

New Century, New Challenges

**A Report from the
Heads of Departments
of General Practice and Primary Care
in the Medical Schools
of the United Kingdom**

September 2002

Forewords

From the President of the General Medical Council:

The National Health Service of the 21st century will continue to look to general practice to provide first-contact care, characterised by comprehensiveness, continuity and co-ordination. The traditional gatekeeper function is likely to remain important, but new roles, including the development of intermediate care and the sharing of clinical tasks across disciplines, are also likely to figure prominently in the future.

The academic wing of general practice, concentrated mainly in the University departments but also including primary care research networks and practices, has a crucial role in supporting an evidence-based health care system, in which effective, efficient and equitable care is provided on the basis of relevant research evidence. The contribution of academic general practice to the delivery of high quality health care is amply documented in this publication.

At a time when many of our assumptions about medicine are under the closest scrutiny, excellence in medical education has never been more important. Reflecting continuing changes in the pattern of health care, undergraduate teaching in general practice now accounts for a very substantial proportion of the clinical curriculum in most of our medical schools. The academic departments of general practice have often been at the forefront of innovation in medical education, frequently taking the lead in the teaching of communication skills, ethics, early patient contact and multi-disciplinary teaching and learning. The carefully-collected data presented in this report describe the major contribution made by academic general practice to undergraduate medical education in the UK, and also emphasise the critical importance of the interface between the University sector and the National Health Service.

Whilst this report is, in large part, a celebration of success and achievement, it also represents a salutary warning that the critical mass of senior primary care academics remains perilously small in comparison to those in other medical disciplines, and that there is no room for complacency. Clinical academic medicine faces enormous challenges across all medical disciplines at present, and the implementation of plans for improved career structures and rewards, supported by new resources, is an urgent priority, particularly if academic general practice is to respond to the undoubted challenges that the years ahead will bring.

Professor Sir Graeme Catto

President of the General Medical Council

From the House of Lords:

My father joined the NHS in 1948 as a GP. I can picture him in his study, late at night, poring over his medical books anxious to get the right diagnosis for an obscure set of symptoms. He was a very good and much loved family doctor.

Later, when I was commissioned to review community nursing for England, I was surprised to find that general practice was not necessarily what my father did. It was hugely variable and the challenge was to bring the rest up to the best. General practice with its different lines of accountability and organisational structure was like an off-shore island, attached but not part of the whole.

Today that is not true. Successive governments have sought to place primary care at the heart of the NHS. Much of that has been possible due to the foresight of academic departments who have embraced general practice. With few resources they have enhanced education, research, clinical care and service development, making primary care fit for practice and a leadership role.

New Century, New Challenges is an excellent piece of work which not only charts past progress but demonstrates how university departments can meet new challenges and be part of the solution. I strongly commend it to all those who have an interest in this area. It is informative, interesting, well researched and an effective tool for change.

Baroness Julia Cumberlege

From the principal author of the 1986 Mackenzie Report:

By any measure, academic general practice – or, increasingly now, academic primary care – has had a strong decade. This fifth ‘State of the Nation’ Report lists significant achievements from a discipline which has worked hard to develop meaningful contributions to both academic and service medicine against often considerable difficulties.

Probably the most important success in its recent portfolio has been its huge contribution nationally and locally to the modernising of undergraduate medical education, the healthier balances between bioscience and behavioural science, and between hospital and community based teaching reflecting desiderata long advocated by the General Medical Council. There has also been a substantial contribution to research. The interweaving of quantitative with qualitative methodologies is bringing new dimensions to our understanding of what is meant by ‘evidence’ in developing more appropriate health services, and the success of many groups of researchers in this activity has been reflected in the results from the three research assessment exercises since the discipline last reviewed its activities. And, in addition, senior staff have found time – or have had to find time – to contribute to the increasing demands for a general practice contribution to conceptual and practical leadership in medical schools and in the National Health Service.

But there is no room for complacency. First, medical schools continue to weight their support for academic activities strongly in favour of research as against teaching – and indeed early signs suggest that this may also apply in the new schools created to ensure that we produce adequate supplies of new doctors for the years ahead. Second, the research infrastructure of academic general practice/primary care is still poorly supported by both universities and the NHS in comparison to the position in teaching hospital disciplines, and the continuing inequitable treatment of contract researchers – the majority of whom are the social scientists who have contributed so much to the discipline’s progress in research effectiveness – constitutes a real threat to continued progress. And third, the still small cadre of senior staff have unrealistic demands put on them to teach, research, administer, contribute to management, and to see patients; the persisting deficit in middle-grade posts both for clinical and non-clinical staff continues to threaten the long-term viability of the discipline.

This Report properly celebrates the past and looks to the future. It includes messages for the universities and for the NHS. The opportunities now presenting themselves to focus the development of community-based academic medicine on vigorous and informed partnerships between universities and the new NHS Trusts seem too good to miss.

Professor John Howie

Emeritus Professor of General Practice, University of Edinburgh

Table of Contents

	Page
Executive Summary	7
1. Setting the Scene	12
1.1. Introduction	
1.2. Aim	
1.3. Objectives	
1.4. Constituency	
1.5. Methods	
1.6. Context	
• Undergraduate medical education	
• Research in primary care	
2. Activities and Achievements	19
2.1. Introduction	
2.2. Departments and their staff	
• Departments	
• Staff	
• Funding sources	
2.3. Educational Activity	
• Community based medical education	
• Expanding responsibilities	
2.4. Research Activity	
• Research activity	
• Research methods and content	
• R&D networks	
2.5. Clinical Care	
2.6. Service Development	
3. Challenges for Departments	30
3.1. Introduction	
3.2. The challenge of clinical excellence	
3.3. The challenge of career progression	

4. Challenges for Medical Schools and the Health Service	33
4.1. Introduction	
4.2. Challenges for Medical Schools	
• Educating the next generation of doctors	
• Inter-professional education	
• Research excellence in the community clinical sciences	
4.3. Challenges for the Health Service	
• Workforce development	
• Education in Primary Care Trusts	
• Research in Primary Care Trusts	
References	42
Appendix 1: Membership of working group	50
Appendix 2: Departments participating in 2001 survey	51
Appendix 3: Data collected during 2001 survey of 31 heads of UK academic departments of general practice and primary care.	52
Appendix 4: Results of 2001 survey	55
• Table 1: Census of staff in university departments of general practice/primary care: 01.04.01	
• Table 2: Comparison of staff in university departments of general practice/primary care in 1998 and 2001	
• Table 3: Census of senior academic staff (HEFC funded) in departments of general practice/primary care in 1998 and 2001	
• Table 4: Additional information – teaching and research	

Executive Summary

This report summarises recent developments in academic general practice and primary care in medical schools in the United Kingdom. It considers the challenges facing departments of general practice and primary care, and how further investment in these departments could help to address major challenges facing academic medicine and the health service.

The report has been prepared by a working group of the Heads of University Departments of General Practice and Primary Care in the UK. The aim of this group is to support the development of general practice and primary care, working from university centres of excellence in research and education. The departments not only make a substantial contribution to academic medicine in the UK; they also support medical generalists and primary care practitioners working for patients in the National Health Service. Increasingly, university centres relate to broader networks for education, research and service development in general practice and primary care.

The report is based on a review of published materials, censuses of staff in 1998 and 2001, a survey of heads of UK academic departments of general practice and primary care, and facilitated group discussions with heads of departments.

The report demonstrates the substantial progress that departments have made, with limited resources, in education, research, clinical care and service development. The consequence is that a relatively small complement of senior academic staff is being stretched in many directions. Further progress is both possible and necessary, if academic general practice and primary care is to contribute fully to addressing challenges in medical education, the delivery of high quality patient care and the recruitment and retention of a critically aware workforce.

Activities and Achievements

Departments and staff

- There were 31 academic departments of general practice and primary care in the UK in 2001, of which 27 are in universities providing undergraduate medical curricula and degrees, compared with 24 in 1986.
- Between 1986 and 2001, the number of professors increased from 16 to 66 and the proportion of non-clinical staff increased from 10% to 32%.
- In 2001, there were 128 (WTE) senior clinical and 41 (WTE) senior non-clinical academic staff, comprising about 5% of all senior clinical academic staff in the UK.
- 43% of clinical academic staff in 2001 were funded by Higher Education Funding Councils.

Education

- Departments of academic general practice and primary care have a proven record of expansion linked to quality in helping to deliver the recommendations of the General Medical Council on undergraduate medical education
- The range and volume of educational activity undertaken by departments have increased substantially. In addition to teaching in and about general practice, departments are now centrally involved in delivering the core curricula of UK medical schools.
- In 2001, departments contributed an average of 9% (inter-quartile range 6% to 12%) of all teaching in undergraduate medical curricula in UK universities.
- In 2001, departments received less than 5% of total SIFT/ACT funding to support undergraduate medical education.
- About 3900 general practices in the UK (i.e. about one third of all practices) are involved in community-based undergraduate medical education

Research

- Academic general practice and primary care has demonstrated that it is capable of delivering new knowledge of international importance through achieving the highest (5*) status in competitive university research assessment exercises.
- Primary care research considers the needs and problems of patients and populations, set in the context of their everyday lives, rather than disease and organs alone. Its principal concerns are with the causation, prevention and treatment of disease and illness, and the development of effective health policies and practices involving primary care.
- Primary care research is characterised by multi-method approaches, including qualitative methods, epidemiology, cohort studies, randomised controlled trials and research synthesis.
- Academic departments of general practice and primary care have increased their research activity substantially, as measured by external grants, numbers of contract staff and numbers of postgraduate research students.
- High quality research has been achieved in many fields, including help seeking behaviour, acute illness and chronic disorders, health promotion and disease prevention, the organisation of primary care, and the primary-secondary care interface.
- The development of primary care R&D networks has increased the involvement of service practitioners in the research process; such networks are particularly productive when working in partnership with academic departments.

Clinical care

- Most academic general practitioners carry out clinical work on behalf of the NHS outside formal university structures.
- Clinical academics have initiated many technical and policy innovations concerning clinical practice, including work of international importance.

Service development

- Senior academics in primary care and general practice are in increasing demand to fill leadership positions in universities and on national bodies.
- Primary care research influences policy and health service initiatives at national and local levels.
- Academic general practitioners are the crucial link between Medical Schools and Primary Care Trusts and Organisations.

Challenges for academic general practice and primary care

Increasing senior academic capacity

- The number of senior clinical academic staff, compared with the number of service general practitioners in the UK, remains a small fraction of the ratio which exists for all other major clinical disciplines.
- Senior academic posts are needed to provide career advancement and greater security for the large number of non-clinical staff, in various disciplines, with substantial experience and expertise in primary care research.
- The establishment of new departments and the recent increase in the number of professors have largely involved re-distribution of the existing pool of senior academic staff.
- The rate limiting step for further development is the number of senior academic staff who are capable of providing leadership, support and supervision.
- New senior posts are required to share the task of academic leadership and to provide career opportunities for career scientists, lecturers and research fellows.

Promoting clinical excellence

- The clinical role of academic general practitioners needs to be reviewed in the context of
 - accreditation and revalidation for general practitioners;
 - increasing pressures to choose between teaching, research and clinical activities
 - joint university-health service appraisals for clinical academics;
 - the new NHS awards for Clinical Excellence.

Providing career progression

- To attract sufficient academic general practitioners in the future the academic skill base of general practice must be enhanced, and salary differentials between junior academics and NHS principals reduced.
- Within academic departments, career progression is problematic for both clinical and non-clinical members of staff.
- There is a need to increase the number of clinical and non-clinical posts at each level of seniority, with clear pathways and reliable funding to allow career progression.

Challenges for medical schools

Educating the next generation of doctors

- The rapid expansion in numbers of medical students poses considerable organisational challenges for established and new undergraduate medical schools.
- Medical student numbers increased by 18% between 1998 and 2001, and will have increased by 42% by 2004. Staff:student ratios are declining rapidly.
- Academic general practice and primary care have the ability and the motivation to meet the challenge of increasing course delivery in community based settings. Currently, they do not have the capacity to do so.
- Medical schools will need to expand HEFC support for community based teaching, recognising the important contribution of non-clinical staff and the shortage of senior posts in university departments of general practice and primary care.

Inter-professional education

- Departments of general practice and primary care are multi-disciplinary, multifunctional organisations. They interact with specialists in clinical medicine, organ-based research, public health, education, nursing and other professions allied to medicine. They are ideally placed to develop inter-professional education.

Research excellence in the community clinical sciences

- There is a pressing need for more evidence on which to base decisions in and about primary care. Academic departments have the experience and confidence to provide universities with the necessary centres of research excellence, but research activity is critically dependent on effective leadership and the availability of long term funding. Both elements are in short supply.

Challenges for the health service

Workforce development

- The recruitment and retention of general practitioners is an increasing problem for the health service, particularly in areas of socio-economic disadvantage. Academic general practice can help because
 - community-based education raises interest in general practice in tomorrow's doctors;
 - combining academic and clinical posts improves recruitment and retention of young practitioners;
 - involvement in education and research improves the morale and should aid the retention of established practitioners.

Education in Primary Care Trusts and Organisations

- Joint initiatives between University Centres and Trusts interested in teaching can increase the quantity and quality of undergraduate education and postgraduate training in primary care.

Research in Primary Care Trusts and Organisations

- By forming partnerships with expert and experienced academic departments of general practice and primary care, Primary Care Trusts and Organisations can include research and development as part of their core business. Such developments support Clinical and Research Governance and provide an effective means of improving local as well as national health services.

Next steps

This report calls on key decision makers in academic medicine and the National Health Service to support the further development of academic general practice and primary care in the UK, as a key element for medical education, primary care research, workforce development, and better patient care.

1. Setting the Scene

1.1. Introduction

This report is about the contribution of academic primary care and general practice to academic medicine, and in support of the medical generalist within the National Health Service. It documents the development of academic general practice and primary care since 1986, showing the substantial progress that has been achieved with limited resources. It describes the challenges facing academic medicine and the National Health Service, and demonstrates how academic general practice and primary care can be part of the solution.

- *Primary care* means ‘first contact, continuous and co-ordinated care provided to populations undifferentiated by gender, disease or organ system’ (Starfield 1994). Decisions taken in primary care are of the utmost importance for patients, hospitals and the resources of the National Health Service.
- *General practice* refers to a discipline which is the point of first medical contact with health care, providing and integrating longitudinal continuity of care, managing both acute and chronic health problems as determined by the needs of the patient.
- The role of the *medical generalist* (general practitioner) is more important than ever in today’s increasingly specialised world. The generalist function involves concern with people rather than just their diseases, considered within biomedical, psychological and social contexts, based on firm epidemiological foundations. At the level of consultations it implies holistic decisions, made jointly between doctor and patient, understanding the personal significance of illnesses and clinical information (Sweeney et al 1998). At practice level it involves managing the complex micro-economy of a general practice, deploying resources to maximum effect. It includes working with hospital colleagues, other practice teams and social services in systems of care. The factors common to all of these activities are relationships, advocacy and decision making, in situations of complexity, uncertainty and difficulty.

The new millennium brings unprecedented change and opportunity for primary care and general practice. After a decade of reorganisation to enable the National Health Service to be primary care-led, there have been substantial changes in the terms and conditions of general practice. These are culminating in a new contract which will involve re-examining many traditional features of general practice and the recognition of a variety of extra services to add to the basic core. General practitioners and other primary health care professionals are now actively involved in health promotion, disease prevention and local health care strategy. These in turn lead to more undergraduate teaching for tomorrow’s doctors, and a growing demand for research evidence to improve quality in primary health care.

This report describes the achievements of academic general practice and primary care in the medical schools of the United Kingdom, and shows how they can help meet the challenges faced by medical schools and the health service.

1.2. Aim

- To report on the current state and future developments of academic general practice and primary care in the United Kingdom.

1.3. Objectives

- To describe the activities and achievements of academic departments of general practice and primary care in medical schools in the UK between 1986 and 2001.
- To consider the challenges facing these departments.
- To consider how academic departments of general practice and primary care can help to address current challenges faced by medical schools and the health service.

1.4. Constituency

This is the fifth report concerning academic general practice in the United Kingdom. Harris (1969) and Byrne (1973) reviewed the earliest stages of development, during a period of growth in both the University system and the National Health Service. The Mackenzie Report (Howie et al 1986) described the current structure of undergraduate departments of general practice, their teaching and research activities, and their relationship with universities and with general practice. It noted the main academic issues for these departments, and considered current and prospective methods for funding academic general practice. Fraser and Preston-Whyte (1988) documented the contribution of academic general practice to undergraduate medical education. These documents laid the foundations on which many subsequent strategic developments were based. They paved the way for negotiations which led to NHS funding for general practice teaching, without which recent progress would not have taken place. Reports have recently been produced on academic general practice in Australia (Kamien 2001) and the Republic of Ireland (Howie & O'Cuinnegain 2002).

In July 2000, the Heads of Departments of General Practice and Primary Care in the United Kingdom and Ireland proposed that a working group be set up, to produce a report on the state of academic general practice and primary care in the United Kingdom at the beginning of the 21st century. This proposal was

endorsed by the Executive group of the Association of University Departments of General Practice, now known as the Society for Academic Primary Care (SAPC, see www.sapc.ac.uk). Financial support was provided by the Trustees of the Mackenzie Bequest. The working group members are listed in Appendix 1.

Academic general practice and primary care includes:

- undergraduate departments of general practice and/or primary care based in medical schools;
- postgraduate departments of general practice and/or primary care in universities in process of developing undergraduate medical schools;
- university departments outside medical schools pursuing related interests, within which general practitioners play a substantial role;
- university departments of primary care, health science or health services research, with little or no general practitioner involvement;
- postgraduate medical deaneries which supervise vocational training and continuing medical education for general practitioners;
- general practice and primary care research networks;
- and individuals with variable levels of involvement with university departments, for example the pioneering contributions of Tudor Hart (1971) and Heath (1995).

Relevant functional groupings include those which:

- provide academic support via research and education for the generalist clinical function;
- train tomorrow's doctors and other health professionals;
- produce GP or primary care academics, within departments, or through postgraduate programmes;
- provide academic partnerships between primary care clinicians and behavioural scientists;
- encourage the interface between GPs and other health care professionals;
- and contribute to scientific discovery and the knowledge base of primary care

All of these categories have important leadership roles in developing academic support for primary care. The working group took the view that the primary objectives of academic general practice and primary care are to provide a combination of skills (education) and evidence (research) aimed at improving primary health care and supporting the generalist clinical function. Decisions taken in and about general practice are usually based on experience, informed by evidence and shaped by values. Academic general practice can help to distil experience, produce evidence and promote values, using a wide range of publications and educational activities as its means of influence.

The position of general practice and primary care within medical schools is of fundamental importance to the achievement of these objectives. University-based academic centres which integrate teaching and research are well placed to work on several fronts, including with hospital colleagues, primary care

researchers, other health professions and local networks for research and education. On this basis, the focus of the report is on departments of general practice and primary care in universities which have - or will soon have - responsibility for undergraduate medical education. Thirty-one institutional groupings within medical schools in the United Kingdom fulfilled these criteria in 2001. These groupings are listed in Appendix 2.

1.5. Methods

The working group accessed relevant published materials. They also collected new data on the current activity and opinions of members of academic departments of general practice and primary care.

1. Each member of the working group provided a text on important issues for academic general practice in their own institution. These were used as a basis to identify common key themes.
2. All Heads of Departments of General Practice and/or Primary Care in the United Kingdom were invited to complete a survey instrument containing:
 - a census of current staffing levels and funding source, and of educational and research activity, which enabled comparisons to be made with a similar survey conducted in 1998 amongst the 23 established departments;
 - structured questions related to the key themes identified in phase 1;
 - and triggers for comment about departmental achievements, problems and opportunities.Details of the survey document are given in Appendix 3.
3. In November 2001, members of the Heads of Departments group participated in facilitated group discussions, on how to best to develop the profile and contribution of academic general practice.

The working group met six times between November 2000 and April 2002, and had four formal conversations with the Heads of Departments' group. Comment was also received from leading primary care academics in Europe and Australia, and from senior medical academics and policy makers in the UK.

1.6. Context

Undergraduate medical education. The importance of general practice in the delivery of undergraduate medical education was highlighted in the Mackenzie Report (Howie et al 1986) and by Fraser & Preston-Whyte (1988). It is strongly reflected in the educational philosophy underpinning 'Tomorrow's Doctors' (General Medical Council 1993), which calls on medical schools to ensure that their students acquire knowledge and understanding of health and its promotion, of disease, and its prevention and management, in the context of the whole individual and his or her place in the family and in society.

During the 1990s NHS funding for medical education by general practice increased substantially. Initially, limited payment for teaching medical students was provided as one of the items of service for which general practitioners could claim remuneration. In 1992 the Department of Health provided academic departments of general practice and primary care with access to 'Tasked Monies', in order to develop their academic base. The Winyard Report (NHS Executive 1995) specified that Service Increment for Teaching (SIFT) funding, hitherto the exclusive preserve of major teaching hospitals, should now be shared with district general hospitals and general practice. Parallel developments occurred in Scotland, consolidated in 1996 as a 5% target allocation of total ACT, the Scottish equivalent of SIFT, for general practice based teaching.

The collective effect of these funding initiatives was to enable academic departments to increase their staffing levels substantially, particularly during the first half of the 1990s (see Section 2.2 below). However this expansion in NHS resources available to support undergraduate educational activity in general practice and primary care had virtually ceased by 1998. It remains a small fraction of the total SIFT/ACT budget which is mainly deployed in teaching hospitals. It is used mainly to support teaching staff, including GP tutors engaged in teaching delivery, and department staff engaged in planning co-ordination and review. SIFT rarely provides financial investment in facilities for primary care education.

Research in primary care. During the 1990s, the Department of Health and the Medical Research Council gave increased recognition to research in primary care.

The General Practice Research Framework was set up by the Medical Research Council in 1973 originally to support epidemiological studies into cardiovascular disease. It is a network of about 900 UK general practices, providing access to over 10% of the population in a fairly representative manner. The size and nature of studies carried out within the Framework has expanded in recent years, with impetus from outside as well as within the MRC Unit. It is a national resource, accessible to all researchers wishing to conduct research through general practice.

The Culyer Report *Supporting Research and Development in the NHS* (Department of Health 1994), and the acceptance by Ministers of its main recommendations, heralded a fundamental change in the way in which NHS R&D was to be funded. It explicitly stated for the first time that all parts of the NHS, including primary and community care, should have access to the Department of Health's research and development budget.

Funding was provided by the Department of Health to set up dedicated general practice and primary care research units in several English universities. The largest of these is the National Primary Care Research and Development Centre. The National Centre is a multi-disciplinary organisation, established by the

Department of Health Policy Unit in 1995 with an initial ten year programme of policy related research in primary care. The Centre's main base is in Manchester, and is now a collaboration between the Universities of Manchester and York. Its aims are to conduct high quality research relating to primary care, disseminate research findings to a wide range of audiences, inform primary health care policy, support the development of primary care and develop research capacity in primary care (see www.npcrdc.man.ac.uk).

The Mant Report on *Research & Development in Primary Care* (1997) presented the case for more research in, by and for primary care. Its main conclusions were that:

- primary care is central to the NHS and individual patient care;
- decisions made in primary care need to be based on research evidence;
- the evidence base for primary care needs to be strengthened;
- much of the evidence required by primary care can only be obtained by R&D in primary care involving primary care practitioners and their patients;
- the capacity of primary care to undertake the R&D necessary to provide a firm evidence base is at present limited (Campbell S et al 1999);
- the appropriate involvement of primary care staff in R&D is likely to increase the quality of clinical care in the NHS.

The Mant Report was accompanied by a ministerial commitment to increase the R&D spend on primary care research to £50 million per annum by 2002-3. This led *inter alia* to the creation of Primary Care Research Networks (Thomas et al 2001), and to the initiation of the National Primary Care Awards, with the intention of providing training for the next generation of primary care research scientists. The NHS R&D Strategic Review of Primary Care (Mant et al 1999) stressed that increased R&D in primary care must impact on health, both by establishing a reflective evidence-based culture in the NHS and by producing research to fill the evidence gap.

The *MRC Topic Review on Primary Health Care* (Stott et al 1997) contrasted the enormous potential of the UK system of longitudinal registration of patient list populations with the paucity of evidence-based decision making at clinical and organisational levels. Its recommendations to address this deficit included:

- creating a cadre of primary care research leaders, capable of co-ordinating multi-disciplinary research, and able to work creatively with single discipline experts;
- active support for an 'evaluative culture', where evidence is sought and valued amongst all involved in primary care policy, commissioning and practice

The Review also advocated specific new lines of primary care research in the fields of help-seeking behaviour, acute illness, chronic disorders, health promotion and disease prevention. It was followed by a joint non-recurrent MRC/DH funding initiative for research into primary health care. The portfolio is worth £9.3m, and comprises 21 projects and 2 programmes.

In 1999, the foundation phase of the Scottish School of Primary Care was established following publication of *Shaping the Future: a Primary Care Research and Development Strategy for Scotland* (RCGP Scotland 1999). The School became fully operational in January 2002 with joint funding from Scottish research and higher education sectors. It is a virtual school with a collaborative function, working between existing departments and funding agencies to facilitate high quality research, develop the evidence base and increase the capacity of primary R&D in Scotland (see www.sspc.uk.com).

2. Activities and Achievements

2.1. Introduction

The essential functions of academic general practice and primary care in the UK are to support and develop the medical generalist through high quality education and research. Substantial progress in these functions has been made during the past fifteen years. In 1986 academic general practice had a limited function in medical schools, primarily with an educational brief. Departments are now more numerous, larger, and have wide set of roles and responsibility. The principles of general practice, including patient-centredness and holism, are reflected in the core values of modern undergraduate medical education (General Medical Council 1993). Substantive research success can now be demonstrated.

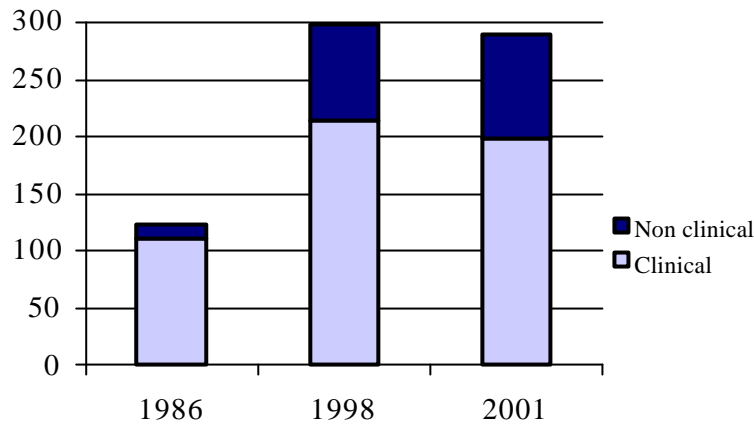
2.2. Departments and their staff

Departments. In 1969 there were five departments of general practice based in UK medical schools and taking part in undergraduate medical education. By 1986 the number had increased to twenty four. In 2001 there were thirty one departments of general practice and primary care in the UK, including two of the earlier cohort which had recently merged – in total therefore, eight new undergraduate departments have been created. Of these thirty one departments, twenty seven were now directly involved with the provision of undergraduate medical education. There is a trend for academic general practice and primary care departments to merge with broader divisions within medical schools: about half of departments are now within such divisions, with titles which usually refer to community, health or population sciences.

Academic staff. The number of core academic staff within UK departments of general practice and primary care more than doubled between 1986 and 2001. This expansion was most rapid during the early 1990s, and was substantially completed by 1998. Details of staff numbers and composition for departments in 1998 and 2001 are given in Appendix 4, Tables 1-3.

Fraser & Preston-Whyte (1988) reported a total of 124.2 full-time equivalent academic staff across all twenty four departments in 1986 – an average of 5.2 per department - of whom 13 (10%) were non medical. In 1998, there were 299 full time equivalent staff in these twenty four departments, of whom 84 (28%) were non medical. By 2001 there were 291 fte staff, now spread across thirty one departments – an average of 9.4 per department - of whom 93 (32%) were non medical (Figure 1).

Figure 1: Full time equivalent numbers of staff in departments of general practice and primary care: 1986, 1998, 2001



There has been a change, not only in size but also in composition, from departments in which general practitioners predominate towards those which represent the multidisciplinary nature of modern primary care. Academic primary care is now a discipline encompassing *inter alia* anthropology, epidemiology, ethics, health economics, medicine, nursing, pharmacy, psychology and sociology.

There were 16 professors of general practice in 1986. In 2001 there were 66 (56 full time equivalents) professors in the 31 departments surveyed, including 16 with non-medical chairs. This figure does not include general practice professors based outside these departments, for example in postgraduate deaneries or in universities without medical schools. In 2001 the departments had 159 full-time equivalent senior academic staff (comprising professors, readers, senior lecturer and senior research fellows), which represents about 5% of all senior clinical academic staff in the UK (Smith & Sime 2001).

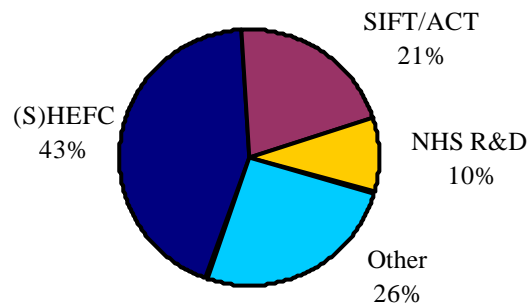
Staff were not evenly distributed between the thirty one departments (see Appendix 4, Table 3). Ten departments, including six newly established undergraduate departments, had less than 4 full time equivalent senior academic staff, eight had between 4 and 6, nine had between 7 and 9, and three had 10 or more.

Funding sources. Of the 198.4 full-time equivalent clinical academic posts in the 31 departments in 2001,

- 86.1 (43%) were funded from Higher Education Funding Council sources (HEFC in England and Wales, SHEFC in Scotland);
- 41.8 (21%) were funded from NHS education sources (SIFT in England and Wales; GP ACT in Scotland);
- 18.9 (10%) were funded from NHS Research & Development sources;

- and 51.6 (26%) were funded from other sources, including endowments and charities. These data are presented graphically in Figure 2 and in detail in Appendix 4 Table 1.

Figure 2: Source of funding for clinical academics in 2001 (N=198)



In 2001, most departments had between 3 and 4 posts funded by Higher Education Funding Councils, with a range from 0.5 to 9.7. Most departments had between 1 and 2 NHS (SIFT/GP ACT) funded posts, with a range from 0 to 12. The overall proportion of core posts funded from higher education sources was consistent with that for other academic medical disciplines (Smith & Sime 2001). However this apparent comparability does not take account of the greatly expanded undergraduate teaching load now carried by primary care (see sections 2.3 and 3.2).

2.3. Educational activity

Community based medical education. Staff of academic general practice and primary care provide intellectual leadership for community based medical education in the United Kingdom (Whitehouse et al 1997, Jones et al 2001, Carter & Jackson 2002). Their contributions encompass clinical and behavioural science teaching, communication skills, patient centred consulting and health care ethics, and the explicit inclusion of professional attitudes within undergraduate medical curricula. Academic general practice has major responsibilities for curricular development, assessment procedures, and quality assurance. Within medicine, it is at the forefront of developments in vertical (undergraduate – postgraduate) and horizontal (inter-professional) integration, and educational research.

Within the medical profession, academic general practice has led the way in acquiring and implementing a wide range of teaching techniques (Fraser 1991). The tradition of addressing these issues in general practice began in the postgraduate arena, with vocational training (Tait 1974, Pendleton & Hasler 1983,

Neighbour 1992). General practitioners were able to move ahead of their specialist colleagues, because they were given *tabula rasa* when vocational training began, were not constrained within previous traditions of training, and recruited behaviourists and educationalists to help them (Heion 1984). General practitioners take a professional approach to educational planning and delivery, which are comparable in many respects to the challenges of managing research projects.

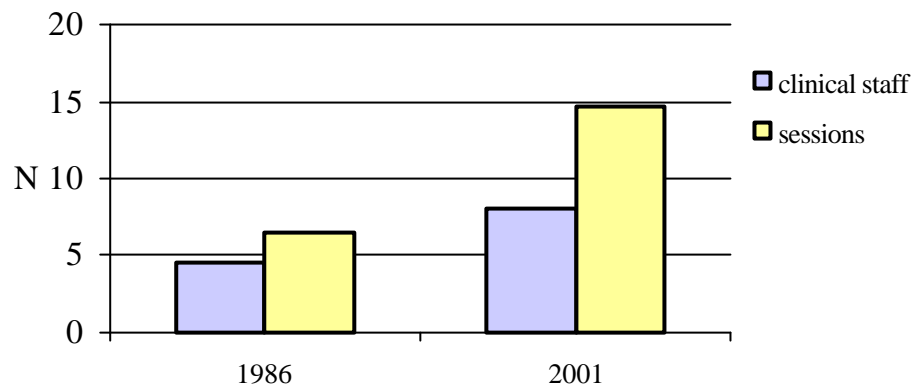
General practice provides excellent opportunities for medical students to develop skills in clinical problem solving, because of the frequency with which patients present with undifferentiated problems across the entire spectrum of disease. As a consequence, students learn to make cautious diagnostic assumptions and have to approach presenting problems with an open mind. 'This provides students with repeated opportunities to integrate and apply knowledge and skills learned from the basic, behavioural and clinical sciences in a discriminating way' (Fraser 1991). Students can also gain unique insights into the true prevalence and nature of disease through exposure to the clinical epidemiology of the community. General practice is also the context in which anticipatory and continuing care, and the social and psychological aspects of illness and disease, can best be observed and understood.

Although students can best learn how to recognise and manage serious conditions in the hospital context, this provides them with a misleading picture of society's medical problems since they are exposed to highly selected patient populations. They are often exposed to a restricted bio-medical model which principally views the body as a machine, disease as a consequence of breakdown of the machine and the doctor's task as repairer of the machine (Engel 1977). These traditional drawbacks of hospital as a suitable context for undergraduate education have been compounded by recent changes in the pattern of healthcare provision: increased throughput of patients, combined with shorter patient stays and super-specialisation. There is also convincing research evidence that the basic clinical skills can be taught as effectively, or even better, in family practice than in a hospital setting (Murray et al 1995, Johnson & Boohan 2000). Furthermore, when the two can be directly compared, as in integrated courses, practice-based teaching is often perceived by medical students to be of higher quality and greater value (Hastings et al 2000, Wallace et al 2001).

Expanding responsibilities. The increase in general practice involvement in teaching medical students has been substantially greater than the increase in the numbers of academic staff (see section 2.2). In 1986 departments of general practice had educational responsibility for between 20 to 40 sessions (a session being defined as half a day) per medical student, during the entire undergraduate course. In 2001, departments of general practice and primary care had responsibility for each student for an average of 120 sessions (inter-quartile range 80 to 132) of the full undergraduate medical course. Academic general practice now contributes on average 9% (inter-quartile range 6% to 12%) of teaching to the undergraduate medical curricula of UK medical schools (Appendix 4, Table 4).

In 1986, the 23 established departments had a mean of 4.6 clinical staff per department, each taking on some 6.5 sessions of undergraduate education. By 2001 this teaching load had more than doubled: the mean of 8.1 clinical staff per department each taking on 14.7 sessions of undergraduate education (See Figure 3).

Figure 3: Mean numbers of clinical staff and teaching sessions: 1986 & 2001



The number of general practices involved in teaching undergraduate medical students increased from about 2200 in 1986 to over 3800 (36%) in 2001. Numbers are approximate, since they include practices taking students from more than one medical school. There was regional variation in the proportion of general practices involved in undergraduate teaching in 2001, from 10% to 50% (Gray et al 2000). In some medical schools, academic general practice departments have developed a 'core and cluster' model: a small number of experienced teaching practices take on a major educational role; they link with other practices in the same locality, which are used more sparingly.

In 1986 academic general practitioners had minimal involvement in summative medical examinations, and even less in overall curricular design and management and design. Academic general practitioners now have major involvement with all levels of examinations, and in many medical schools have pivotal roles in curricular design and management.

Over three-quarters of departments of general practice and primary care are now involved with the central management of their medical schools. In 2001 additional roles included Dean of Undergraduate Medicine, Sub-Deans (for Clinical Studies and New Curriculum), Director of Medical Education and Associate Dean of Admissions. Seven departments provided the Headship of their School or Division, and seven were leaders of their faculty education committees.

If the extent and influence of academic general practice in undergraduate medical education has changed dramatically since 1986, its content and delivery retain consistency. The acquisition of knowledge is focussed on common and important illnesses and the management of chronic diseases; an understanding of the psychosocial context of health and disease; the concept of continuity of care; and an appreciation of the role of other agencies. Communication and consultation skills remain paramount, and there is an increasing consensus that the skills of history taking and examination can and should also be taught in primary care. Many departments provide academic leadership in teaching the behavioural sciences (Dowrick 2001). Most teaching in general practice is still delivered on a one-to-one basis, or in small groups.

The fundamental change is in the educational environment. Departments of general practice and primary care no longer only teach about general practice. They are now centrally involved in delivering the core curriculum in UK medical schools. It is logical to expect that this role may evolve towards a central co-ordinating function for student learning, analogous to the central role that general practitioners play for patients. Generalists have particular strengths in helping students to integrate their learning, and to achieve a wide range of learning objectives within specific teaching situations.

2.4. Research activity

The Harris (1969) and Byrne (1973) reports were concerned exclusively with undergraduate medical teaching by general practitioners. The Mackenzie Report (Howie et al 1986) indicated that it was possible, though difficult, for academic general practitioners to undertake research in the early 1980s. High quality results had been achieved, for example, in studies of the natural history of acute and continuing illnesses, the determinants of GP prescribing behaviour, and the health beliefs of the public. The research environment was technically challenging, however, there was no tradition of research in basic training, and heavy clinical and teaching responsibilities meant that there was often not enough time to think, plan and read. Academic general practitioners were essentially operating in a teaching sub-culture within medical schools, with occasional forays into the world of research.

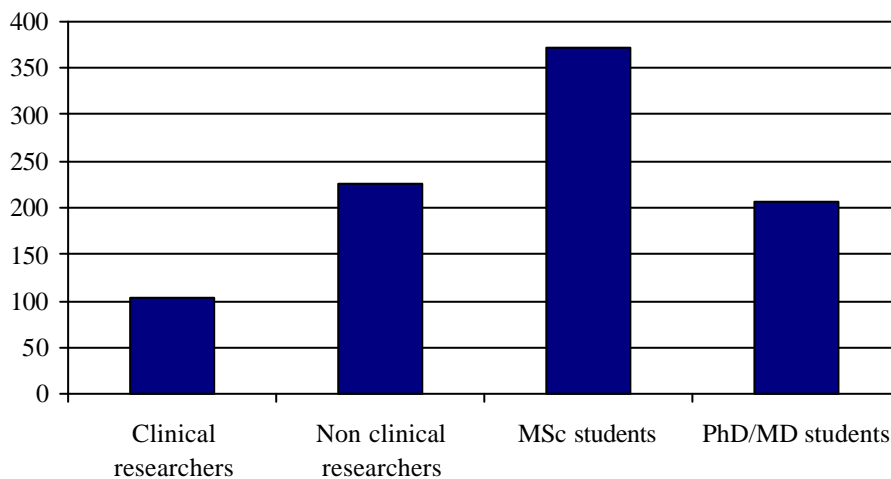
This is no longer the case. The expansion of academic general practice and primary care, in terms of numbers and of multi-disciplinarity, means that there is now a critical mass of research active staff available to most established departments. There is now ample evidence of successful and effective research activity, generated by academic departments of general practice and primary care across the UK.

Research Activity. The 31 departments included in the 2001 review collectively held 452 research grants as at 1 July 2001, of which 170 were worth £100,000 or more, and 8 were worth £1,000,000 or more (see Appendix 4, Table 4).

These departments collaborate extensively with academic colleagues in other departments and disciplines. All have developed research links (i.e. jointly holding grants, co-authorship on papers) with other departments within the same institution. Twenty eight (90%) have developed such links with other institutions, and 23 (74%) have developed research links with institutions outside the UK. This involves a range of partner disciplines extending well beyond the anticipated groupings of the community clinical sciences. More than half the links are with colleagues from public health, psychiatry, psychology, and other clinical specialities. Sociology, education and paediatrics are also disciplines with which departments commonly undertake joint research activity.

In 2001 the 31 departments employed 248 full-time equivalent researchers on fixed term contracts – an average of 8 per department, with a range from 3.5 to 21.5. The great majority (81%) of contract staff were non-clinical researchers. These departments also supported 82.5 research training fellows, of whom the majority (70%) were from clinical backgrounds. Twenty three (74%) departments had students registered on Masters courses, compared with only five departments in 1986; 29 (94%) departments had students registered for a higher research degree (PhD or MD). A total of 371 students were registered for Masters courses, with 206 registered for higher research degrees (see Figure 4 and Appendix 4 Table 1).

Figure 4: Research staff and postgraduate students in 31 departments of general practice and primary care in 2001.



2001 Research Assessment Exercise: Twenty seven of these departmental groupings were returned within the Community Clinical Sciences Units of Assessment (UoA2). Twenty four (88%) of these Units of Assessment achieved scores of 4 or above, indicating at least a national level of research excellence. In the

sub-panel assessments for primary care, five submissions achieved a rating of 5 or 5*, demonstrating that academic primary care in the UK is capable of achieving the highest international standards of research excellence (see www.rae.ac.uk/results).

Research methods and content. Research in general practice and primary care is informed by – and increasingly shapes – theory and evidence from parent disciplines, including clinical medicine and the behavioural sciences. It is characterised by *multi-method approaches*, including qualitative perspectives, primary care epidemiology, cohort studies, randomised controlled trials and research synthesis.

Substantial methodological advances have been made by UK primary care researchers during the past few years. These include:

- systematic approaches to the development and evaluation of complex interventions (Campbell M et al 2000)
- cluster randomisation for controlled trials in primary care (Kerry & Bland 1998, Campbell M 2000)
- involving patients in research: outcome measurement (Jacoby et al 1993) and decision analysis (Protheroe et al 2000)
- incorporation of narrative and linguistic approaches to evidence-based medicine (Greenhalgh & Hurwitz 1998, Skelton et al 2002).

Primary care research emphasises the whole patient in society, rather than disease and organs alone. It is concerned with causation, prevention and treatment of disease and illness. It covers individuals and populations, in homes, families and communities, and the development of effective health policies involving primary care.

The research output of UK departments of primary care and general practice can be characterised within six broad themes: help-seeking behaviour, acute illness, chronic disorders, health promotion and disease prevention, organisation of primary care, and the primary-secondary care interface. The following are illustrative examples of high quality research within each of these themes:

Help seeking behaviour:

- factors affecting consultation for irritable bowel (Kennedy et al 2001), rectal bleeding (Crosland & Jones 1995) chest pain (Richards et al 2000) and heart disease (Hunt et al 2001);
- complex determinants of attendance (Dowrick 1992, Kai 1996, Little et al 2001a &b) and prescribing decisions (Britten et al 2000) ;
- socio-demographic influences on access to primary care (Stirling et al 2001, Campbell J et al 2001).

Acute illness:

- intervention trials in the management of earache (Burke et al 1991, Butler & van der Voort 2000) and sore throat (Little et al 1997).

Chronic disorders

- epidemiology of chronic pain (Elliott et al 1999) and heart failure (Davis et al 2001);
- randomised controlled trials and meta-analyses of the management of
 - asthma (GRASSIC 1994)
 - depression (Dowrick & Buchan 1995, Howe 1996, Thompson et al 2000, Ward et al 2000, Bower et al 2000)
 - diabetes (DICE 1994, Kinmonth et al 1998)
 - dyspepsia (Delaney et al 2000)
 - heart disease (Campbell N et al 1998, Jolly et al 1999, Moher 2001)
 - long term mental illness (Kendrick et al 1995)
 - and stroke (Mant et al 2000).

Health promotion and disease prevention:

- nicotine replacement and smoking cessation (Silagy et al, 1994);
- primary prevention of heart disease (Family Heart Study Group 1994, ICRF Oxcheck Group 1995, Steptoe et al 1999);
- promotion of physical activity (Harland et al 1999);
- and the primary prevention of melanoma (Jackson et al 1998);

Organisation of primary care:

- quality of care in relation to consultation length (Howie et al 1991), continuity of care (Freeman & Hjortdahl 1997, Mainous et al 2001), patient enablement (Howie et al 1999) and patient-centredness (Little et al 2001c);
- organisational aspects of diabetes care (Griffin 1998);
- the impact of near-patient testing (Rink et al 1993, Fitzmaurice et al 2001);
- the potential roles of nurses (Venning et al 2000, Shum et al 2000, Kinnersley et al 2000, Ridsdale et al 2001);
- and the impact of new technologies (Montgomery et al 2000, Emery et al 2000, Mitchell & Sullivan 2001, May et al 2001).

Primary-secondary care interface:

- socio-demographic influences on patient access to secondary care for breast cancer (Macleod et al 2000), asthma (Griffiths et al 2001) and vascular surgery (Feder et al 2002);
- evaluation of strategies to improve breast screening (Richards et al 2001) and infertility management (Morrison et al 2001).

R&D Networks. Many academic departments have been involved with the creation of primary care R&D networks, which aim to disseminate the culture of research into primary care (Hungin et al 1999, Thomas et al 2001). The influence of these networks on R&D capacity building in primary care is likely to prove substantial, and their development merits careful evaluation (Carter et al 2000). Productivity may be

measured in terms of academic outputs, but is crucially dependent on the development of informal, trusting relationships, which are best measured qualitatively (Griffiths et al 2000) Early evidence indicates that networks need organisational coherence, and that involvement with academic centres of excellence is crucial to their sustainability and success (Harvey et al 2000, van Weel et al 2000).

2.5. Clinical Care.

Involvement with direct patient care is essential for academic general practitioners, in order to keep teaching and research relevant to practice. In the 1960s, most academic general practitioners worked in general practices or health centres which were also the base for the academic department, in the sense that the department includes a NHS general practice where clinical academics carry out clinical work and discharge NHS management responsibilities. The financial arrangements of such departments include both NHS and University funding streams . By 2001 only four (13%) of the 31 UK departments were practice-based. The majority of academic general practitioners now undertake their clinical work in NHS practices which are *linked* to academic departments, but are outside formal University structures.

In addition to direct clinical care of patients, academic general practitioners have been responsible for technical and policy innovations in practice. Methods have been created to link evidence to implementation, including decision analysis (Elwyn et al 2001) and patient decision aids (O'Connor & Edwards, 2001), evidence based handbooks (Gabbay 1999), support for ethical decision making (Dowrick & Frith 1999), and libraries of audit protocols (Fraser et al 1997). Important evidence has been provided about the uses - and limitations - of clinical guidelines (Eccles et al 1996) and educational interventions for health care providers (Grimshaw et al 2001).

2.6. Service Development

Senior clinical academics in general practice are in increasing demand to fill leadership positions in their schools, universities and on national bodies. Primary care now has a substantial presence in domains of clinical research, such as asthma, gastroenterology and psychiatry, which were previously considered the preserve of secondary care academics. Primary care academics are represented on major research policy and grant-awarding bodies, including the Medical Research Council, the Wellcome Trust, the PPP Foundation, and senior NHS R&D bodies. Evidence from primary care studies is routinely included in systematic reviews, informing the activities of the National Institute for Clinical Excellence and the development of clinical guidelines.

These leaders provide an important generalist person centred perspective in discussions, which complements organ or disease based views, and facilitates consensual problem solving. At a national level, they are involved in policy-related decision-making through membership of the Academy of Medical Sciences and its Council, the Department of Health's Medical Advisory Committee, expert reference groups for National Service Frameworks, and the Council of the Royal College of General Practitioners. They provide expert advice in managing complex ethical and clinical problems, such as those posed by the Shipman case (Baker 2001).

Disease prevention studies, for example the ICRF Oxcheck Study (1995) and Family Heart Study (1994) have directly influenced government policy. Concern with the socio-political issues of inequality and ethnicity led to the creation of an important census-based deprivation measure (Jarman 1983). General practice academics have been at the forefront of health service initiatives at both local and national levels, such as the creation of intermediate care facilities (Higgs 1985) and the development of primary care services in accident and emergency departments (Dale et al 1995). Many of these were pioneer projects which have been disseminated widely and initiated elsewhere. For example, the model of primary care trained personnel seeing triaged primary care cases in accident and emergency is now being employed on the international stage.

Academic general practitioners are the crucial link between medical schools and Primary Care Trusts. Most departments have established effective methods of joint working between academic centres and practice networks for undergraduate education, which provide effective models for engagement between faculties and trusts.

3. Challenges for Academic General Practice and Primary Care

3.1. Introduction.

Academic departments of general practice and primary care in the UK have expanded rapidly since 1986. Their staff have achieved considerable success in community based education and research, and provided much needed technical innovations and service developments for the NHS. However there is now concern over their capacity to sustain these achievements. Heads of Departments of General Practice and Primary Care in UK medical schools consider that they face two main internal challenges during the next few years: to promote clinical excellence, and to provide adequate career progression

3.2. The challenge of clinical excellence

Direct clinical experience is important for academic general practitioners. Apart from its intrinsic benefits for patient care, it provides a source of ideas for both teaching and research, and evidence of credibility with full time clinical colleagues. Yet there are inherent tensions. In the 2001 survey of heads of departments, over half of respondents discussed the importance of maintaining clinical competence. The current generation of academic leaders is under some pressure to move away from patient care in order to fulfil their educational, research and management commitments. This may be a greater problem than elsewhere in medicine, since general practice is such a diverse discipline, heavily dependent on the quantity and continuity of contact with patients.

The clinical role of academic general practitioners may become more of an issue in the future, for three reasons. First, the General Medical Council has now approved plans for accreditation or revalidation for practice, and it is likely that this process will stipulate a minimum regular amount of time working face-to-face with patients. Second, following the recommendations of the Follett Report (2001), appraisal of clinical academics in future will be carried out jointly between the University and the clinical service in which they work. For academic general practitioners this suggests that a Primary Care Trust representative will contribute to their job plan and appraisal. The consequence may be that the number and nature of clinical sessions worked is addressed more closely from the NHS perspective. Finally, like consultant specialists, academic general practitioners applying for the new NHS Clinical Excellence awards (Department of Health 2001) will have to demonstrate a commitment in terms of a minimum number of sessions working for the NHS. This is currently three fixed and three floating sessions, which may include indirect contributions through research and education.

Two issues emerge. First, there is urgent need for clarification of the minimum number of clinical sessions which academic general practitioners should be expected to undertake, and also how they are defined: in

particular, the balance between direct and indirect contributions to clinical care. Second, since there is a trade-off between time spent on clinical work and time spent on research and education, an increase in the former – however laudable – will result in a decrease in the latter. This circle can only be squared by greater specialisation of academic functions – with inherent problems in providing generic academic leadership - or by an increase in the number of senior clinical staff in academic departments.

3.3. The challenge of career progression

The future of academic general practice and primary care is dependent on its ability to recruit and retain an adequate number of high calibre staff, from both clinical and non-clinical backgrounds. This in turn is dependent on ensuring that primary care academics have confidence in being able to progress along a well defined career pathway.

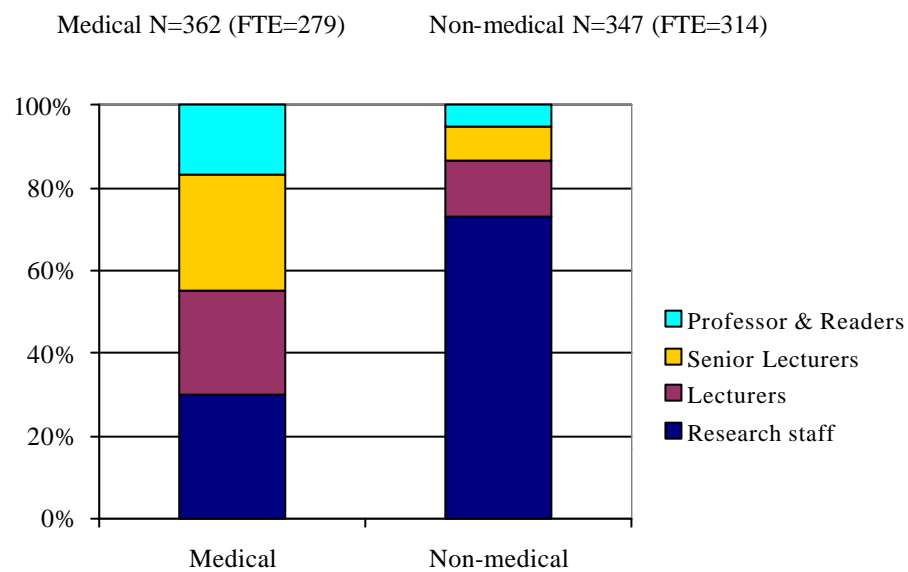
Although some progress has been made in developing a career structure for academic general practice, it remains a career option taken by a very small minority of general practitioners. In most medical disciplines, about 10% of consultants have academic appointments. By contrast, less than 1% of general practitioners have substantive academic appointments. The discipline is therefore a long way short of the critical mass that has been developed to provide academic leadership in other medical specialities.

The generic problems of attracting sufficient clinicians to academic medicine, the result of unresolved issues of career structure and prospects (Stewart 2002), and the increasing expectation that clinical lecturers should be research active, are particularly acute for academic general practice. The model of a structured career ladder adopted within the hospital sector does not dovetail with career paths of academic general practitioners. Young general practice academics at lecturer level earn considerably less than their counterparts working as full time NHS principals.

The academic skill base of general practice needs to be enhanced. Increases in the number of supervised higher research degrees, as required by universities, are constrained by lack of adequate numbers of senior staff to provide supervision. Plans to expand postgraduate training in general practice should enable new entrants to develop generic research skills. As the general practice postgraduate training element is extended beyond its current one year limit, it provides opportunity for the development of epidemiological skills, and underpinning for other academic skills. The continuation of the Primary Care Researcher Development Awards, particularly at Career Scientist level, is of critical importance if today's aspiring researchers are to become tomorrow's research leaders.

The difficulty of recruiting junior staff is complicated by problems with career progression. The impact on both clinical and non-clinical staff is severe, but takes differing forms. Figure 5 shows that, for clinical academics, there is a shortage of junior staff, particularly at lecturer level. This is the result of the reduction in the number of lecturer grade posts, in combination with recent increases in senior appointments from within the discipline, in both established and new departments. The current cohort of junior clinical academics is likely to be insufficient to replace the number of senior posts needed during the next few years.

Figure 5: Academic career structure: distribution of posts in 31 departments of general practice and primary care in 2001.



The challenges for non-clinical academic career pathways are to find adequate routes for promotion to senior posts. Despite the increasing number and proportion of non-medical academics in departments, both salary and career structures remain weighted in favour of clinicians. Figure 5 shows that there is now a large cohort of non-clinicians working as fixed-term contract research staff, for whom there is no clear route for career progression.

Within academic general practice, Rink *et al* (2000) propose a ‘competency grid’ for academic staff, as a basis on which both idiosyncratic general practice and non-medical career paths can be mapped, within a coherent academic framework. More generally, the Academy of Medical Sciences is actively supporting the concept of the tenure track clinical scientist as a new pathway to promote recruitment into clinical academic medicine; making recommendations about research training access schemes, and the need for flexibility in training, including retention of clinical lectureships; and proposing more secure career arrangements for non-medical researchers on short-term contracts: (www.acmedsci.ac.uk/f_pubs.htm).

4. Challenges for Medical Schools and the Health Service

4.1. Introduction

Academic general practice and primary care in the UK offer medical schools and the National Health Service effective means of generating and disseminating knowledge and skills, leading to improvements in primary health care. In medical schools they provide leadership in community based medical education. With undergraduate medical education now involving over one third of all general practices in the UK, they bring professional and clinical benefit for general practice teachers and their colleagues. They demonstrate national and international levels of excellence in primary care research, and are actively spreading the culture of R&D into general practice. With primary care as the fulcrum of the National Health Service, academic general practice and primary care are the essential medium through which Medical Schools and Primary Care Trusts can communicate with each other.

This has been achieved through the application of a wide range of capacity-building, during a period of rapid expansion. However the pace of change has created inherent instabilities in both staffing and financial structures, which may limit the ability of academic general practice and primary care to meet the future needs of medical schools and the health service. This section of the report outlines some of the challenges facing medical schools and the health service, and describes how academic general practice and primary care can help to meet them.

4.2. Challenges for medical schools

Among the many challenges facing medical schools in the UK during the next decade, there are three to which academic general practice and primary care can make a major contribution:

- educating the next generation of doctors;
- inter-professional education;
- and research excellence in the community clinical sciences

Educating the next generation of doctors. The expansion of general practice's involvement in undergraduate medical education enables tomorrow's doctors to be educated in a more realistic environment. This reflects the changing balance of care, with increased emphasis on integrated care and the need for education to encompass all stages of the patient pathway, including before and after hospital admission. So far, it is working well (Johnston & Boohan 2000). As it becomes increasingly difficult to

continue to deliver high volumes of teaching in hospitals, it is a natural development to translate much teaching into the community.

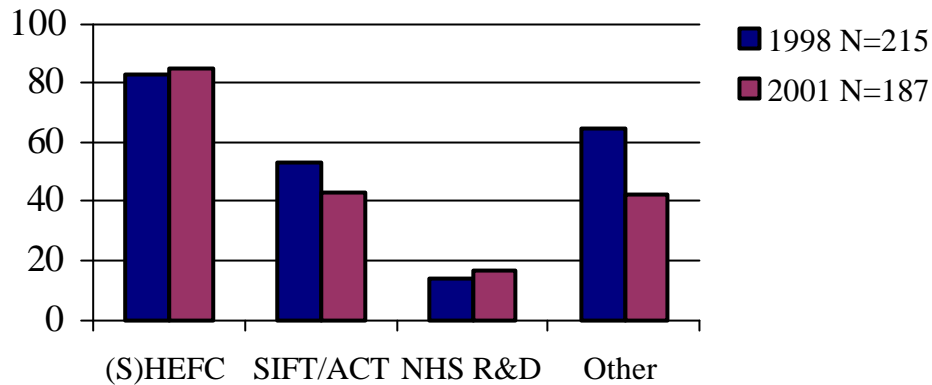
However, universities now face considerable logistical problems in managing the rapid increase in medical student numbers. Between 1998 and 2001 the number of medical students admitted to the 23 established medical schools in the UK increased from 4850 to 5706 (+18%). This trend is set to continue. In 2004 some 6879 medical students are expected to be admitted to UK medical schools: 5641 undergraduate students and 673 postgraduate students to the 23 established medical schools, and 555 undergraduate and 10 postgraduate students to the eight new medical schools. This represents a 42% increase in total medical student numbers since 1998, and a 30% increase in numbers admitted to the 23 established medical schools.

Staff in academic general practice and primary care have the ability and the motivation to meet the challenge of increased course delivery, by providing continued high quality leadership in community based medical education, in partnership with hospital colleagues. To do this they require sufficient resource. There is growing concern about the sustainability of the delivery of effective community based medical education (Parry & Greenfield 2001, Gupta & Spencer 2001, Cookson 2001). There is an inherent contradiction between the substantial increase in medical student numbers and current stagnation in staffing levels. Recent developments in medical education have been largely funded by the national health service, with relatively little university investment. Universities now need to provide more effective support for community-based teaching, by helping to provide the necessary central capacity.

The 1998 heads of department census in the 23 established UK departments of general practice and primary care identified 215 full-time equivalent clinical academic staff employed in these departments. The 2001 census identified 187 full-time equivalent academic staff (see Figure 6), a reduction of 13%.

The ratio of (S)HEFC funded clinical staff per 100 medical students in these medical school will fall from 1.67 in 1998 to 1.18 in 2004 if staff numbers remain at 2001 levels.

Figure 6. Clinical academics (full time equivalent) in academic departments of general practice and primary care in 1998 and 2001: by source of funding



In general, the increase in chairs has been achieved by promotion from senior lecturer positions, leaving the complement of senior academic staff virtually unchanged. There was a loss of resource from the SIFT/ACT funding streams in some regions, particularly amongst clinical lecturers following the ending of the London Academic Training Scheme (Smith et al 1998). The overall equilibrium in numbers of clinical academics in primary care departments across the UK, described section 2.2., has been achieved simply by moving academic staff from established to new departments.

Heads of departments estimate that about 1000 additional teaching practices (+ 22%) will be needed by 2004, if they are to meet the educational needs of the increased numbers of medical students. Bearing in mind demands for increased efficiency, if departments of academic general practice and primary care are to maintain the quality of their current contribution to undergraduate medical teaching, their complement should increase substantially – in general by about one third - during the next five years. There will also be a need for additional teaching support from general practices, resourced with realistic placement fees and payments for practice teaching facilities.

Postgraduate medical schools taking on responsibility for undergraduate medical education have particular problems. There is uncertainty about the ability to find an adequate number of teaching practices, or to attract sufficient medically qualified teachers, when budgets are tight and there is no pre-existing academic critical mass. Given the geographical distance between teaching sites, these medical schools need to develop information technology and distance learning approaches. They also need to resource problem-

based learning approaches for teaching science and pre-clinical skills, to counterbalance the lack of established medical science faculty.

The need for staff expansion is not exclusive to general practice, but is a pressing problem for colleagues in other medical disciplines (Smith and Sime 2001). The leaders of academic general practice and primary care will therefore work closely with other clinical colleagues. In co-operation with Higher Education Funding Councils, Confederations for Workforce Development and Primary Care Trusts, they will seek to develop an effective strategy to ensure sufficient resource to maintain - and improve - the quality of undergraduate medical education in the UK.

Inter-professional education. Departments of general practice and primary care are now multi-disciplinary, multifunctional organisations. They also interact, on a regular basis, with colleagues in specialist clinical medicine, organ-based research, public health, education, nursing and the professions allied to medicine. As such, they are ideally placed to support inter-professional education (Cooper et al 2001). They perform three important functions in this context, developing links between undergraduates and postgraduates, primary and secondary care, and general practitioners and other health and social care professionals.

In the 2001 survey, thirty (97%) departments had formal links with Postgraduate General Practice Education, with joint appointments in over one third of cases. The most commonly reported type of collaboration was extended training schemes for general practice registrars, including both educational and research activities. Other joint activities include running Masters degrees, developing pre-registration house officer posts in general practice, developing teacher training courses, and teaching and assessment of GP trainees at the senior house officer stage. Regular meetings of undergraduate and postgraduate teachers were relatively uncommon, in part due to the restricted number of academic sessions worked by postgraduate educators. There is potential for greater collaboration on, for example, joint undergraduate and postgraduate practice approval for teaching, joint trainer/tutor approval, giving careers advice to medical students, and running higher professional training fellowships.

One of the most important aspects of inter-professional education is the development of better links between secondary and primary care, given that quality is increasingly concerned with continuity, co-operation and communication across service interfaces. Departments of general practice and primary care are actively engaged in facilitating such processes, through their increasing involvement with the central planning and delivery of medical curricula.

In 2001 twenty seven (87%) departments reported direct involvement in inter-professional education, with one-third contributing to inter-professional Masters courses.

- Undergraduate practice teaching attachments are generally to the practice and not to the tutor alone, so that students spend time with many members of the primary health care team.
- There is considerable potential for integration of common elements of core health and social care undergraduate curricula, elements in which these departments hold expertise: for example in communication skills, health care ethics and the behavioural sciences.
- Masters programmes serve as routes of access to higher education for primary care staff who may not have primary degrees, and can obtain entrance via Accreditation of Prior Experience/Learning pathways.

These departments can therefore play a major role in widening access to higher education, and at the same time enhancing the skills of the health care workforce (Carter & Jackson 2002), objectives of strategic importance for universities and for NHS primary care policy.

Research excellence in the community clinical sciences. Section 2.4 described the recent research activity and achievements of staff in academic general practice and primary care. They are now well placed to provide universities with centres of research excellence in the community clinical sciences.

The potential for primary care research is enormous. The registered patient list in the UK is a prized resource, and it is essential to develop better ways of using it for research. Recent advances in electronic data storage and retrieval can be used to access high quality routine data, in order to answer epidemiological and health service questions (Hippisley-Cox et al 2001a,b). Primary care expertise in research methodology can inform and support others' research agendas, especially in health services research. The General Practice Research Framework is looking at a more active contribution from academic general practice: this should be encouraged, so long as research councils understand that Framework support, while important, is funding data collection and not general practice research *per se*. The diversity of primary care research is impressive, but carries the risk of emphasising quantity at the expense of quality. It may therefore be useful to develop areas of expertise between academic departments, and to direct collaborators to particular departments according to strategically planned strengths.

Research activity is critically dependent on two elements: effective leadership and the availability of funding. It is important to ensure that both these elements are sustained.

The number of senior staff in departments of general practice and primary care increased substantially between 1986 and 2001, but so did the diversity of the tasks facing them. Senior staff are now engaged in a wide range of research supervisory activities. In addition, they also manage substantial educational programmes, and retain important clinical commitments. The quality of research leadership may be adversely affected by the extent of such responsibilities. Such challenges are particularly severe in smaller

departments, where the critical academic mass is insufficient to allow specialisation or delegation of function. A further increase in the number of senior academic posts in academic departments of general practice and primary care is necessary to enable progress in primary care research to be maintained. To do justice to the work, a research chair should be established in every research active department.

Research activity in primary care has been heavily dependent on investment from NHS R&D funding sources. Although the availability of these has varied in different parts of the United Kingdom, there has been a substantial and welcome increase in investment in primary care R&D during the past decade. However, it will be important to ensure that recent strategic changes in the direction of NHS R&D funding, coupled with indications that that R&D is being assigned lower priority by Government, do not adversely affect the ability of academic primary care to build on its solid research base (Jones et al 2002).

4.3. Challenges for the health service

Amongst the many challenges facing the National Health Service in general, and Primary Care Trusts in particular, academic general practice and primary care can make major contributions to:

- workforce development: recruitment and retention of staff, especially in areas of socio-economic disadvantage;
- education and research in Primary Care Trusts, including service development within a research and education framework.

Workforce development. The Department of Health is committed to providing substantially more general practitioners and other health professionals for primary care, supported by an unprecedented increase in NHS spending over the next five years (Department of Health 2002). Downward trends in recruitment to general practice across the UK must be reversed if these aspirations are to be achieved. The proportion of junior doctors entering general practice has been falling, and is now insufficient to meet service needs (Bowler & Jackson 2002, Lambert et al 2002). The problems are greatest in areas of social and economic deprivation, where it has proved extremely difficult to attract sufficient quantity and quality of general practitioners. Increased central government funding, allied to an improved general practice contract (General Practitioners Committee 2002), provide the foundations on which the necessary increase in numbers, quality and morale of the primary care workforce can be achieved.

Academic general practice and primary care can help to meet the challenges of workforce recruitment and retention in several ways:

- The expansion in community based education within undergraduate medical courses is increasing interest amongst tomorrow's doctors in a career in primary care (Henderson et al 2002) , thus making recruitment targets easier to achieve. The fact that almost 4000 practices are now involved in teaching indicates that there is now a strong culture of primary care education, and considerable potential for joint working.
- The integration of academic and clinical activities for young general practitioners aids recruitment to both clinical and academic practice, particularly in economically deprived areas. This has been demonstrated most clearly in London, where the London Academic Training Scheme not only attracted high quality young doctors to work in the inner city, but has also encouraged them to remain in local practices after the termination of the scheme (Hilton et al 1997, Smith et al 1998).
- Providing established general practitioners with opportunities to develop specialist interests in education and research enhances their morale, and hence aids staff retention. There is emerging evidence that the involvement of general practitioners in teaching, and in training for teaching, also improves clinical competence (Hartley et al 1999).

Education in Primary Care Trusts. The Department of Health's decision to introduce Teaching Primary Care Trusts from 2002, gives Trusts the challenge of promoting a multidisciplinary and corporate approach to education and training, support a career-long culture of learning, and encouraging learning activities for all health professionals and for patients. Joint initiatives between university centres and Primary Care Trusts interested in Teaching status, in co-operation with Confederations for Workforce development, will enable the following objectives to be achieved:

- to increase the quantity, and continue to improve the quality, of undergraduate and postgraduate training in primary care;
- to ensure continuing professional development by implementing training programmes for all staff;
- to develop the potential for patients to use primary care as a learning environment;
- to develop the potential of e-learning;
- to improve workforce planning, particularly the extended use of joint posts, in order to increase the recruitment and retention of staff;
- to develop partnership working at an inter-professional level, including providers of health and social care;
- and to support service development within an educational and research framework.

There are advantages in terms of economies of scale, accountability, quality assurance and innovation, in continuing to direct SIFT funding for primary care undergraduate teaching through academic departments within medical schools.

- Safeguarding accountability and transparency. Academic departments are able directly to verify that teaching of the appropriate quality has taken place as planned, and to forward the funding as soon as possible afterwards.
- Ensuring the correct distribution of funding between PCTs, according to the particular contributions made by them.
- Medical schools can provide quality assurance infrastructure and process. They can ensure minimum standards for practices carrying out undergraduate teaching, including time, space, library and IT facilities. They can also can end a contract with a practice if these are not met.
- Ensuring the educational expertise available within the University is harnessed to develop new courses. SIFT facilities funding is used by medical schools to develop new courses for students, and teacher development programmes to support them.
- The SIFT budget has also been used to develop IT networks between medical schools and teaching practices, facilitating distance learning while students are on attachment.

Research in Primary Care Trusts. With the creation of Primary Care Trusts and changes to the funding mechanisms for research and development within the National Health Service, there is a major challenge to increase the quantity and quality of primary care research relevant to health service needs. By forming partnerships with academic departments of general practice and primary care, Primary Care Trusts can make research and development part of their core business, and a means of improving local health services.

- By becoming effective users of research, Trusts can ensure that knowledge gained through research is appropriately taken up and used to inform service development. They can support Clinical and Research Governance by increasing the evidence base of primary care, leading to improved commissioning of intermediate and secondary care services, and better practice performance measures.
- By becoming effective commissioners of research, Trusts can ensure that the knowledge generated by research is relevant and appropriate to the needs of primary care.
- By developing the capacity to conduct research, Trusts will be able to meet their local evaluation needs, as well as to create and sustain an environment in which the wider research needed to underpin their service developments can flourish.
- By becoming involved in research in each of these ways, Trusts can offer improved career development opportunities for staff, and thus enhance recruitment and retention.

Specifically, through collaboration with academic departments of general practice and primary care Primary Care Trusts can gain:

- access to research intelligence in areas in which these departments are expert and links to the wider group of health scientists within cognate disciplines;
- assistance in developing the research capacity of the trusts;
- guidance in commissioning and conducting trust sponsored research;

- ability to meet obligations for Research Governance, including the implementation of peer review and project monitoring procedures;
- better targeting of departmental research on issues of importance to trusts;
- ready access for trust staff to research methods training courses and higher degrees;
- and opportunities to enhance the trusts' research funding base, particularly through applications for NHS Priorities and Needs R&D funding.

Common goals. The interface with academic departments thus provides opportunities for Primary Care Trusts to meet their education and research objectives. It also enables Trusts to increase recruitment of good young general practitioners, particularly in disadvantaged areas where many academic departments are based. Since Primary Care Trusts can now employ doctors, and the model of employment is no longer only partnership based, it becomes possible to create a range of mixed clinical and academic posts, analogous to those in Acute Trusts.

University centres are the places where capacity is built, which can then cascade into local service settings. There needs to be a quantitative relationship between the area served by an academic centre - the service setting where increased capacity and infrastructure are needed - and the number of senior academic staff necessary to help produce the next generation of academic practitioners. Otherwise, current areas of relative strength and weakness will persist.

Academic departments provide a forum in which the quality of primary care can be understood and enhanced. They can now share their experience, evidence and values with colleagues in Primary Care Trusts, enabling new service developments within an ethos of common purpose.

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Appendix 1: Working group membership

Chair:

Professor Christopher Dowrick: Professor of Primary Medical Care,
University of Liverpool

Members :

Professor Colin Bradley. Professor of General Practice,
University of Cork

Dr Frank Dobbs Senior Lecturer in General Practice
University of Plymouth

Professor Helen Houston Professor of General Practice,
University of Wales College of Medicine

Professor Tony Kendrick Professor of Primary Medical Care,
University of Southampton

Professor Lewis Ritchie Mackenzie Professor of General Practice,
University of Aberdeen

Professor Sir Denis Pereira Gray Professor of General Practice
University of Exeter

Pit Rink Senior Lecturer in Primary Health Care Science
St George's Hospital Medical School

Professor Graham Watt Professor of General Practice
University of Glasgow

Appendix 2: Departments participating in 2001 survey

- Guy's, King's and St Thomas' Hospitals' Medical School: Department of General Practice and Primary Care
- Imperial College of Science, Technology and Medicine: Department of Primary Health Care and General Practice
- Royal Free and University College Medical School: Department of Primary Care and Population Sciences
- St Bartholomew's and the London Hospitals Medical Colleges: Academic department of General Practice & Primary Care
- St George's Hospital Medical School: Department of General Practice and Primary Care
- University of Aberdeen: Department of General Practice and Primary Care
- University of Belfast: Department of General Practice
- University of Birmingham: Department of General Practice
- University of Brighton: Division of Primary Care.
- University of Bristol: Division of Primary Health Care
- University of Cambridge: General Practice & Primary Care Research Unit
- University of Dundee: Tayside Centre for General Practice
- University of Durham: Centre for Health Studies
- University of East Anglia: School of Health Policy and Practice
- University of Edinburgh: Department of General Practice
- University of Exeter: Institute for General Practice
- University of Glasgow: Department of General Practice
- University of Hull: Department of Public Health & Primary Care
- University of Leeds: Division of General Practice and Public Health Medicine
- University of Leicester: Department of General Practice & Primary Health Care
- University of Liverpool: Department of Primary Care
- University of Manchester: School of Primary Care and National Primary Care R&D Centre
- University of Newcastle upon Tyne: Department of Primary Health Care
- University of Nottingham: Department of General Practice
- University of Oxford: Department of Primary Health Care
- University of Plymouth: Department of Primary Health Care and General Practice
- University of Sheffield: Institute of General Practice & Primary Care
- University of Southampton: Department of Primary Medical Care
- University of Sunderland: Centre for Primary and Community Care
- University of Wales College of Medicine: Department of General Practice
- University of Warwick: Primary Care Unit

Appendix 3: Data collected during 2001 survey of 31 heads of UK academic departments of general practice and primary care.

1. University
2. Department
3. No. of medical students admitted in 2000
4. No. of primary care postgraduate students admitted in 2000 (MSc; MPhil/PhD/MD)
5. STAFF CENSUS (1st April 2001)

STATUS	DISCIPLINE	SOURCES OF FUNDING								TOTAL	
		(S)HEFC		SIFT/ACT		NHS R&D		OTHER			
		N	FTE	N	FTE	N	FTE	N	FTE	N	FTE
PROFESSOR	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
READER	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
SENIOR LECTURER	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
LECTURER	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
OTHER RESEARCH STAFF	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
RESEARCH TRAINING FELLOWS	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
OTHER TEACHING STAFF	MEDICAL										
	OTHER CLINICAL										
	NON CLINICAL										
SECRETARY											
OTHER STAFF											

II. ROLES AND ACTIVITY

- 6) Has your department been merged into a broader division within your medical school?
- 7) Have you, or members of your department, become more involved in the central management of your medical school?
- 8) Have your staff become more specialised in teaching and/or research, or do they continue to combine both roles?
- 9) Have members of your department become involved in inter-professional education, i.e. directly contributing to the education of other professions?
- 10) Has your department developed collaborative research links, i.e. jointly holding grants, and co-authorship on papers,
- 11) Does your department have links with Postgraduate GP Education
- 12) Is your department practice-based or practice-linked?
- 13) Do you, or members of your department have particular problems in maintaining clinical competence?

III. VIEWS AND OPINIONS

14. In your opinion, what have been the main events, trends, achievements and constraints for your department, during the past 15 years (or since its formation, if later than 1986)? How do you feel about them?
15. What do you consider to be the core business of your department?
16. What do you consider to be the major intellectual contributions of your department, to research and/or to teaching?
17. What do you see as a) the main opportunities and b) the main challenges for your department, during the next decade?
18. What do you see as the main obstacles to meeting those opportunities and challenges, and what do you need to overcome them?

IV. ADDITIONAL INFORMATION

1. Medical student intake (undergraduate and postgraduate streams) in your Faculty, 2001-2004
2. Teaching practices linked to your department: current number; estimated need by 2004
3. Teaching sessions/half days provided by your department in the undergraduate medical course: number of sessions; proportion of total undergraduate course for which department has responsibility
4. Externally funded research grants: number, categorized by size.
5. Primary Care Career Scientists: estimated numbers ready to apply 2001-2004.

Appendix 4: Results of 2001 survey of heads of department, by department, including comparisons with 1998 survey of 23 established departments.

TABLE 1: CENSUS OF STAFF IN UNIVERSITY DEPARTMENTS OF GENERAL PRACTICE / PRIMARY CARE, 01.04.01

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Aberdeen	190	2.45	33	2.15	4.60	0.65	2.1	7.35	26	1.0	8.35	6.5	8.1	3.83	9.5	4.7	6.65	7	7	88
2	Dundee	159	2.54	47	1.45	3.99	0.0	1.41	5.4	29	4.0	9.4	3.0	13.5	0.0	7.75	3.0	0.0	13	3	52
3	Edinburgh	215	4.7	92	0.4	5.1	0.0	0.0	5.1	42	3.0	8.1	5.0	14.85	2.4	8.8	3.0	0.0	1	2	63
4	Glasgow	238	1.1	16	4.6	5.7	0.0	1.0	6.7	36	3.0	9.7	8.2	9.1	3.7	4.5	3.6	0.0	4	10	69
5	Belfast	180	3.0	56	2.0	5.0	0	0.4	5.4	33	2.0	7.4	2.0	2.0	0.4	1.0	4.0	0.0	0.0	1.0	73
6	Birmingham	339	4.7	46	2.0	6.7	0	3.5	10.2	33	10.7	20.9	8.0	23.61	0	21.5	4.2	0	20	12	49
7	Bristol	175	0.5	6	1.4	1.9	5.3	0.5	7.7	23	1.0	8.7	2.0	6.8	0	8.0	2.3	3.0	1	7	89
8	Cambridge	279*	1.8	35	0.3	2.1	3.0	0	5.1	55	4.5	9.6	1.71	4.39	0	3.8	4.0	4.0	3	11	53
9	Leeds	216	3.5	56	0.2	3.7	1.0	1.5	6.2	35	4.0	10.2	5.0	8.7	0.4	11.0	0	0	16	5	61
10	Leicester/W'wick	247	5.1	50	0.5	5.6	0	4.5	10.1	24	2.0	12.1	3.0	8.0	0	5.0	0	0	0	4	83
11	Liverpool	226	3.0	19	11.4	14.4	0.2	1.0	15.6	16	7.0	22.6	7.5	9.0	2.7	12.5	1.5	0	43	13	69
12	London KCL	382	5.22	43	3.0	8.22	0	3.85	12.07	32	10.54	22.61	4.68	44.02	6.4	8.0	3.3	0	8	13	53
13	London IC	326	3.75	71	1.5	5.25	0	0	5.25	62	4.05	9.3	8.15	9.15	0	2	1.0	0	12	1	56
14	London RF/UCL	335	10.0	62	1.1	11.1	1.4	3.6	16.1**	20	2.6	18.7	8.3	19.9	1.6	9.7	1.0	1.0	15	2	86
15	London QM	242	3.3	47	0.7	4.0	1.4	1.6	7.0	35	2.5	9.5	7.4	15.7	4.0	14.0	3.3	1.0	36	2	74
16	London StG	221	3.47	38	1.4	4.87	2.04	2.3	9.21	24	2.63	11.84	3.2	4.86	2.21	3.5	0	0	25	4	81
17	Manchester	329	3.0	37	1.6	4.6	1.5	2.0	8.1	41	8.0	16.1	2.0	21	0	22	3.0	4.0	20	27	50
18	Newcastle	230	0.8	12	2.9	3.7	1.2	1.7	6.6	35	2.9	9.5	4.55	7.35	0.8	3.5	0	0	9	7	69
19	Nottingham	213	5.22	73	0.0	5.22	0.0	1.92	7.14	30	0.5	7.64	7.7	11.6	0	5.5	0	0	3	10	93
20	Oxford	113	1.0	25	0.2	1.2	0.0	2.8	4.0	28	2.0	6.0	1.0	2.0	2.0	7.5	3.5	0	0	5	67
21	Sheffield	226	3.8	46	2.2	6.0	0.0	2.2	8.2	28	6.6	14.8	6.0	15.2	6.2	13.07	3.0	0.8	14	25	53
22	Southampton	201	4.7	76	0.5	5.2	0.0	1.0	6.2	32	1.5	7.7	4.1	7.2	5.1	4.3	3.8	3.4	0	5	81
23	Wales	233	8.5	69	0.3	8.8	0.3	3.2	12.3	19	1.8	14.1	6.0	12.2	2.5	5.0	1.0	1.0	11	7	87
	TOTAL	5515	85.15	46	41.8	128.95	17.99	42.08	187.02	29	87.82	274.84	114.99	278.23	44.24	191.42	53.2	24.85	261	183	67
24	Brighton	0	0		0	0	0	0.6	0.6	0	0	0.6	0	2.0	0	0	1.0	0	0	0	100
25	Durham	0	0		0	0	0	0.5	0.5	0	0	0.5	0	0.85	0	0.5	1.5	0.4	0	6	100
26	E. Anglia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Exeter	0			0	0	0.2	0.5	0.7	0	0	0.7	0	4.4	0.3	0.8	0	0	95	4	100
28	Hull	0	0		0	0	0	2.0	2.0	0	2.0	4.0	0	1.8	0	2.0	1.0	0	1	3	50
29	Plymouth	0	0		0	0	0.33	1.27	1.6	0	0	1.6	0	1.9	0.8	0	0.5	0	3	2	100
30	Sunderland	0	0.6	0	0	0.6	0	0	0.6	0	0.5	1.1	0	0.2	1.5	1.6	0	0	0	1	55
31	Warwick	0	0		0	0	0.0	4.9	4.9	0	2.6	8.0	0	6.0	0	5.0	0	0	11	7	68
	TOTAL (24-31)	0	0.6		0	0.6	0.53	9.77	10.9	0	5.1	16.5	0	17.15	2.6	9.9	4	0.4	110	23	

CODES: A – T

- A Medical student intake, 2000-01
- B (S)HEFC-funded clinical academics
- C % Clinical academics funded (S)HEFC
- D SIFT/GP ACT-funded clinical academics
- E (S)HEFC + SIFT/GP ACT clinical academics (B + D)
- F NHS R & D funded clinical academics
- G Other funded clinical academics
- H All clinical academics (B + D)
- I Student/staff ratio A/H
- J Non-clinical academics funded from any source
- K All academic staff (H + J)
- L Secretarial/support staff funded by (S)HEFC/ACT/SIFT
- M All secretarial and support staff
- N Other clinical researchers (fixed contracts)
- O Other non-clinical researchers (fixed contracts)
- P Clinical research training fellows
- Q Non-clinical research training fellows
- R MSc students
- S PhD/MD students
- T Clinical academics as % of total (H/K)

*Initial student intake for Cambridge: however >50% move to other medical schools for clinical teaching.

** staffing for London RF/UCL includes population scientists with varying involvement in primary care, therefore numbers difficult to specify.

New Century, New Challenges

TABLE 2: COMPARISON OF STAFF IN UNIVERSITY DEPARTMENTS OF GENERAL PRACTICE/PRIMARY CARE IN 1998 AND 2001¹

	1		2		3		4		5		6		7		8		9		10		11		12	
	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01
A	173	190	165	159	218	215	234	238	160	180	218	339	156	175	259	279	200	216	180	247	200	226	345	382
B	3.3	2.45	2.5	2.54	5.0	4.7	0.5	1.1	5.0	3.0	4.3	4.7	0.5	0.5	1.8	1.8	2.4	3.5	4.1	5.1	4.0	3.0	6.5	5.22
C	2.3	2.15	1.0	1.45	0.2	0.4	4.6	4.6	0	2.0	4.0	2.0	1.1	1.4	1.0	0.3	0	0.2	3.5	0.5	19	11.4	2.5	3.0
D	5.6	4.60	3.5	3.99	5.1	5.2	5.1	5.7	5.0	5.0	8.3	6.7	1.6	1.9	2.8	2.1	2.4	3.7	7.6	5.6	5.9	14.4	9.0	8.22
E	0	0.65	0	0	0	0	0	0	0	0	0	0	4.1	5.3	2.0	3.0	1.0	1.0	0	0	0.6	0.2	0	0
F	1.0	2.1	1.5	1.41	0	0	1.6	1.0	0	0	1.5	3.5	0	0.5	0	0	1.5	1.5	2.7	4.5	0	1.0	6.6	3.85
G	6.6	7.35	5.0	5.4	5.1	5.1	6.7	6.7	5.0	5.4	9.8	10.2	5.7	7.7	4.8	5.1	4.9	6.2	10.3	10.1	6.5	15.6	15.6	12.07
H	26	18	33	29	43	42	35	36	32	36	22	33	27	22	27	25	41	36	17	24	31	14	22	31
I	1.1	1.0	2.0	4.0	3.0	2.5	2.0	3.0	0	1.0	2.0	10.7	2.0	1.0	2.0	4.5	3.0	4.0	4.5	2.0	3.0	7.0	12.5	10.54
J	7.7	8.35	7.0	9.4	8.1	8.1	8.7	9.7	5.0	7.4	11.8	20.9	7.7	8.7	6.8	9.6	7.9	10.2	14.8	12.1	9.5	22.6	28.1	22.61
K	3.5	6.5	2.0	3.0	5.0	5.0	6.7	8.2	1.5	2.0	1.0	8.0	1.5	2.0	1.5	1.71	1.5	5.0	2.0	3.0	2.0	7.5	6.0	4.68

	13		14		15		16		17		18		19		20		21		22		23		TOTAL 98	TOTAL 01
	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01	98	01
A	285	326	330	335	208	242	172	221	327	329	217	230	192	213	105	113	305	226	160	201	170	233	4979	5515
B	3.8	3.75	10.3	10.0	3.4	3.3	2.8	3.47	3.75	3.0	1.95	0.8	5.3	5.22	1.3	1.0	4.08	3.8	3.0	4.7	3.4	8.5	82.98	85.15
C	1.2	1.5	3.0	1.1	1.0	0.7	1.0	1.4	2.7	1.6	2.1	2.9	0	0	1.2	0.2	0	2.2	0.2	0.5	1.8	0.3	53.4	41.80
D	5.0	5.25	13.3	11.1	4.4	4.0	3.8	4.87	6.45	4.6	4.05	3.7	5.3	5.22	2.5	1.2	4.08	6.0	3.2	5.2	5.2	8.8	119.18	128.95
E	0	0	0	1.4	1.0	1.4	0.7	2.04	0	1.5	0.5	1.2	0	0	1.4	0	1.0	0	1.5	0	0	0.3	13.8	17.99
F	4.9	0	10.5	3.6	17.5	1.6	0.6	2.3	1.0	2.0	5.9	1.7	0	1.92	2.4	2.8	1.38	2.2	0	1.0	4.0	3.2	64.58	42.08
G	9.9	5.25	23.8 **	16.1* *	21.0 9	7.0	5.1	9.21	7.45	8.1	10.4 5	6.6	5.3	7.14	6.3	4.0	5.46	8.2	4.7	6.2	9.2	12.3	214.75	187.02
H	29	62	14	25	10	36	34	25	44	30	21	33	36	29	17	37	56	32	34	32	18	18	23.18	29.48
I	6.35	4.05	11.0	2.6	2.0	2.5	5.5	2.63	2.0	8.0	3.1	2.9	1.0	0.5	8.0	2.0	5.0	6.6	1.0	1.5	2.3	1.8	84.35	87.82
J	16.25	9.3	34.8	18.7	23.9	9.5	10.6	11.8 4	9.45	16.1	13.5 5	9.5	6.3	7.64	14.3	6.0	10.4 6	14.8	5.7	7.7	11.5	14.1	299.10	274.84
K	7.0	8.15	6.6	8.3	4.7	7.4	1.2	3.2	2.0	2.0	3.6	4.55	5.8	7.7	1.0	1.0	6.4	6.0	2.0	4.1	2.1	6.0	76.6	114.99

¹ Staff category codes A to K and University Department codes 1 to 23 on page 55

New Century, New Challenges

Staff Categories

Departments

A	Annual medical student intake	K	Secretarial/support staff funded by SHEFC/ACT/SIFT	1	Aberdeen	14	London RF/UCL
B	(S)HEFC-funded clinical academics	L	All secretarial and support staff	2	Dundee	15	London QM
C	SIFT/ACT-funded clinical academics	M	Other clinical researchers (fixed contracts)	3	Edinburgh	16	London St. G
D	(S)HEFC + SIFT/ACT clinical academics (B+C)	N	Other non-clinical researchers (fixed contracts)	4	Glasgow	17	Manchester
E	NHS R & D funded clinical academics	O	Clinical research training fellows	5	Belfast	18	Newcastle
F	Other funded clinical academics	P	Non-clinical research training fellows	6	Birmingham	19	Nottingham
G	All clinical academics (D+E+F)	Q	MSc students	7	Bristol	20	Oxford
H	Student/staff ratio A/G	R	PhD/MD students	8	Cambridge	21	Sheffield
I	Non-clinical academics funded from any source	S	Clinical academics as % of total (H/J)	9	Leeds	22	Southampton
J	All academic staff (G+I)			10	Leicester/ Warwick	23	Wales
				11	Liverpool		
				12	London KCL		
				13	London IC		
						24	Brighton
						25	Durham
						26	E. Anglia
						27	Exeter
						28	Hull
						29	Plymouth
						30	Sunderland
						31	Warwick

*Initial student intake for Cambridge: however >50% move to other medical schools for clinical teaching.

** staffing for London RF/UCL includes population scientists with varying involvement in primary care, therefore numbers difficult to specify.

TABLE 3A: CENSUS OF SENIOR ACADEMIC STAFF (HEFC FUNDED) IN DEPARTMENTS OF GENERAL PRACTICE/PRIMARY CARE IN 1998 AND 2001

		PROFESSORS				READERS			
		CLINICAL		NON-CLINICAL		CLINICAL		NON-CLINICAL	
		98	01	98	01	98	01	98	01
1	Aberdeen	2 (1.0)	4 (1.55)						
2	Dundee	2 (1.0)	2 (1.39)						
3	Edinburgh	1 (1.0)	1 (1.0)						
4	Glasgow	1.1 (0.1)	1.1 (0.1)						
5	Belfast	1 (1.0)	1.0 (1.0)						
6	Birmingham	2 (2.0)	2.0 (2.0)			1.3 (0.0)			
7	Bristol	1.0	1.0						
8	Cambridge	1.0	1.0 (0.0)			1.0 (1.0)			
9	Leeds	1.0 (1.0)	1.0 (1.0)	1.0 (1.0)		1.0 (1.0)			1.0
10	Leicester	1.0 (1.0)	2.0 (1.0)						
11	Liverpool	1.0 (1.0)	1.0 (1.0)			1.0 (1.0)	1.0 (1.0)		
12	London KCL	1.82 (1.82)	1.82 (0.82)				2.0 (1.6)	1.6 (1.6)	0.6 (0.3)
13	London IC	2.0 (2.0)	3.2 (3.2)	1.0 (1.0)		0.25 (0.25)			
14	London RF/UCL	3.9 (1.9)	1.9 (1.9)			1.0 (1.0)	1.8 (1.8)	1.6 (1.6)	
15	London QM	1.0 (1.0)	1.7 (1.7)	0.9				0.6 (0.6)	
16	London St.G	1.0 (1.0)	2.0 (2.0)						
17	Manchester	1.25 (1.25)	3.0 (2.0)			4.0 (2.0)		0.5 (0.0)	
18	Newcastle	1 (0.5)	2.2						
19	Nottingham	1.0 (1.0)	1.0 (1.0)					1.0 (1.0)	
20	Oxford	1.0 (1.0)	1.0 (1.0)				1.0	1.0	1.0
21	Sheffield	1.0	3.2 (2.0)	1.0		1.4 (1.0)			1.0 (1.0)
22	Southampton	1.0 (1.0)	1.0 (1.0)					1.0 (1.0)	
23	Wales	1.0 (1.0)	3.0 (1.7)	0.6 (0.6)		0.8 (0.8)			
	TOTAL	31.07	42.12	4.5	11.75	5.8	8.3	3.6	
	(S) HEFC Funded	(22.57)	(28.36)	(2.6)	(8.05)	(4.4)	(6.8)	(1.3)	
24	Brighton								
25	Durham		0.5						
26	E. Anglia								
27	Exeter		0.3						
28	Hull		1.0						
29	Plymouth								
30	Sunderland		0.6						
31	Warwick		0.75						
	TOTAL		3.15						

TABLE 3B: CENSUS OF SENIOR ACADEMIC STAFF (HEFC FUNDED) IN DEPARTMENTS OF GENERAL PRACTICE/PRIMARY CARE IN 1998 AND 2001

		SENIOR LECTURERS				ALL SENIOR ACADEMIC STAFF					
		CLINICAL		NON-CLINICAL		CLINICAL		NON-CLINICAL		TOTAL	
		98	01	98	01	98	01	98	01	98	01
1	Aberdeen	3.6 (1.8)	2.85 (0.9)	1.0 (1.0)	1.0 (1.0)	5.6 (2.8)	6.85 (2.45)	1.1 (1.0)	1.0 (1.0)	6.7 (3.8)	7.85 (3.45)
2	Dundee	1 (0.5)	1.0 (0.2)		1.0 (0.0)	3.0 (1.5)	3.0 (1.59)		1.0	3.0 (1.5)	4.0 (1.59)
3	Edinburgh	2.2 (2)	3.1 (2.7)	2.0 (1.0)	3.0 (1.0)	3.2 (3.0)	4.1 (3.7)	2.0 (1.0)	3.0 (1.0)	5.2 (4.0)	7.1 (4.7)
4	Glasgow	2.2 (0.5)	1.6 (0.5)		1.0 (1.0)	3.3 (0.6)	2.7 (0.6)		1.0 (1.0)	3.3 (0.6)	3.7 (1.6)
5	Belfast	4.0 4.0	4.0 (2.0)			5.0 (5.0)	5.0 3.0	0.0 0.0	0.0 0.0	5.0 (5.0)	5.0 3.0
6	Birmingham	4.5 (2.0)	6.4 (1.7)	1.0 (1.0)	4.0 (3.9)	6.5 (4.0)	8.4 (3.7)	1.0 (1.0)	5.0 (4.9)	7.5 (5.0)	14 (7.9)
7	Bristol	2.0 (0.5)	2.0 (0.5)			3.0 (0.5)	3.0 (0.5)			3.0 (0.5)	3.0 (0.5)
8	Cambridge	2.8 (1.8)	2.0 (1.0)	1.0	1.0 (0.0)	3.8 (1.8)	3.0 (1.0)	1.0	2.0 (0.0)	4.8 (1.8)	4.7 (2.0)
9	Leeds	1.0 (1.0)	4.0 (2.5)		2.0 (1.0)	2.0 (2.0)	5.0 (3.5)	1.0 (1.0)	4.0 (2.0)	3.0 (3.0)	9.0 (5.5)
10	Leicester/W'wick	3.0 (1.0)	4.0 (2.6)	1.0	1.0	4.0 (2.0)	6.0 (3.6)	1.0	1.0	5.0 (2.0)	7.0 (3.6)
11	Liverpool	1.0 (1.0)	4.6 (1.0)			3.0 (3.0)	6.6 (3.0)		1.0 (1.0)	3.0 (3.0)	7.6 (4.0)
12	London KCL	6.4 (2.9)	4.0 (1.9)	5.3 (2.0)	1.34 (1.0)	10.22 (6.32)	7.42 (4.32)	5.3 (2.0)	1.94 (1.3)	15.52 (7.32)	9.36 (5.62)
13	London IC	4.3	0.95 (0.55)	2.05 (1.0)	1.0 (1.0)	6.3 (2.0)	4.15 (3.75)	3.05 (2.0)	1.25 (1.25)	9.35 (4.0)	5.4 (5.0)
14	London RF/UCL	3.79 (3.34)	7.0 (5.0)	3.0		9.49 (7.04)	10.5 (8.5)	3.0	1.0 (1.0)	12.49 (7.04)	11.5 (9.5)
15	London QM	5.9 (1.9)	4.7 (1.0)	2.0	1.0	6.9 (2.9)	7.0 (3.3)	2.9	1.0	9.8 (2.9)	8.0 (3.3)
16	London StG	2.8 (1.5)	3.01 (0.27)			3.8 (2.5)	5.01 (2.27)			3.8 (2.5)	5.01 (2.27)
17	Manchester	1.0 (1.0)	2.0 (1.0)	2.0	3.0 (0.0)	2.25 (2.25)	5.5 (3.0)	2.0	7.0 (2.0)	4.25 (2.25)	12.5 (5.0)
18	Newcastle	2.27 (1.27)	2.3	1.0	1.0	3.27 (1.77)	4.5	1.0	1.0	4.27 (1.77)	5.5 (0)
19	Nottingham	1.7 (1.7)	1.3 (1.3)		0.5 (0.5)	2.7 (2.7)	3.3 (3.3)		0.5 (0.5)	2.7 (2.7)	3.8 (3.8)
20	Oxford	2.3 (0.3)		2.0		4.3 (1.3)	2.0 (1.0)	2.0	1.0	6.3 (1.3)	3.0 (1.0)
21	Sheffield	2.0 (1.0)	1.0 (1.0)		1.0 (1.0)	3.0 (1.0)	4.2 (3.0)	1.0	3.4 (3.0)	4.0 (1.0)	7.6 (6.0)
22	Southampton	3.7 (2.0)	3.7 (2.7)			4.7 (3.0)	5.7 (4.7)			4.7 (3.0)	5.7 (4.7)
23	Wales	3.4 (1.4)	4.8 (3.8)	0.7		4.4 (2.4)	7.8 (5.5)	1.3 (0.6)	0.8 (0.8)	5.7 (3.0)	8.6 (6.3)
	TOTAL	66.86	70.31	24.05	22.84	103.73	120.73	28.65	38.19	132.38	158.92
	(S)HEFC Funded	(34.41)	(34.12)	(6.0)	(11.4)	(61.38)	(69.28)	(8.6)	(20.75)	(68.98)	(90.33)
24	Brighton		0.6				0.6				0.6
25	Durham						0.5				0.5
26	E. Anglia										
27	Exeter						0.3				0.3
28	Hull		1.0		1.0		2.0		1.0		3.0
29	Plymouth		1.0				1.0				1.0
30	Sunderland						0.6				0.6
31	Warwick		1.9		2.1		2.65		2.1		4.75
	TOTAL		4.5		3.1		7.65		3.1		10.75

TABLE 4 - ADDITIONAL INFORMATION - TEACHING & RESEARCH

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	125	150	25	131	10.0	15	7	8	4	6	0	1	0	0	0	0	2
2	87	130	43	132	10.0	4	4	2	4	2	0	0	0	0	1	0	2
3	53	53	0	118	12.0	2	1	4	2	0	0	0	0	1	2	2	3
4	185	200	15	109	10.0	3	1	1	2	2	0	0	0	1	0	1	1
5	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
6	164	174	10	129	11.0	8	1	5	2	5	1	3	0	1	1	0	1
7	173	173	17	87	7.9	3	5	3	5	1	0	0	0	0	0	0	0
8	80	90	20	58	4.1	1	1	1	3	3	0	0	0	1	1	2	0
9	121	0	0	68	6.5	4	4	4	7	3	0	0	0	1	0	1	1
10	66	100	34	75	4.3	5	4	4	4	3	2	0	0	0	0	0	0
11	275	296	21	362	20.0	4	5	5	1	4	1	0	0	0	0	1	0
12	256	256	0	145	14.0	2	1	7	6	4	0	0	0	0	1	2	2
13	380	380	100	82	7.0	2	5	3	2	2	1	0	0	0	0	1	0
14	250	250	90	115	6.5	5	2	5	10	9	3	0	0	0	2	3	3
15	137	150	12	75	6.4	17	12	5	4	4	3	1	0	0	0	1	2
16	140	170	30	90	6.0	3	1	2	5	2	0	0	0	0	0	0	1
17	270	340	70	211	12.0	2	1	3	7	0	0	1	0	0	0	0	0
18	130	150	50	215	16.0	2	0	1	1	1	1	0	0	0	0	0	2
19	240	240	20	82	6.0	2	2	3	2	2	0	1	0	0	0	0	1
20	150	250	100	80	4.8	2	3	4	1	1	1	1	0	1	0	1	3
21	110	150	40	160	10.0	4	10	6	9	1	2	0	0	0	1	2	2
22	249	249	40	69	4.5	4	2	0	4	2	0	0	0	0	1	2	0
23	128	150	22	137	7.5	7	0	4	1	1	0	0	0	2	1	1	2
24	20	50	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	9	13	0	0	0	1	4	0	0	1	0	0	0	0	0	0	0
26	0	36	36	178	0	0	1	0	0	0	0	0	0	0	0	1	2
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	20	40	80	0	2	0	2	0	0	1	0	0	0	1	0	1
29	100	150	150	0	0	5	0	0	0	0	0	0	0	1	1	2	2
30	0	0	0	0	0	4	2	1	0	0	0	0	0	0	0	0	1
31	0	0	0	0	0	4	2	1	0	1	0	0	0	0	0	0	1
Total	3898	4370	1015		9	117	81	84	86	60	16	8	0	9	13	23	35

Code
A Practices currently teaching
B Total no. of teaching practices
C New teaching practices needed
D No of sessions
E Contributors to whole curriculum
F Grants <20K
G Grants £21-50K
H Grants £51-100K
I Grants £101-200K
J Grants £201-500K
K Grants £501-1000K
L Grants £1001-5000K
M >£5000K

Code
N* Number 2001/02
O* Number 2002/03
P* Number 2003/04
Q* Number 2004/05

*Potential career scientist applicants

University Department codes 1 to 31 on page 55