [...] think it was the right thing to do [...] I don't know, I suppose I had my earring as well [...] Mary: Really, so what happened about the earring? Was it about the earring that [...]?

Student: No it was my attitude that [...] him. I phoned him up because I was going to be late because I had to go [...] But the staff were very nice, [...] It was quite awkward because I felt as though I'd got it wrong [...] Mary: So have there been other experiences like that?
Student: Usually, consultants have been okay, there's been registrars, especially surgical ones that [...] I usually ask them if they think that that's right or [...] But it doesn't happen often, it's just happened since I've been in Surgery which [...]  

Mary: What sort of things have they done?  

Student: Erm, I had one, the first day on the ward again and the registrar walked up and just pointed at my nose and said 'that won't go with my ward' [...] mannerisms - it turned out it was my earring so I asked him if it was a rule on the ward or if it was [...] checked that there weren't any other staff on the ward 'Do you mind if I check around to see if there are any other staff on the ward that wear earrings?' and he got a bit cross with me. Well then I compromised and took them out in theatre because I agreed that it could be a health hazard in theatre, I took them out in theatre [...] that happened quite early on and then another registrar took over who was much more friendly.  

Mary: So the earring seemed to have caused a bit of a problem.  

Student: They don't usually, but there aren't many men with earrings in medicine, there's just one finalist. I remember going to see the Dean, [gave name]. We went to a meeting with him, and [named another student] said something about students with noserings and earrings [...]. There seems to be a problem of appearance seems to be more important than attitude most of the time with the consultants so it's a bit of a shame. I agree you should look professional [...]  

Mary: So, Were there things that surprised you about the first year? Was it what you expected it to be or ..?  

Student: Erm, I didn't really know what to expect, there wasn't any, we didn't have any introduction what to expect. I went into it quite open-minded but I didn't know what to expect at all.
Appendix 4. Sample Theme, showing Categories, Codes, Definitions and Documents

The data below is drawn from the data analysis programme, and shows all the categories, codes with their definitions, and document references which were gathered under the theme of 'Course Cohesion.'

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(4)	/COURSE COHES
**Definition:**
Cohesiveness of course
1: tchr-int22

(4 1)	/COURSE COHES/transition to HO
***Definition:**
comments relating to the transition from student to house officer
1: tchr-int19

(4 2)	/COURSE COHES/tchg comm
**Definition:**
Communication between teachers about teaching, incl. dissemin re curriculum, within firms, etc
1: curr-conf96 2: board mtg77 3: st-int10 4: st-int14
5: st-int33 6: tchgb84 7: tchr-int16 8: tchr-int24
13: tchr-int28 14: tchr-int5 15: yr 1/2 review94 16: yr3mtg58
17: yr4mtg65 18: yr5mtg64

(4 2 1)	/COURSE COHES/tchg comm/mtg aft
**Definition:**
attendance at meetings - good, bad etc
1: curr-conf96 2: board mtg77 3: tchgb83 4: yr3mtg58
5: yr3mtg59 6: yr3mtg67 7: yr3mtg75

(4 2 19)	/COURSE COHES/tchg comm/fdbk on tchg
**Definition:**
methods, sources, routes of feedback on teaching, nature of feedback and its effects
1: doc-st2ol 2: inf-tchr79 3: partobs68 4: st-focusmp86
5: st-int3 6: tchgb86 7: tchgb86 8: tchgb86
17: tchr-int8 18: tchr-int9 19: yr1-2mtg57

(4 2 57) 	/COURSE COHES/tchg comm/fdbk on lng
***No Definition
5: st-int3 6: ST-INT30 7: st-int41 8: tchgb86
9: tchgb80 10: tchr-int29

(4 3) 	/COURSE COHES/cont
**Definition:**
Continuity of relationship between tutor and students
1: curr-conf96 2: inf-tchr63 3: st-focusgp-ctd97 4: st-int2
5: st-int2 6: st-int57 7: tchgb85 8: tchgb80
13: tchr-int8 14: tchr-int9 15: yr 1/2 review94 16: yr3mtg59
17: yr3mtg91 18: yr4mtg65

(4 4)	/COURSE COHES/tchr-MS rel
**Definition:**
Comments about the relationship between teachers and the medical school, or between NHS and academic teaching staff
1: curr-conf96 2: inf-tchr92 3: st-focusgp-ctd97 4: tchr-int12
5: tchr-int18 6: tchr-int19 7: tchr-int22 8: tchr-int24
13: tchr-int6 14: tchr-int8

(4 4 9) 	/COURSE COHES/tchr-MS rel/mtg climate
**Definition:**
Atmosphere/running style of curriculum meetings
1: curr-conf96 2: yr 1/2 review94

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**Teacher inclusiveness:** stakeholding; teachers feelings of inclusion or exclusion from teaching decisions/planning

1: curr-conf96  
2: fac-board mtg77  
3: tchr-int22  
4: tchr-int5  
5: yr 1/2 review94  
6: yr1-2mtg57  
7: yr3mtg59  
8: yr4mtg61

**Consistency of teaching/assessment between firms. Including issues of inequity or inequality.**

1: curr-conf96  
2: Hafferty notes300  
3: inf-tchrs78  
4: inf-yr3 sts70  
5: inf-yr3st54  
6: inf-yr3sts53  
7: st-focusgp86  
8: st-int2  
9: st-int20  
10: st-int21  
11: st-int37  
12: tchgobs83  
13: tchr-int12  
14: tchr-int19  
15: tchr-int25  
16: tchr-int26  
17: yr 3 mtg87  
18: yr1-2mtg57  
19: yr3mtg59  
20: yr5mtg64

**Students’ frustrations with consistency of assessment processes - methods or results**

1: doc-st2ol  
2: inf-yr3st54  
3: inf-yr3sts53  
4: ST-INT3O  
5: tchgobs6o  
6: yr 3 mtg87  
7: yr5mtg62

**Curriculum planning**

1: inf-tchr79  
2: tchr-int19  
3: yr1-2mtg57  
4: yr3mtg59  
5: yr3mtg75  
6: yr4mtg86

**Integration of basic sciences and clinical**

1: int-tchr51  
2: int-tchr69  
3: int-tchr79  
4: int-tchr92  
5: int-tchr95  
6: st-int1  
7: st-int10  
8: st-int2  
9: st-int21  
10: st-int3  
11: st-int33  
12: st-int34  
13: st-int36  
14: st-int38  
15: st-int39  
16: st-int41  
17: tchr-int12  
18: tchr-int16  
19: tchr-int17  
20: tchr-int18  
21: tchr-int19  
22: tchr-int22  
23: tchr-int24  
24: tchr-int26  
25: tchr-int28  
26: tchr-int6  
27: tchr-int7  
28: tchr-int9  
29: yr 1/2 review94  
30: yr3mtg58  
31: yr3mtg59  
32: yr3mtg75  
33: yr4mtg85

**Integration/transition diffs**

1: st-focusgp-ctd97  
2: st-int20  
3: st-int21  
4: st-int38  
5: st-int40  
6: st-int41

**Pre-clinical learning, including use of pre-clinical teaching in clinical course**

1: st-int36  
2: st-int37  
3: st-int39  
4: st-int40  
5: st-int41 (1)
Appendix 5. Sample of Data at a Code

(4 33 1)  /COURSE COHES/consist/assmnt frustr
*** Definition:***
Students' frustrations with consistency of assessment processes - methods or results

+---------------------------------------------------------------------+
| ON-LINE DOCUMENT: doc-st201  |
| *St Mags, Entrings.  |
| *3:48 pm, Feb 19, 1996. |
+---------------------------------------------------------------------+

[doc-st201 : 15 - 16 ] p4. 'Your firm grades explained.' Satirical article re students' rationale for firm grades given, esp. complaining about lack of discrimination by teachers between students.

+---------------------------------------------------------------------+
| ON-LINE DOCUMENT: inf-yr3st54  |
| *Inf, yr 3 student  |
| *25.10.97 |
+---------------------------------------------------------------------+

[inf-yr3st54 : 21 - 26 ] She was particularly frustrated with the way grades had been given on some of the firms. She said that on one firm everyone had been given the same grade with the same comment 'Interested and enthusiastic' although their attendance had been very different, and the assessment form was signed by someone who wasn't even on their firm and who they hadn't met. She said there were only 2 firms in the year where this sort of thing didn't happen. She said mostly staff didn't even learn their names and didn't differentiate between them all. She liked the OSCE assessment in day surgery because she felt it was fair, unlike most of the others where people had different things, and at the Strand where they had vivas where they were asked different questions.

+---------------------------------------------------------------------+
| ON-LINE DOCUMENT: ST-INT30  |
| *St M, yr 5  |
| *8.3.98 |
+---------------------------------------------------------------------+

[ST-INT30 : 295 - 335 ] read a chapter in a book - both the junior firms we had no real firm tests, the first one there was no firm test at all, they told us at the start we'll all get Cs and the other one was on the surface they made an effort to have a test but the way it was done was to make it easy or the doctors and hard for us because we had to do this really nasty case presentation and then write it up and do a really detailed presentation on a science base with their [...] which sounds all well and

+---------------------------------------------------------------------+
| ON-LINE DOCUMENT: tchgobs60  |
| *Yr 4 Tchg Obs  |
| *27/5/97 |
+---------------------------------------------------------------------+

[tchgobs60 : 101 - 103 ] He said that in the first year he'd been on a firm in Croydon and they'd had to present patients and had been graded on them there and then - some people got Bs and others C. When the firm grades came through, everyone had been given a C and a comment 'average'. He said that one of the girls who had got a B at the time wrote and complained to the Dean and he had taken it seriously and said that the grades should be deleted from their records.

+---------------------------------------------------------------------+
| ON-LINE DOCUMENT: yr 3 mtg102  |
| *Year 3 meeting  |
+---------------------------------------------------------------------+

[yr 3 mtg102 : 56 - 57 ] Students comments about the variability in course work and marking of SSMS was noted again.

+---------------------------------------------------------------------+
| ON-LINE DOCUMENT: yr5mtg62  |
| *Year 5 Curriculum committee, WEC  |
| *10 March 1997 |
+---------------------------------------------------------------------+

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Students commented that some firms gave most people an A, whilst others said that no one ever got an A, etc. Teachers suggested that these variations would even out over the course. They said that the rankings gave an overall impression but that teachers personal knowledge of the students was more influential in determining house officer posts.

ON-LINE DOCUMENT: inf-yr3sts53
*Inf, yr 3 sts
*14/2/98

I met with Ms S and Mr A, 2 of the year 3 reps who I had asked to see me about preparing a page on what makes a good firm for the year 3 teachers handbook. I'd asked them to think about it before they came, and they brought along a sheet asking for - greater comparability between firms, including in assessments, greater clarity about firm objectives and PBL on all firms. They said that there was a lot of variation between firms. They both shared flats with other medical students and had had completely different experiences.
Appendix 6. Full List of Themes, Codes and Categories used in the Analysis

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(1) /TCHG ATMOS
(1 1) /TCHG ATMOS/st respect
(1 1 2) /TCHG ATMOS/st respect/tchr att to sts
(1 1 9) /TCHG ATMOS/st respect/intim
(1 1 9 1) /TCHG ATMOS/st respect/intim/reasons for int
(1 1 9 2) /TCHG ATMOS/st respect/intim/justif for int
(1 1 9 3) /TCHG ATMOS/st respect/intim/int methods
(1 1 9 3 1) /TCHG ATMOS/st respect/intim/int methods/on the spot
(1 1 9 3 2) /TCHG ATMOS/st respect/intim/st resp to int
(1 1 10) /TCHG ATMOS/st respect/respect for individuality
(1 1 10 1) /TCHG ATMOS/st respect/respect for individuality/st diversity
(1 1 10 2) /TCHG ATMOS/st respect/respect for individuality/ethnicity
(1 1 10 16) /TCHG ATMOS/st respect/respect for individuality/mature effs
(1 1 10 22) /TCHG ATMOS/st respect/respect for individuality/st types
(1 1 10 25) /TCHG ATMOS/st respect/respect for individuality/gender pol
(1 1 10 56) /TCHG ATMOS/st respect/respect for individuality/BSc decision & effects
(1 1 62) /TCHG ATMOS/st respect/ing support
(1 6) /TCHG ATMOS/medical culture
(1 6 1) /TCHG ATMOS/medical culture/patronage-social
(1 6 3) /TCHG ATMOS/medical culture/language
(1 6 8) /TCHG ATMOS/medical culture/career developmt
(1 6 8 11) /TCHG ATMOS/medical culture/career developmt/HO selection
(1 6 8 12) /TCHG ATMOS/medical culture/career developmt/career adv
(1 6 8 33) /TCHG ATMOS/medical culture/career developmt/career choice
(1 6 8 51) /TCHG ATMOS/medical culture/career developmt/career advancement
(1 6 34) /TCHG ATMOS/medical culture/rivalry
(1 7) /TCHG ATMOS/image
(1 11) /TCHG ATMOS/st emotions
(1 11 7) /TCHG ATMOS/st emotions/daunting
(1 13) /TCHG ATMOS/st attend
(1 14) /TCHG ATMOS/intros
(1 17) /TCHG ATMOS/tchg manner-style
(1 17 20) /TCHG ATMOS/tchg manner-style/att pat
(1 17 22) /TCHG ATMOS/tchg manner-style/joking
(1 18) /TCHG ATMOS/tchg pri
(1 18 4) /TCHG ATMOS/tchg pri/diag sk
(1 18 23) /TCHG ATMOS/tchg pri/tips
(1 35) /TCHG ATMOS/st incl
(1 39) /TCHG ATMOS/compls
(1 41) /TCHG ATMOS/overload
(1 41 1) /TCHG ATMOS/overload/coping strats
(2) /TCHG PRACTICE
(2 1) /TCHG PRACTICE/tchg prep
(2 2) /TCHG PRACTICE/pa involv
(2 3) /TCHG PRACTICE/decision making
(2 3 25) /TCHG PRACTICE/decision making/topic sel
(2 3 44) /TCHG PRACTICE/decision making/pitching tchg
(2 3 54) /TCHG PRACTICE/decision making/tchr choice
(2 4) /TCHG PRACTICE/develop of expertise
(2 4 1) /TCHG PRACTICE/develop of expertise/tchg support
(2 4 2) /TCHG PRACTICE/develop of expertise/tchg devel
(2 4 42) /TCHG PRACTICE/develop of expertise/own specialty
(2 4 55) /TCHG PRACTICE/develop of expertise/tchr trg
(2 5) /TCHG PRACTICE/tchr knowl
(2 5 5) /TCHG PRACTICE/tchr knowl/new curr knowl
(2 5 7) /TCHG PRACTICE/tchr knowl/MS knowl
(2 5 13) /TCHG PRACTICE/tchr knowl/ed awareness
(2 5 16) /TCHG PRACTICE/tchr knowl/sts-course know
(2 6) /TCHG PRACTICE/tchg aims
(2 8) /TCHG PRACTICE/tchg meths
(2 8 1) /TCHG PRACTICE/tchg meths/skills tchg
(2 8 6) /TCHG PRACTICE/tchg meths/role modelling
(2 8 7) /TCHG PRACTICE/tchg meths/tchg meth
(2 8 8) /TCHG PRACTICE/tchg meths/BSc tchg
(2 8 21) /TCHG PRACTICE/tchg meths/Qing
(2 8 25) /TCHG PRACTICE/tchg meths/st inta
(2 8 34) /TCHG PRACTICE/tchg meths/beds tchg

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Appendix 7. Presentations of Research

How will tomorrow’s medical teachers differ from today’s? Association for the Study of Medical Education Conference, Cardiff, 13-15 September 2000. Seabrook M.

(Why) Is intimidation acceptable in medical teaching? Association for the Study of Medical Education Conference, Cardiff, 13-15 September 2000. Seabrook M.

Is medical education becoming more academic? School of Education, King's College London. March 2000. Seabrook M.


Hopes and Fears: Students expectations of their house officer year. Association for the study of Medical Education in Europe (AMEE), Copenhagen, 1-4 September 1996. Seabrook M, Lawson M, Vaughan C, Pezeshgi S.


Medical training: apprentices or college students? School of Education, King's College London. 28 November 1997. Seabrook M.
Appendix 8. Participant Validation of the Draft Thesis

<table>
<thead>
<tr>
<th>Section of thesis</th>
<th>Reader(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapters 5 and 6</td>
<td>Consultant in Medicine</td>
</tr>
<tr>
<td></td>
<td>*Year 3 Committee</td>
</tr>
<tr>
<td>Chapters 7 and 8</td>
<td>Senior Lecturer and Year Head</td>
</tr>
<tr>
<td></td>
<td>Medical School Administrator</td>
</tr>
<tr>
<td>Chapter 9</td>
<td>Year 4 student</td>
</tr>
<tr>
<td>Chapter 10</td>
<td>Consultant in Medicine</td>
</tr>
<tr>
<td>Chapter 11</td>
<td>Consultant in Medicine</td>
</tr>
<tr>
<td></td>
<td>*General Practice Department</td>
</tr>
<tr>
<td>Chapter 12</td>
<td>Consultant in Medicine</td>
</tr>
</tbody>
</table>

*In these cases, the relevant chapter(s) were presented to rather than read by the participants.

NB. Most of the validation was undertaken 'in situ' during the course of the work.

NB. The readers shown are those specifically selected to comment on the validity of the findings, rather than on the style or content of the writing, for which I used different readers.
Appendix 9. Codes used in Chapters 5 & 6: Clerking Patients & Teaching and Learning Methods

Main sources of data

Chapter 5 —
  Interviews with students and doctors
  Observations of committee meetings
Chapter 6 —
  Observations of teaching
  Year handbooks
  Minutes of committee meetings

Interpretation

Erosion of apprenticeship tradition
Different models of education between students and doctors
Relationship to medical values (link with Becker, Sinclair)
Formalisation of teaching = shift towards student model
Increasing separation between learning and work

KEY

*Italiccs:* Codes
Plain text: Categories
Boxed text: Themes
Primary links (within themes)
Secondary links (across themes)
Appendix 10. Codes used in Chapter 7: Course Structure, Management & Cohesion

**Main sources of data**
- Interviews with doctors and students
- Observations of teaching
- Student evaluations

**Interpretation**
- Model identifying symptoms and causes of the lack of course cohesion

**Teaching Structure**
- Postgraduate teaching structure
- Teaching organisation
- Consistency
  - Speciality differences
  - Assessment frustration
- Curriculum planning
  - Core curriculum
- Continuity
  - Relationship continuity

**Course Cohesion**
- Integration
  - Transition difficulties
  - Pre-clinical learning application

**Teaching communication**
- Students' system knowledge
- Information provision
- Feedback on teaching
- Feedback on learning

**Medical School-Teacher Relationship**
- Meeting climate
- Meeting attendance
- Teacher inclusion
- NHS/MS divide

**Doctors as Teachers**

**Teacher knowledge**
- New curriculum knowledge
- Students/course knowledge
- Education awareness
- Medical school knowledge

**KEY**
- Italic: Codes
- Plain text: Categories
- Boxed text: Themes
- Primary links (within themes)
- Secondary links (across themes)
Appendix 11. Codes used in Chapter 8: Trends in Curriculum Content, Methods and Organisation

**Teaching Structure**
- Accountability
- Formalisation
- Assessment
- Teaching Methods
- Apprenticeship

**Teaching Practice**
- Integration
- Core Curriculum

**Changes in the new curriculum**
- Teacher knowledge
  - new curriculum knowledge
- Resistance to change
- Teacher concerns
  - new curriculum anxiety
  - standards
- Identity
  - discipline loyalty
  - medical status/hierarchy
  - science
- Teacher-Medical School relationship
  - Teacher inclusion
  - Teaching profile

**Doctors as Teachers**

**KEY**
*Italicics:* Codes
*Plain text:* Categories
*Boxed text:* Themes

**Interpretation**
Teaching structure separated from clinical structure
Move towards abstract vs. situated knowledge
Resistance to change - relationship to power shifts - Bernstein

**Main sources of data**
Participant observation of committee meetings
Documentation
Interviews with doctors

*Primary links (within themes)*
*Secondary links (across themes)*
Appendix 12. Codes used in Chapters 9 & 11: Learning in the Clinical Environment & Intimidation

Teaching setting

- Teaching organisation
  - staffing/timetabling

Teaching organisation

- Accountability

Teacher-MS relationship

- Teaching profile
  - Teaching rewards

Students/course knowledge

- Teacher attitude to students

Students' course knowledge

- Teacher attitud

Teaching atmosphere

- Respect for individuality
  - ethnicity
  - gender
  - mature effects
  - student types
  - student diversity
  - firm effects

Career development

- house officer selection
- career choice
- career advancement

Medical culture

- patronage – social
- tradition
- language
- rivalry

Teaching manner/style

- Image

Teaching organisation

- Cancellations

- Cancellations

- Assessment frustration

Respect for students

- Intimidation
  - Reasons
  - Justification
  - Methods
  - Student response

Students' emotions

- Feeling in the way
- Daunted
- Overload

Intimidation

- Student expectations

Students' expectations

- Student attendance

Teaching practices

- Introductions

Student attendance

- Teaching methods

Complaints

- Teaching practice

KEY

Italics: Codes
Plain text: Categories
Boxed text: Themes

Primary links (within themes)
Secondary links (across themes)

Interpretation

Chapter 9 -
- Unimportance within the system
- Lack of respect for individuality/pressures for conformity → link with literature on professional socialisation

Chapter 11 -
- Function to demonstrate acceptance of hierarchy
- Link with literature on approaches to learning, morale, stress
- Gender association

Main data sources

Interviews with doctors and students
Informal discussions
Participant observation of teaching

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Appendix 13. Codes used in Chapter 10: The Clinical Teaching Context

Main data sources
Interviews with doctors
Informal discussions

KEY

Italics: Codes
Plain text: Categories
Boxed text: Themes

- Primary links (within themes)
- Secondary links (across themes)

Interpretation
Paradox - motivation and dissatisfaction - relate to Herzberg
Focus on practical issues and problems rather than student learning - link with Maslow
Structures inhibiting high profile for teaching
Appendix 14. Diagram to show Relationship between the Six Main Themes

Teaching Atmosphere

- Medical culture
- Introductions
- Teacher concerns
- Teacher enjoyment
- Teacher commitment
- Student attendance
- Student emotions
- Image of students

Teaching Practice

- Teaching methods
- Teaching aims
- Decision making
- Resistance to change

Teaching Structure

- New curriculum changes
- Resources
- Teaching-service interface
- Teaching profile
- Accountability
- Teaching organisation
- Relationship continuity

Students’ perspective

- Consistency
- Continuity

Course Cohesion

- Teaching communication

Doctors as Teachers

- Teaching - Cohesion
- Communication

Teaching-service interface

KEY

Boxed text: Main themes
Plain text: Linking codes/categories

→: Suggested line of influence
Appendix 15. Surgical Audit Study

Students' learning experiences on junior surgical firms: Results of an audit at King's College School of Medicine

REPORT TO FIRM CHIEFS

Mary Seabrook, Steve Woodfield, Savvas Papagrigoriadis, Ann Atherton, Mary Lawson, John Rennie

SUMMARY

An audit of student activity on parallel junior surgical firms at King's College Hospital and associated district general hospitals was carried out between 1995-7.

The audit identified the case mix of patients seen by students, the levels of active involvement and supervision whilst learning, the clinical locations in which students were taught, and the range of topics and skills which they were taught.

BACKGROUND

In 1995 the Undergraduate Medical Education Committee, then responsible for years 3-5 of the curriculum, agreed that an audit of junior surgical firms would be useful to identify similarities and differences in the teaching between firms. This came after students' had raised the issue of differences in teaching between the nine surgical firms which operate in year 3 (first clinical year). The Director of Studies wrote to firms explaining that the audit was to be carried out.

The study aimed to compare:

- the case mix of patients encountered on the firms
- the volume of patients encountered
- the nature of students' involvement with the patients (active involvement versus passive observation)
- the level of supervision of students
- the theoretical topics covered
- the practical skills on which students were supervised.

METHOD

Data collection

Two tools were used:

1. A questionnaire (attached). At the beginning of their first clinical year, students are given a syllabus of topics and procedures to be completed during their two surgical firms. A
questionnaire based on this syllabus was sent or given to 418 students within one week of the end of their surgical firms between October 1995 and July 1997 (in the 'old' King's curriculum). Students were asked to record which of the syllabus topics they had been taught about during the firm, which they had read about independently, and which practical procedures they had performed under supervision.

The reliability of the questionnaire was tested by asking thirteen students to complete a second questionnaire in the week following their initial response, and tabulating the agreement between the two responses.

2. A log diary (attached). The log diary was sent to 418 students undertaking junior (year 3) surgical firms between October 1995 and July 1997. Discussions with firm heads and observation of course timetables suggested that firms had a regular weekly programme and that students experiences did not vary significantly from week to week in terms of the amount of teaching received or the type of patients seen. Given that it would be difficult to obtain a high response of accurate diaries for the whole 7-8 week firm, a cross section study seemed appropriate. Diaries were completed in different weeks by different cohorts of students covering each of the seven or eight weeks of the course apart from the first and last. These were excluded as they would often be distorted by introductory or assessment activities.

Data analysis
Each presenting symptom in the log diary was coded by a surgeon (SP) according to specialty (vascular, gastro-intestinal, breast/endocrine, general, urology or other) and severity (minor, intermediate, major).

Data from both research tools were analysed using the SPSS statistical package.

In order to explore whether the students who returned the questionnaires were a typical group, their end of year objective structured clinical examination results were compared with those of students who had not returned their questionnaires using the independent samples t-test.

Response rates
The log diaries were completed by 141 out of 456 students, giving a response rate of 31%. These generated 1,873 patient encounters (cases) from which the analysis was undertaken. Questionnaires were returned by 194 of the 406 students on the eight firms, a response rate of 47.8%. Of these, 189 forms were suitable for analysis. Table 1 shows the breakdown by firm (the SF1-VIII designations shown here are used in tables and graphs throughout the paper). Firm IV at KCH which started during the study is not included as the number of students completing the firm was too small.
Table 1. Student response rates

<table>
<thead>
<tr>
<th>Firm</th>
<th>Location</th>
<th>Log Diaries</th>
<th>Audit Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Received</td>
<td>Response</td>
<td>No. of cases</td>
</tr>
<tr>
<td>SFI</td>
<td>KCH Inpatient Firm 1</td>
<td>9</td>
<td>22%</td>
</tr>
<tr>
<td>SFII</td>
<td>KCH Firm II (Day Surgery)</td>
<td>29</td>
<td>37%</td>
</tr>
<tr>
<td>SFIII</td>
<td>KCH Inpatient Firm III</td>
<td>18</td>
<td>51%</td>
</tr>
<tr>
<td>SFIV</td>
<td>DGH (Dartford)</td>
<td>14</td>
<td>18%</td>
</tr>
<tr>
<td>SFV</td>
<td>DGH (Croydon)</td>
<td>12</td>
<td>22%</td>
</tr>
<tr>
<td>SFVI</td>
<td>DGH (Bromley I)</td>
<td>24</td>
<td>30%</td>
</tr>
<tr>
<td>SFVII</td>
<td>DGH (Bromley II)</td>
<td>17</td>
<td>40%</td>
</tr>
<tr>
<td>SFVIII</td>
<td>DGH (Greenwich)</td>
<td>18</td>
<td>41%</td>
</tr>
<tr>
<td>Total</td>
<td>All Surgical Firms</td>
<td>141</td>
<td>31%</td>
</tr>
</tbody>
</table>

Validity & reliability of research tools

85.3% of students who recorded performing a supervised physical examination on a gastrointestinal or hepatobiliary patient in the log diary also recorded having undertaken a supervised abdominal examination in the end of firm questionnaire. 69.9% of students who recorded undertaking a supervised physical examination on a vascular patient also recorded having undertaken a supervised lower limb or vascular examination.

The tabulation comparing 'yes' responses for the 12 most commonly covered topics/skills on the two forms completed by the same students showed the following correlations: 100%, 100%, 75%, 92.3%, 70%, 83.3%, 100%, 85.7%, 80%, 100%, 100%, 100%. This was considered to show a good level of reliability.

Representativeness of respondents

There was no significant difference between respondents and non respondents in terms of their end of year objective structured clinical examination results in either 1997 or 1998.

Limitations of the data

The main limitation of the study is the low response rate and variability of response, giving differences in the reliability of data between firms. This was caused by differences in the number of students taking each firm, difficulty in following up students who were off site, and a decision that only forms completed immediately after the end of the firm when students would be most likely to remember what they had covered should be used. The results however did confirm the authors' personal knowledge of the firms and anecdotal evidence from students about individual firms which had triggered the study.

NB. Post report note: Feedback from firm teachers to whom the data was presented also suggested that the results gave a fair representation of students' experiences.
Without other data the response rates would have been considered too low to have confidence in the data. The triangulation with data from students, firm teachers and the authors' knowledge of the firms however all suggested that the data did in fact present a reasonably accurate representation of reality.

RESULTS & DISCUSSION

Volume of patient contact (Fig. 1)
The number of patients per week seen by students varied between 9.8 and 21.2. These figures need to be taken into account when interpreting the percentages given in other sections of the results.

Fig 1. Average number of patient encounters recorded by students in one week

Case mix of patients encountered (Fig. 2, Table 2)
There were noticeable differences between firms in the case mix of the patients which students saw, reflecting the specialty of the firm. In most firms however the firm specialty only accounted for about a quarter of cases, and students reported encounters with patients from each of the specialties.
Table 2. Percentage of cases seen by students in each specialty by firm

<table>
<thead>
<tr>
<th>Specialty</th>
<th>SF I</th>
<th>SF II</th>
<th>SF III</th>
<th>SF IV</th>
<th>SF V</th>
<th>SF VI</th>
<th>SF VII</th>
<th>SF VIII</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>22.8</td>
<td>26.7</td>
<td>25.4</td>
<td>21.6</td>
<td>26.0</td>
<td>44.2</td>
<td>35.4</td>
<td>26.3</td>
</tr>
<tr>
<td>Gastro-enterology</td>
<td>31.5</td>
<td>6.0</td>
<td>13.9</td>
<td>16.6</td>
<td>19.7</td>
<td>28.1</td>
<td>25.6</td>
<td>25.1</td>
</tr>
<tr>
<td>Vascular</td>
<td>6.3</td>
<td>31.1</td>
<td>4.0</td>
<td>10.1</td>
<td>20.9</td>
<td>3.0</td>
<td>4.6</td>
<td>6.6</td>
</tr>
<tr>
<td>Urology</td>
<td>14.2</td>
<td>11.1</td>
<td>9.2</td>
<td>32.7</td>
<td>3.5</td>
<td>6.4</td>
<td>7.7</td>
<td>14.1</td>
</tr>
<tr>
<td>Breast/Endocrine</td>
<td>18.9</td>
<td>5.4</td>
<td>6.9</td>
<td>13.6</td>
<td>2.0</td>
<td>3.4</td>
<td>17.4</td>
<td>18.2</td>
</tr>
<tr>
<td>HPB</td>
<td>4.7</td>
<td>3.8</td>
<td>33.5</td>
<td>3.5</td>
<td>11.0</td>
<td>9.7</td>
<td>4.6</td>
<td>5.3</td>
</tr>
<tr>
<td>Other</td>
<td>1.6</td>
<td>15.9</td>
<td>6.9</td>
<td>2.0</td>
<td>16.9</td>
<td>5.2</td>
<td>4.6</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Fig 2. Speciality mix by firm.
(% of cases recorded by students in each specialty)

In firms where students recorded very low percentages for particular specialties, teachers may wish to consider making a point of finding suitable patients for teaching from other firms, or focusing on these specialties in tutorials or seminars.

This is important, because at one time it was thought that basic clinical skills such as history taking and examination could be taught adequately on any sort of patient and then applied by the students to any other patient. Research however has shown that skills and knowledge are learnt in relation to a particular case, i.e. they are 'case specific'. This affects the way in which they can be accessed and used later by the student. These considerations mean that students need to gain broad clinical experience: vast experience in one specialty will not compensate for lack of experience in another, except in very general skills such as developing rapport with patients.
Another implication of this is that students' performance on long or short case assessments will vary greatly depending on whether or not they have encountered a similar case previously.

**Severity of cases (Fig. 3)**
The cases seen by students were classified according to severity, and show expected differences between inpatient firms at KCH, DGHs and in the day surgery unit. The balance of these needs to be considered in relation to the learning needs of first clinical year students.

**Fig 3. Severity of cases**
(Percentage of cases classified according to severity of case)

Location of learning (Fig. 4, Table 3)
These graphs illustrate differences in the balance of learning locations between the different firms, for example, the time spent in theatre varied between 7.9 and 28.6%.

**Fig 4. Location of learning**
Percentage of time spent by student in various locations.
The value of time in theatre is often questioned, particularly if students are not scrubbed up and playing an active part (see further data later on). Time in outpatients varied between 17.4 and 44.9%. Medical schools nationally are tending to increase students time in outpatients as it now covers many stages of care which were previously managed on an inpatient basis. It also provides a good opportunity for students to be the first person to clerk and present patients. The graphs also show that two firms at KCH had introduced teaching for students by nurses in the post operative recovery room. This practical hands on teaching has proved useful for students. The 'Other' category included 'patient attachments' where students had recorded following the same patient through a number of different locations.

Table 3. Percentage of patient encounters in each location

<table>
<thead>
<tr>
<th>Location</th>
<th>SFI</th>
<th>SFII</th>
<th>SFIII</th>
<th>SFIV</th>
<th>SFV</th>
<th>SFVI</th>
<th>SFVII</th>
<th>SFVIII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatients</td>
<td>42.7</td>
<td>17.4</td>
<td>30.5</td>
<td>37.2</td>
<td>44.9</td>
<td>14.2</td>
<td>19.4</td>
<td>35.1</td>
</tr>
<tr>
<td>Wards</td>
<td>24.4</td>
<td>28.7</td>
<td>40.7</td>
<td>20.3</td>
<td>25.2</td>
<td>34.7</td>
<td>25.5</td>
<td>25.8</td>
</tr>
<tr>
<td>Theatre</td>
<td>22.9</td>
<td>15.5</td>
<td>7.9</td>
<td>35.1</td>
<td>18.1</td>
<td>26.6</td>
<td>25.5</td>
<td>28.6</td>
</tr>
<tr>
<td>Post op. Recovery</td>
<td>0</td>
<td>13.9</td>
<td>7.9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A&amp;E</td>
<td>3.8</td>
<td>5.0</td>
<td>7.9</td>
<td>1.0</td>
<td>11.4</td>
<td>19.0</td>
<td>26.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Other</td>
<td>6.1</td>
<td>19.6</td>
<td>5.1</td>
<td>6.4</td>
<td>0.4</td>
<td>5.5</td>
<td>3.1</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Active involvement and supervision (Fig. 5)

There is wealth of evidence from educational research that students learn best when they are actively involved in their learning. This might be through practical experience such as clerking patients, through questions or discussion, undertaking projects, etc.

Fig 5. Student involvement by firm.
(Percentage of cases in which students examined the patient, took an active part, were supervised)
Students reported being actively involved in over half the cases they saw in all firms, and in some firms up to almost 70%. This is a good level of involvement, particularly taking into account the pressure of clinical work.

The supervision figures are more difficult to interpret and need to be considered with the volume of patients shown in Fig. 1. Students should not be expected to be supervised at all times, but do need to receive sufficient feedback on their skills and knowledge to know how they can improve. This is particularly so in their first clinical year, and particularly in the early firms of each academic year.

Active involvement in different locations (Fig. 6)
These graphs illustrate the relative strengths of different firms in actively involving students in various locations. For example, in outpatients, active involvement varied between 47.2 and 74.5%, in theatre between 28.6 and 70.0%, and on the wards between 33.0 and 83.3%.

Fig 6. Active involvement by location.
(% of cases in each location in which students reported being actively involved)

Firms scoring at the lower end of active involvement may wish to consider teaching methods which will increase involvement, e.g. sending students to clerk patients in a separate room and then presenting them to the consultant in outpatients, limiting the number of students in theatre to those that can scrub up and take part, getting some students to practice examining patients on ward rounds. These activities are much more valuable than simply observing clinical sessions.

Obviously such activities require space, and may take slightly longer - the sort of resource implications for which SIFT is designed to compensate.
Table 4. Percentage of active student encounters in each location by firm

<table>
<thead>
<tr>
<th></th>
<th>SF1</th>
<th>SFII</th>
<th>SFIII</th>
<th>SFIV</th>
<th>SFV</th>
<th>SFVI</th>
<th>SFVII</th>
<th>SFVIII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatients</td>
<td>51.8</td>
<td>74.5</td>
<td>47.2</td>
<td>64.0</td>
<td>72.8</td>
<td>48.7</td>
<td>50.0</td>
<td>48.7</td>
</tr>
<tr>
<td>Wards</td>
<td>56.3</td>
<td>33.0</td>
<td>83.3</td>
<td>82.9</td>
<td>56.3</td>
<td>74.7</td>
<td>80.0</td>
<td>67.5</td>
</tr>
<tr>
<td>Theatre</td>
<td>70.0</td>
<td>59.2</td>
<td>28.6</td>
<td>29.6</td>
<td>37.0</td>
<td>60.3</td>
<td>46.0</td>
<td>51.1</td>
</tr>
<tr>
<td>Other</td>
<td>50.0</td>
<td>50.0</td>
<td>77.8</td>
<td>69.2</td>
<td>100.0</td>
<td>73.3</td>
<td>100.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

**Topics taught**

The percentage of students in each firm who reported having been supervised undertaking specific practical skills is shown in Table 5. The results are presented in order of the median value, starting with the highest. Similar data on theoretical topics on which students reported having been taught is given in Table 6. The results from this study show that there was very little which was systematically taught to all students in the parallel firms. Only five items were reported as having been taught by over 50% of students on all firms: hernias, gowning and gloving, scrubbing, history taking and abdominal examination. 50% is itself a low figure to take as indicating consensus, even allowing for student absence or forgetfulness.

The median percentage of students who had read about a topic on which they had not been taught varied between 0 and 23.6%. No obvious pattern emerged.

The results are largely explained by the tradition of opportunistic teaching at the bedside and in outpatient clinics. Students are taught on current patients, whose presenting conditions largely determine the topics covered. Thus the differing nature of the patient population within different teaching hospital firms and DGHs will generate systematic differences in the topics covered, giving, in effect, a separate core curriculum for each firm. Firm I, for example, a specialist breast/endocrine/colorectal firm at the time of the study has a much higher proportion of students being taught on thyroid disease and breast cancer than other firms. The day surgery firm differed noticeably from the other firms, with the lowest percentages of students having been taught on many theoretical topics but higher than average scores on the practical procedures. This reflects the different objectives and priorities that were developed around day surgery teaching.1 Excluding the day surgery firm however only brings a further three topics above the 50% consensus.

A number of other factors may contribute to the variability in results. Teachers may not have been aware of the need to cover the topics listed in the log book. Although they had been sent a copy of the log book, it did not constitute a formal core curriculum such as has been developed for the new curriculum at King's. Structured teaching has never been part of the culture in most hospitals, and it has been traditional to focus on 'interesting cases' rather than typical, common ones. Several doctors may teach on the firm and may not check with each other on what has been taught. Students often attend clinics or theatre in pairs, and teachers may find it difficult to
keeps track of who has been taught what. Many teachers, especially at DGHs, are not academics and have not been trained to teach. Finally, the high turnover of junior medical staff who do a large proportion of the teaching, mitigates against consistent focus on teaching priorities.

Table 5. Procedures and examinations performed by students under supervision, by firm

<table>
<thead>
<tr>
<th>Procedures &amp; examinations</th>
<th>No. of students (%)</th>
<th>Median %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firm 1 (n=11)</td>
<td>Firm 2 (n=58)</td>
</tr>
<tr>
<td>Scrubbing</td>
<td>7 (63.6)</td>
<td>55 (94.8)</td>
</tr>
<tr>
<td>Gowning and gloving</td>
<td>9 (81.8)</td>
<td>54 (93.1)</td>
</tr>
<tr>
<td>Abdominal examination</td>
<td>11 (100.0)</td>
<td>37 (71.2)</td>
</tr>
<tr>
<td>Interpretation of X-ray data</td>
<td>10 (90.9)</td>
<td>36 (62.1)</td>
</tr>
<tr>
<td>History taking</td>
<td>11 (100.0)</td>
<td>45 (77.6)</td>
</tr>
<tr>
<td>Venepuncture</td>
<td>5 (45.5)</td>
<td>39 (67.2)</td>
</tr>
<tr>
<td>Lower limb vascular exam</td>
<td>8 (72.7)</td>
<td>33 (56.9)</td>
</tr>
<tr>
<td>Examination of the neck</td>
<td>8 (72.7)</td>
<td>1 (1.9)</td>
</tr>
<tr>
<td>Groin examination</td>
<td>6 (54.5)</td>
<td>20 (34.5)</td>
</tr>
<tr>
<td>Venous cannulation</td>
<td>3 (27.3)</td>
<td>51 (87.9)</td>
</tr>
<tr>
<td>Examination of varicose veins</td>
<td>5 (45.50)</td>
<td>35 (60.3)</td>
</tr>
<tr>
<td>Temperature, pulse &amp; resp.</td>
<td>4 (36.4)</td>
<td>31 (53.4)</td>
</tr>
<tr>
<td>Blood pressure measurement</td>
<td>2 (18.2)</td>
<td>49 (84.5)</td>
</tr>
<tr>
<td>Examination of testicular swelling</td>
<td>7 (63.6)</td>
<td>8 (13.8)</td>
</tr>
<tr>
<td>Suturing</td>
<td>0 (0.0)</td>
<td>46 (79.3)</td>
</tr>
<tr>
<td>Rectal examination</td>
<td>4 (36.4)</td>
<td>7 (12.1)</td>
</tr>
<tr>
<td>Bladder catheterisation</td>
<td>0 (0.0)</td>
<td>48 (82.8)</td>
</tr>
<tr>
<td>Giving health advice to patients</td>
<td>1 (9.1)</td>
<td>18 (31.0)</td>
</tr>
<tr>
<td>Intramuscular injection</td>
<td>0 (0.0)</td>
<td>6 (10.3)</td>
</tr>
</tbody>
</table>

The implications of the variability in teaching are that, despite the fact that students do two surgical firms in their third year, it is very likely that certain topics considered core will be missed by some students. It might be reasonable for less important topics to be taught on one firm only. It is essential however that core skills and knowledge, such as physical examination and very common conditions which form the foundation for later learning should be taught on every firm at this early stage in the students' clinical training. This would prevent students from
reaching house officer stage with gaps in their knowledge. Although some students read about topics on which they had not been taught, this was by no means comprehensive.

At the time the study was carried out, a core curriculum was not in place. Since then all medical schools have been required to respond to the GMC’s recommendation to design and implement a core curriculum. This means that in future firms will have specified topics and procedures which must be taught to all students in the firm.

The results also indicate the need to monitor students clinical experiences.

Table 6. Taught topics by firm.

<table>
<thead>
<tr>
<th>Conditions taught</th>
<th>No. of students (%)</th>
<th>Median %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm 1 n=11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 2 n=58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 3 n=12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 4 n=18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 5 n=18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 6 n=24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 7 n=24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm 8 n=24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hernias</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinoma of colon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholecystitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflammatory Bowel Disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute &amp; chronic pancreatitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinoma of breast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign breast diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diverticular disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicose veins &amp; venous ulcers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peptic ulcer and complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anal disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute abdomen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign oesophageal disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep vein thrombosis &amp; pulmon'y embolus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lumps in the neck</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jaundice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinoma of oesophagus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign conditions of testis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post operative complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign prostatic hyperplasia</td>
<td></td>
<td></td>
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<tr>
<td>Thyroid diseases</td>
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</tbody>
</table>
### Conditions taught ctd.

<table>
<thead>
<tr>
<th>Conditions taught ctd.</th>
<th>Firm 1</th>
<th>Firm 2</th>
<th>Firm 3</th>
<th>Firm 4</th>
<th>Firm 5</th>
<th>Firm 6</th>
<th>Firm 7</th>
<th>Firm 8</th>
<th>Median %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinoma of pancreas</td>
<td>3 (27.3)</td>
<td>5 (8.6)</td>
<td>7 (58.3)</td>
<td>6 (33.3)</td>
<td>7 (38.9)</td>
<td>12 (50.0)</td>
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<td>11 (45.8)</td>
<td>36.1</td>
</tr>
<tr>
<td>Renal stones</td>
<td>5 (45.5)</td>
<td>21 (36.2)</td>
<td>4 (33.3)</td>
<td>16 (88.9)</td>
<td>5 (27.8)</td>
<td>5 (20.8)</td>
<td>2 (8.3)</td>
<td>18 (75.0)</td>
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<tr>
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<td>6 (33.3)</td>
<td>7 (38.9)</td>
<td>3 (12.5)</td>
<td>5 (20.8)</td>
<td>8 (33.3)</td>
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<tr>
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<td>22.3</td>
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<tr>
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<td>6 (33.3)</td>
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<td>3 (12.5)</td>
<td>3 (12.5)</td>
<td>15 (62.5)</td>
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</tr>
<tr>
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<td>2 (16.7)</td>
<td>17 (94.4)</td>
<td>3 (16.7)</td>
<td>4 (16.7)</td>
<td>4 (16.7)</td>
<td>14 (58.3)</td>
<td>16.7</td>
</tr>
<tr>
<td>Testicular tumours</td>
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<td>9 (50.0)</td>
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<td>4 (16.7)</td>
<td>1 (4.2)</td>
<td>7 (29.2)</td>
<td>16.7</td>
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<td>8 (13.8)</td>
<td>8 (66.7)</td>
<td>3 (16.7)</td>
<td>2 (11.1)</td>
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<td>5 (8.6)</td>
<td>2 (16.7)</td>
<td>14 (77.8)</td>
<td>2 (11.1)</td>
<td>1 (4.2)</td>
<td>3 (12.5)</td>
<td>11 (45.8)</td>
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<td>4 (16.7)</td>
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<td>Amputation</td>
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<td>5 (27.8)</td>
<td>3 (16.7)</td>
<td>2 (8.3)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
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<tr>
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### MAIN FINDINGS AND CONCLUSIONS

- Students reported active involvement with patients in over 50% of cases on all firms. Students should be actively involved wherever possible, either with patients or in discussion with tutors. Passive observation of clinical work has a very limited role in learning.

- Firms varied greatly in the level of active involvement they provided in different locations, such as theatre or outpatients. Firms could share good practice for achieving high levels of involvement in particular locations.

- Scrubbing, gloving and gowning, and abdominal examination were the skills on which students were most consistently supervised. Other skills may have been taught but students need to practice skills under supervision to get the feedback they require to progress.

- A low level of consistency in the topics taught by firms was reported by junior surgical students. Traditional opportunistic teaching and organisational factors led to different 'core curricula' on each firm.

- The GMC has called for core curricula to be developed by each medical school. Teaching will need to be more structured if a core curricula is to be delivered across different clinical firms, although opportunistic teaching still has a place.
• The case mix of patients seen by students varied in terms of specialty and severity, with the firm’s major specialty generally accounting for about 25% of patients seen by students.

• Students’ learning tends to be case specific, and their experience needs to be monitored to ensure they encounter an appropriate selection of patients.

References

1 Seabrook M, Lawson M, Malster M, Solly J, Rennie J, Baskerville P. Teaching in a day surgery centre: Adapting surgical teaching to changes in clinical practice Medical Teacher 1998; 20: 222-6
2 Clack GB. Medical graduates evaluate the effectiveness of their education. Medical Education 1994; 28: 418-431.
Audit of surgical firms

We are carrying out an audit of first year surgical firms to see what students are covering. This information is confidential and will be used to produce recommendations for improving firms and ensuring that certain key areas are covered on all of them. Please could you complete this sheet as accurately as possible.

Name: ____________ Firm: SF ____________ Date: June-July 1997

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Taught</th>
<th>Read</th>
<th>Procedure</th>
<th>Taught</th>
<th>Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder catheterisation</td>
<td></td>
<td></td>
<td>Removal of sutures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venepuncture</td>
<td></td>
<td></td>
<td>Removal of drains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure measurement</td>
<td></td>
<td></td>
<td>Interpretation of X-ray data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Pulse and Respiration</td>
<td></td>
<td></td>
<td>Scrubbing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venous cannulation</td>
<td></td>
<td></td>
<td>Gowning/gloving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intramuscular injection</td>
<td></td>
<td></td>
<td>Giving health advice to patients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suturing</td>
<td></td>
<td></td>
<td>History taking</td>
<td></td>
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</tr>
</tbody>
</table>

Please tick any of the following which you have undertaken under supervision during this surgical firm only. (on a patient or mannequin/model.)

Please tick any of the following supervised examinations you have undertaken during this surgical firm only.

<table>
<thead>
<tr>
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<th>Taught</th>
<th>Read</th>
<th>Procedure</th>
<th>Taught</th>
<th>Read</th>
</tr>
</thead>
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<tr>
<td>Head</td>
<td></td>
<td></td>
<td>Varicose veins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neck</td>
<td></td>
<td></td>
<td>Abdominal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest - cardiac</td>
<td></td>
<td></td>
<td>Groin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest - respiratory</td>
<td></td>
<td></td>
<td>Testicular swelling</td>
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<td></td>
</tr>
<tr>
<td>Lower limb (vascular)</td>
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<td></td>
<td>Rectal examination</td>
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</tr>
</tbody>
</table>

Please tick any of the following conditions on which you have been taught, or read about during this surgical firm only

<table>
<thead>
<tr>
<th>Condition</th>
<th>Taught</th>
<th>Read</th>
<th>Condition</th>
<th>Taught</th>
<th>Read</th>
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</thead>
<tbody>
<tr>
<td>Head injuries</td>
<td></td>
<td></td>
<td>Portal hypertension &amp; complns.</td>
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<td></td>
</tr>
<tr>
<td>Thyroid disease</td>
<td></td>
<td></td>
<td>Carcinoma of the pancreas</td>
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<td></td>
</tr>
<tr>
<td>Parathyroid disease</td>
<td></td>
<td></td>
<td>Inflammatory bowel disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salivary gland disorders</td>
<td></td>
<td></td>
<td>Diverticular disease</td>
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<tr>
<td>Lumps in the neck</td>
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<td></td>
<td>Colorectal cancer</td>
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</tr>
<tr>
<td>Benign breast disease</td>
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<td></td>
<td>Anal disease</td>
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<td></td>
</tr>
<tr>
<td>Breast cancer</td>
<td></td>
<td></td>
<td>Hernias</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign oesophageal disorders</td>
<td></td>
<td></td>
<td>Acute abdomen</td>
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<td></td>
</tr>
<tr>
<td>Carcinoma of the oesophagus</td>
<td></td>
<td></td>
<td>Abdominal sepsis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peptic ulcer and complications</td>
<td></td>
<td></td>
<td>Abdominal trauma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute and chronic pancreatitis</td>
<td></td>
<td></td>
<td>Intestinal obstruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholecystitis</td>
<td></td>
<td></td>
<td>Appendicitis</td>
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</tr>
<tr>
<td>Jaundice</td>
<td></td>
<td></td>
<td>Haematuria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver tumours</td>
<td></td>
<td></td>
<td>Benign Prostatic Hyperplasia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostatic carcinoma</td>
<td></td>
<td></td>
<td>Peripheral vascular disease</td>
<td></td>
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</tr>
<tr>
<td>Benign bladder conditions</td>
<td></td>
<td></td>
<td>Acute limb ischemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bladder carcinoma</td>
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<td>Abdominal aortic aneurysm</td>
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<td>Condition</td>
<td>Performed</td>
<td>Seen</td>
<td></td>
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<td>-----------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>Renal Stones</td>
<td>❑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renal carcinoma</td>
<td>❑</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Benign conditions of the testis and scrotum</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Testicular tumours</td>
<td>❑</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nerve lesions</td>
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<td></td>
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<tr>
<td>Varicose veins and venous ulcers</td>
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<td>Deep vein thrombosis/</td>
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<tr>
<td>Pulmonary embolism</td>
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<td>Amputation</td>
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<tr>
<td>Skin tumours</td>
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<tr>
<td>Burns</td>
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<tr>
<td>Minimally invasive surgery</td>
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<tr>
<td>Postoperative complications</td>
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</tr>
<tr>
<td>Endoscopy</td>
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</tbody>
</table>

**Operations seen**

Please enter below any operations which you have seen during this surgical firm only:
Student Case Log

Please complete a row of the table opposite for every patient you see during the week, as follows:

Column
1. Write the reason for admission/consultation
2. Write a code to indicate where you saw the patient:
   - OP Outpatients
   - W Wards
   - T Theatre
   - R Recovery area
   - A&E Accident & Emergency
   - C Community
   - P Pre-assessment clinic
   - O Other (please specify)
3. Tick if you took an active part in the encounter, i.e. if you clerked or presented the patient, or performed or assisted with any procedure (either alone or under supervision). Do not tick if you simply observed the patient or were taught on the patient without active involvement.
4. Tick if you examined the patient on this occasion.
5. Tick if any part of this encounter with the patient was supervised by a health care professional.

EXAMPLE

<table>
<thead>
<tr>
<th>Reason for admission or consultation</th>
<th>Where seen</th>
<th>Active part (✓/x)</th>
<th>Examined (✓/x)</th>
<th>Supervised (✓/x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hernia repair</td>
<td>T</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>observation -suspected appendicitis</td>
<td>W</td>
<td>✓</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>rectal bleeding</td>
<td>OP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>cholecystectomy</td>
<td>W</td>
<td>✓</td>
<td>X</td>
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</tr>
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<td>C</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>P</td>
<td>Pre-assessment clinic</td>
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</tr>
<tr>
<td>R</td>
<td>Recovery area</td>
<td>O</td>
<td>Other (please specify)</td>
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</table>

### STUDENT CASE LOG

I am carrying out an audit of the first year surgical firms to see what activities students are doing and what case mix they are seeing. This information will be used to produce recommendations to improve the firms and ensure that students receive comparable experiences on all of them.

Please could you complete this log for every patient you see for one week in this firm.

Please note: These logs are confidential and will not be seen by any of your firm teachers.

Name: ____________________________

Firm: ____________________________

Completed for week beginning ________________ 1997.

Please return to Mary Seabrook, Dept of General Practice, KCSMD. Please ring me on 0171 312 5668 if you have any queries.
Appendix 16. The King's Doctor

The King's Doctor
A specification for the new House Officer

**Area of Competency**

1. To be able to recognise and deal with common life threatening situations such as Myocardial Infarction, Severe blood loss, Fits, and Deliberate Self-harm.
2. To be able to systematically gather information from a patient on the history of their disorder and be able to present this concisely to other members of the health care team.
3. To be able to undertake a comprehensive physical and mental state examination of a patient.
4. To be able to assess the requirement for diagnostic procedures and to undertake/or initiate them.
5. To recognise own limitations in situations and the need for others' skills in diagnosis and treatment.
6. To respond to patients, relatives and colleagues with empathy and support.
7. To be able to distinguish facts from opinion and to communicate them to others.
8. To be able to plan and manage individual episodes of care.
9. To be able to plan and schedule own time effectively.
10. To be able to undertake a critical review of literature and research, and read a scientific paper, in order to assist diagnosis and treatment.
11. To be able to assess the need for self development (at emotional, intellectual and practical levels) and to plan a programme of learning in a clear and concise manner.

**In order to achieve this our students will need to acquire the following attitudes, skills and knowledge:**

<table>
<thead>
<tr>
<th>Knowledge Required</th>
<th>Skills Required</th>
<th>Attitudes Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Science related to Medicine</td>
<td>Analytical thinking ability</td>
<td>Commitment to doing the best for individual patients.</td>
</tr>
<tr>
<td>To understand the structure and function of human body and its interaction with the social and physical environment.</td>
<td>including problem solving, decision making and planning, Critical and Conceptual thinking ability</td>
<td>Recognition and commitment to behaving ethically.</td>
</tr>
<tr>
<td>Diagnosis, Treatment and Prevention of Disease</td>
<td>Communications including effective interviewing and oral presentations. Ability to communicate effectively with lay people and technical experts using appropriate language.</td>
<td>Self confidence.</td>
</tr>
<tr>
<td>To understand how disturbance of form and/or function produces symptoms and physical signs.</td>
<td>Self Management including time &amp; stress management and understanding of own strengths and weaknesses.</td>
<td>Thirst for knowledge and understanding.</td>
</tr>
<tr>
<td>Aims and mechanism of methods of treatment.</td>
<td>Physical Dexterity.</td>
<td>Willingness to accept personal limitations and preparedness to challenge own thinking.</td>
</tr>
<tr>
<td>Importance of social and environmental factors in producing and exacerbating disease.</td>
<td>Technical Skills with computers, medical and scientific instruments and use of library and information sources.</td>
<td>Desire to work in a team.</td>
</tr>
<tr>
<td>Knowledge about the organisation of medicine including the structure of the NHS, health planning and budgeting, commissioning and audit. Medical careers and experience of career options.</td>
<td>Practical Skills. Examination Techniques, Diagnostic Procedures (such as recording an ECG) and Therapeutic Techniques (such as setting up an infusion).</td>
<td>Valuing the skills and abilities others.</td>
</tr>
<tr>
<td>Statistics</td>
<td></td>
<td>Interest in people.</td>
</tr>
<tr>
<td>Public Health and medical data, Sources of data and understanding statistical analysis.</td>
<td></td>
<td>Positive response to distress and suffering.</td>
</tr>
</tbody>
</table>
## Glossary of medically related terminology

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition/abbreviation in full</th>
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</thead>
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<tr>
<td>Case mix</td>
<td>The variety of cases in a particular patient population</td>
</tr>
<tr>
<td>Cases</td>
<td>Individual patients</td>
</tr>
<tr>
<td>Clerking</td>
<td>A process in which a student or doctor takes a full history from a patient, performs relevant physical examinations and examines the results of any investigative tests in order to produce a differential diagnosis and management plan.</td>
</tr>
<tr>
<td>Clinical</td>
<td>Relating to health care delivery</td>
</tr>
<tr>
<td>Clinical material</td>
<td>Patients</td>
</tr>
<tr>
<td>DGH</td>
<td>District General Hospital (local hospitals, usually offering a wide range of services), some of which take students on attachment</td>
</tr>
<tr>
<td>Examination</td>
<td>Physical examination of one or more body systems</td>
</tr>
<tr>
<td>Firm</td>
<td>(i) a group of medical students (ii) the group of doctors working within a particular specialty or sub-specialty (iii) the students' attachment for a given length of time.</td>
</tr>
<tr>
<td>Firm chief</td>
<td>The senior consultant on a teaching firm</td>
</tr>
<tr>
<td>GMC</td>
<td>General Medical Council, the governing body for undergraduate medical education</td>
</tr>
<tr>
<td>HEFCE</td>
<td>Higher Education Funding Council for England</td>
</tr>
<tr>
<td>History taking</td>
<td>Finding out from the patient about the signs and symptoms s/he has experienced, plus other relevant information such as family history and social situation.</td>
</tr>
<tr>
<td>HO</td>
<td>House Officer, also known as PRHO (pre-registration house officer) – the first year of medical work after a student graduates but before registration by the GMC</td>
</tr>
<tr>
<td>Long case</td>
<td>Assessment in which students carry out an unobserved clerking of a patient and then present the patient to examiners.</td>
</tr>
<tr>
<td>Matching scheme</td>
<td>The system whereby house officer posts within King's College Hospital and associated DGHs are allocated amongst recent KCSM graduates.</td>
</tr>
<tr>
<td>Matching scheme (for house officers)</td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td>(1) a generic term covering the complete practise of doctors (2) a specialty within medicine: also known as 'internal medicine'</td>
</tr>
<tr>
<td>OSCE</td>
<td>Objective Structured Clinical Examination: an examination in which students' clinical skills e.g. in history taking, physical examination, communication and practical procedures are observed and assessed.</td>
</tr>
<tr>
<td>Parallel firms</td>
<td>Firms in the same specialty, teaching students from the same year group, in parallel</td>
</tr>
<tr>
<td>QAA</td>
<td>Quality Assurance Assessment: an assessment of the quality of higher education subject areas based on 'fitness for purpose', carried out for HEFCE</td>
</tr>
<tr>
<td>SHO</td>
<td>Senior House Officer</td>
</tr>
<tr>
<td>Short case</td>
<td>Assessment in which students carry out a focused clinical assessment, usually a physical examination, occasionally an abbreviated history, which may be observed</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>SIFT</td>
<td>The 'Service Increment for Teaching': funding provided to teaching hospitals from the Regional Health Authority, on advice from the medical school. Designed to compensate teaching hospitals for the excess service costs caused by teaching</td>
</tr>
<tr>
<td>Signs</td>
<td>Physical evidence of disease</td>
</tr>
<tr>
<td>Specialty</td>
<td>Area of medical practice, e.g. medicine, surgery, obstetrics</td>
</tr>
<tr>
<td>SpR</td>
<td>Specialist Registrar, the new specialty grade, replacing the previous Registrar and Senior Registrar grades</td>
</tr>
<tr>
<td>SR</td>
<td>SeniorRegistrar</td>
</tr>
<tr>
<td>Sub-specialty</td>
<td>Area of medical practice within a specialty, e.g. vascular surgery, renal medicine, paediatric medicine</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Evidence of disease which patients describe</td>
</tr>
<tr>
<td>UMDS</td>
<td>'The United Medical &amp; Dental Schools of Guy’s and St Thomas’</td>
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