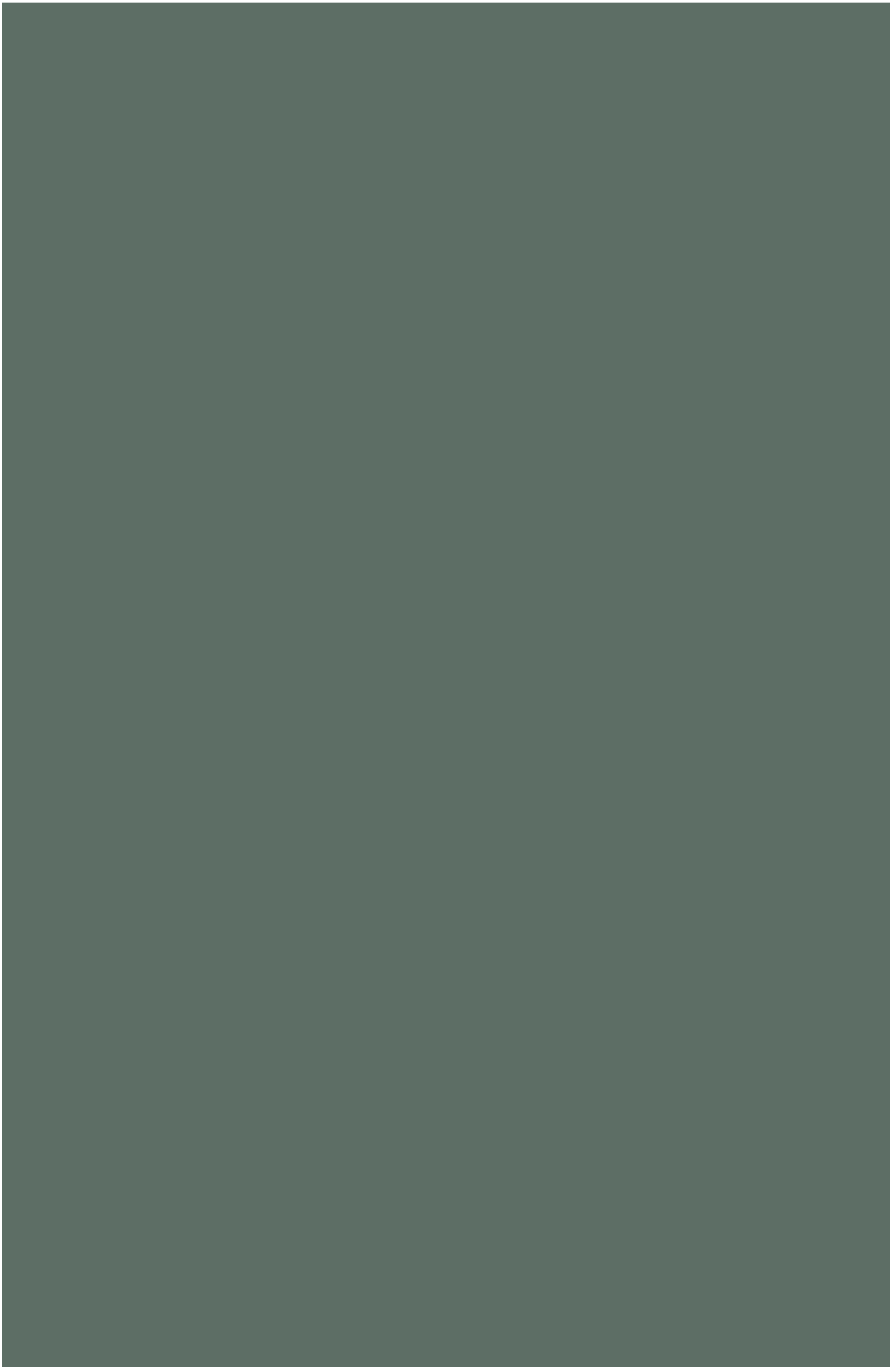


# The Gateways to the Professions Report

July 2005

Sir Alan Langlands

*Gateways to the Professions*



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## Preface

### Remit

In 2004, the Secretary of State for Education and Skills (Charles Clarke) invited me to prepare a report examining the gateways to the professions. In particular I was asked to consider how employers and the professions could sustain and improve recruitment opportunities for graduates, especially those who do not qualify for the full £3,000 support that will be available in grants and bursaries under the Government's plan to introduce variable fees in universities and other higher education institutions from 2006. As requested, I am making recommendations to Ministers on the action that can be taken to ensure clear accessible gateways for people who want to pursue professional careers. This work embraces the public, private and voluntary sectors but the bias is towards professions working in public services.

My work started formally on 1 July 2004 following Royal Assent of the Higher Education Bill and I was asked to report to the Secretary of State for Education and Skills by mid-2005. I have valued my independent role in this matter and, with the support of a small team from the Department for Education and Skills (DfES) and two reference groups, I have held a number of meetings with professional bodies, a wider consultation exercise and commissioned or reviewed relevant research. I am grateful to everyone who has taken time to contribute and to Steve Geary, Linda Gibbs and other members of their team who have provided excellent support.

There is no single definition of 'a profession' but throughout this work I have focused on those professions where a first degree followed by a period of further study or professional training is the normal entry route and where there is a professional body overseeing standards of entry to the profession.

### Context

Professional careers in the 21st century are tough and challenging. In most professions the essential elements of a recognisable code of ethics, a system of self regulation and a sense of vocation remain, but many aspects of professional life are subject to fundamental change.

There is now a much stronger emphasis on professional accountability shaped by third party regulation, market forces and a tough regime of standards, performance monitoring and mandatory continuing professional development. For many there is also a greater dependence on new technologies, changes at the boundaries between different professions requiring new approaches to teamwork, and an overriding imperative to take account of changing public attitudes.

The old approach based on the paternalism of the professions and the blind trust of clients, patients, pupils and customers is consigned to history. The new professionals have to be responsive to the needs and wishes of the people they serve and they have to reflect the broad sweep of modern society and the social, ethnic and economic mix of the communities where they live and work. It is the responsibility of government, our universities and other higher education institutions, professional bodies and employers to work together to ensure that we prepare and develop professionals in a way that maximises their contribution to the economic, social and cultural development of the country.

During the passage of the Higher Education Bill (now the Higher Education Act 2004), concerns were expressed that the introduction of variable fees in England from 2006 would create a new barrier for people wanting to enter the professions. This was the focus of my work but, in discussion with professional bodies, a number of other issues have been raised and where it makes sense I refer to these.

### Outcome

It has been difficult to address this remit in advance of the introduction of variable fees but I have examined the available evidence and reflected some of the genuine concerns expressed by professional bodies, universities and other higher education institutions and employers.

The introduction of fees in 1998 and the replacement of maintenance grants with loans between 1997/98 and 1999/2000 has had no significant effect on the numbers of applications to universities and other higher education institutions, indeed they have increased substantially for some professions. However the introduction of the new financial arrangements from 2006 and the prospect of increased student debt may well influence career choices and undermine the policy of widening participation in universities and other higher education institutions and in the key professions.

The report makes recommendations which address some of the possible effects of the new arrangements and recommends that the Independent Commission which the Government is establishing to review the impact of the first three years of variable fees should re-examine these concerns and my recommendations in light of experience.



Alan Langlands  
July 2005

## Summary of recommendations

The key recommendations in the report are framed by the four stages that people normally experience when entering the professions. In practice there may be some overlap between these stages, for example the period of study and entry to employment sometimes overlap.

### Stage 1: Initial decision making prior to entry to higher education

- > The Department for Education and Skills (DfES), working with the Sector Skills Councils, Regional Development Agencies and those responsible for careers information, advice and guidance should provide development funding to support employers, professional bodies and universities and other higher education institutions to take forward collaborative projects aimed at:
  - changing unhelpful stereotypical images of the professions
  - ensuring that young people and those who advise them, including parents and carers, have access to resources about the career opportunities that exist in each profession, the different routes available, and the qualifications and experience required for entry
  - developing flexible recruitment and training strategies for older workers and people who wish to change careers
- > Relevant government departments should also review the effectiveness of current measures to encourage young people from lower socio-economic groups to consider careers in the public sector and the professions. There is a lot of activity in this area and it makes sense to identify which interventions work and then to target resources at those interventions
- > The DfES should consider the scope for clarifying and streamlining the information on financial support available to students entering the professions

### Stage 2 : Application to higher education

- > Universities and other higher education institutions and professional bodies should ensure that entry requirements to undergraduate and postgraduate courses do not discriminate against students who have the potential to be successful in their chosen profession solely on the basis of school examination results
- > Universities and other higher education institutions need to design courses that are increasingly relevant in an international and European context and make use of the Diploma Supplement to ensure the transparency and international comparability of the qualifications gained
- > Universities and other higher education institutions, working with employers and professional bodies, should look at the potential for offering bursaries to support students undertaking courses leading to the professions. In particular they should consider offering bursaries to students who are not eligible for the full grant of £2,700 plus bursary of at least £300 and who may be deterred because of the cost from entering the professions. They should also ensure that bursaries are available for longer periods than three years where entry to a profession requires longer periods of study
- > Relevant government departments, working with universities and other higher education institutions, should continue to look specifically at measures to promote wider and fairer access to courses leading to the professions



### **Stage 3: Period of study**

- > The DfES should provide development funding to enable employers to work with professional bodies and universities and other higher education institutions to design flexible entry routes into the professions, including fast track and part-time routes. The Higher Education Academy and Sector Skills Councils may be able to play a role in supporting this work
- > Universities and other higher education institutions, working with financial institutions and the NUS, should provide students with information and advice about managing their finances and how to avoid unnecessary debt
- > The DfES should provide modest support to professional bodies to enable an effective dialogue with schools and universities and other higher education institutions
- > The DfES should monitor the impact of the new flexibilities being introduced from 2006/07 in the application of previous study rules relating to those entering the professions
- > The Higher Education Funding Council for England (HEFCE) should work with universities and other higher education institutions to review the supply and demand for academics providing professional education and give advice to DfES Ministers on action required by government to ensure adequate recruitment and retention of high quality staff
- > HEFCE should also monitor the number of graduates who continue to higher degrees and, with the research councils, consider the levels of support required by home and EU postgraduate students

### **Stage 4 : Entry to and retention in employment**

- > Employers should review their recruitment and retention strategies to ensure that they provide equal access to professional job opportunities and avoid discriminatory employment practices
- > Employers, relevant government departments, professional bodies and public sector agencies responsible for entry into the public sector professions should share good practice, research and evaluation about the impact and effectiveness of recruitment and retention measures. Particular emphasis should be given to measures that are successful in widening the social mix of entrants to the professions
- > The Government should ask the Pay Review Bodies to monitor the impact of the introduction of variable fees and the new student support measures on recruitment and retention and whether additional forms of support (for example bursaries and golden hellos) should be considered, particularly for those who do not receive the full grant of £2,700 plus a bursary of at least £300. Pay Review Bodies should also be asked to identify instances where the effect of student debt is to strengthen the case for higher starting salaries in key professions

### Further work

- > The Government should ask the Independent Commission which will be set up to review the impact of the first three years of variable fees to look again at the gateways to the professions and comment on whether the concerns raised at this stage about entry to the professions are justified by experience, particularly in relation to those that do not receive the full grant of £2,700 plus a bursary of at least £300
- > Specifically, the Independent Commission should focus on the 'rate of return' (and therefore the **total** benefits and costs) of higher education leading to professional careers and make recommendations on earnings thresholds, the level of variable tuition fees, grants, bursaries and interest rates on student loans
- > The DfES should work with employers, professional bodies and universities and other higher education institutions to monitor trends in the profile of recruitment into the professions and consider if further research is required

## Chapter 1 : Introduction

### Terms of reference

**1.1** The terms of reference for this work were included in the Secretary of State for Education and Skills statement to the House of Commons on 12 February 2004. A copy is included at Annex A. In summary, the terms of reference asked for an examination of how employers and the professions can sustain and improve recruitment opportunities for graduates, especially those who do not qualify for the full £3,000 support available in grants and bursaries under the Government's proposals to introduce variable fees from 2006. It also asked for recommendations to be made to Ministers on action that can be taken to ensure clear accessible gateways for all graduates who want to pursue professional careers in the public, private and voluntary sectors.

### The new system in brief ...

#### Fees, grants, loans and bursaries

**1.2** The Higher Education Act 2004 includes provisions which will allow universities and other higher education institutions in England to charge variable fees up to £3,000 per year per course from 2006/07 to new full-time undergraduate students, provided that they have an access agreement approved by the Office for Fair Access. The proposals mean that up-front fees will be abolished for full-time undergraduates from 2006. Instead, students will be able to defer their fees, and repay them after graduation once they are earning more than £15,000 per annum.

**1.3** A new non repayable grant of up to £2,700 per year is being introduced for students from the poorest socio-economic backgrounds, to coincide with the introduction of fees. In addition, some students will be eligible for bursaries of £300 upwards from institutions if they are in receipt of the full £2,700 grant and being charged the full £3,000 tuition fee. The information from the Office for Fair Access about bursary levels for the 93% of universities and other higher education institutions that will be charging the maximum fee show that for students who qualify for the maximum government grant, the average value of their bursary will range from the minimum of £300 up to £3,000, with a typical sum being about £1,000. Indeed, of those universities and other higher education institutions that are charging £3,000, 78% are providing more than the £300 minimum for those on the maximum grant. The Government estimates that around 30% of students will be eligible for the full grant in 2006/07, with around 50-55% expected to receive a full or partial grant.

**1.4** All students are also entitled to a student loan to pay for living expenses such as accommodation, food, course materials, and, if they require it, the cost of student tuition fees. Student loans are not commercial loans, but are provided by the Government with an interest charge linked to inflation, meaning that they will be cheaper than borrowing from a bank or other financial institutions.

**1.5** The repayment of government student loans is income contingent and operates through payroll via the Inland Revenue. No repayments are made if the graduate is earning less than £15,000. Above that threshold, the repayments are a proportion of the graduate's earnings over £15,000. This means that a graduate repays in proportion to how much he or she earns, not how much he or she owes. A graduate with relatively lower earnings will therefore take relatively longer to repay, but because the interest matches inflation, he or she never repays more in real terms than is borrowed, however long the repayment period. Any outstanding debt will be written off after 25 years. The effect of this repayment regime is to remove most of the risk associated with the investment, in a way that does not happen with commercial loans.

### **Office for Fair Access Information**

**1.6** In March 2005, the Office for Fair Access published details of the fees that will be charged by universities and other higher education institutions along with information about the bursaries that will be offered. The main points to be drawn from this work are as follows:

- > the vast majority of universities and other higher education institutions (93%) will charge the full £3,000 fee with just eight institutions opting to charge less than the maximum allowed. The lowest fee is £2,000 to be charged by Leeds Metropolitan University, with Trinity and All Saints charging £2,250 and the other six charging fees between £2,500 and £2,700;
- > at the time of preparing this report it looked as if there would be a greater range in the fees charged by Further Education Colleges which provide higher education courses, from the standard fee of £1,200 in 2006/07, up to the maximum of £3,000 per year;
- > most institutions will be offering bursaries to those on partial as well as full state support. 81% of universities and other higher education institutions are offering bursaries to students from income groups earning up to £22,000 per annum, and 73% to students from income groups earning up to around £33,000 per annum;
- > there is some information about subject specific provision with a few institutions indicating they will be providing support in subject areas that are relevant to the professions (for example in engineering, sciences and medicine). In theory the bursary schemes do not discriminate against degrees lasting longer than three years. More will be known as institutions publish their financial information for prospective students over the course of the summer period;
- > the market between universities and other higher education institutions has emerged principally in student bursaries rather than fees with universities and other higher education institutions offering support aimed at low income groups or scholarships based on academic merit.

### **Part-time student support**

**1.7** Part-time fees have always been unregulated. Financial support is available to students from lower income households to help meet the cost of fees. In 2005/06 these non-repayable fee grants are being linked to the intensity of study. For example students studying 50-60% of a full-time course may be eligible for a fee grant of up to £590; a student studying 60-74% may be eligible for a fee grant of £710; and students studying 75% of a full-time course may be eligible for a fee grant of up to £885. Students from low income households are also eligible to apply for a non-repayable course grant of £250 to help meet the additional costs of study.

### **Postgraduate support**

**1.8** The DfES does not offer support for living costs or fees for postgraduate study (except for students studying the Postgraduate Certificate of Education or PGCE), although it does offer postgraduate Disabled Student Allowances (DSAs).

**1.9** Postgraduate study includes taught and research Masters and PhD degrees, study for professional qualifications and other forms of higher learning. Fees for postgraduate students are not regulated. The DfES does however issue advice on the rate of inflation to guide institutions on postgraduate fee levels. The main application of this advice is in setting fee levels for PhD students who are successful in securing Research Council support for their studies. The Research Councils enter into contracts with universities and other higher education institutions in respect of the studentships they fund and, as part of this, set out the fee level they are prepared to pay for each student. This is normally adjusted each year for inflation. Institutions may not charge Research Council student fees above this level.

**1.10** The Research Councils offer support through PhD stipends for research students. However, competition for these awards is fierce and securing a place on a course is no guarantee of funding. For those who do receive Research Council stipends, they are due to rise from £10,500 in 2004/05 to a minimum of £12,000 in 2005/06, and to an average of £13,000 in some areas of recruitment difficulty.

**1.11** For those who do not receive Research Council Awards they may obtain funding or sponsorship from other sources including industry, charities and other grant-making bodies. Alternatively they may need to fund their own studies. The Career Development Loans Scheme (CDLs), where the DfES provides some limited subsidy for loans funded through three high street banks, is open to postgraduates. Similarly, postgraduates who meet the criteria, may apply to the Access to Learning Fund (ALF).

### **Previous Study Rules**

**1.12** In order to target support on those who have not had a chance to experience higher education, previous study rules restrict the support available to students where they have previously taken a full-time higher education course. From 2006/07 the rules will be changed in order to create a simpler and more flexible system with the aim of providing better support for students following non-traditional routes through higher education. All students will have a fair chance to experience higher education and achieve a degree qualification, and support will only be limited once they have either had this chance or have achieved an honours degree qualification. Those training to be teachers will be exempt from these restrictions, whilst loans for living costs will also be available to those training in other professions such as medicine, the allied health professions, nursing, midwifery, dentistry, veterinary science, social work, architecture and town planning, regardless of any previous study.

### **Support for the health professions, social workers and teachers**

**1.13** Support for these professions has been enhanced because the Government has identified them as providing high priority public services. A range of support including full tuition fee remission, bursaries, golden hellos and support to buy homes in London and the South East has been introduced. Further details are provided in the relevant profiles covering these professions in Chapter 6.

## The diverse nature of the professions

**1.14** One of the challenges faced in preparing this report was the need to capture the diversity of the professions, each with its own distinct issues in relation to image, recruitment and retention. For example, the challenges facing the engineering profession in undergraduate recruitment are quite different than say, veterinary science. There are risks in making generalised statements about the professions, and yet, there are some common themes that have emerged from the discussions held with professional bodies. Chapter 6 includes a number of profiles which draw out the key issues facing particular professions.

## Possible models

**1.15** In reviewing the actions that have been taken by professional bodies, employers and the Government in response to image, recruitment and retention issues in the professions, it is possible to detect three broad models:

- > **market driven** – employers responding to recruitment shortages by increasing entry salaries, offering bursaries or paying off student debt. This approach can be ad hoc and time limited in response to immediate needs and is more likely in the private sector;
- > **predictive** – employers assess need and they develop workforce strategies which include a variety of measures to overcome potential recruitment and retention problems. This approach takes more time to develop but can overcome more deep rooted problems faced by some professions;
- > **evolutionary** – employers monitor progress and disseminate good practice. This approach can be quite flexible, building on experience of what works best in response to the different circumstances that can arise.

In practice all three models have a place in tackling recruitment difficulties faced by the professions.

## The changing landscape and the need for partnership working

**1.16** In the following chapters the report provides important background about the professions; this is drawn from statistical data, literature reviews and dialogue with professional bodies, universities and other higher education institutions, government departments and employers. It is clear that the professions have to adapt to change driven by market forces, regulation and changing customer expectations. In some instances this is leading to a remodelling of the workforce with the development of associate professional roles to support highly qualified professionals; a growing acceptance that professions need to diversify their intake so that they are more representative of the communities they serve; an appreciation of the importance of continuous professional development so that individuals keep up to date with technological, social and cultural changes; and a recognition that the pool of potential talent in most professions extends across national boundaries.

**1.17** It is not clear that all universities and other higher education institutions, professional bodies and employers have a shared understanding of the challenges they face or that effective partnerships are in place to respond to the challenges. There are examples of good practice, but there was discord in the responses we received from the consultation process. There is a clear need to strengthen partnership working between universities and other higher education institutions, professional bodies and employers to ensure maximum support for people who would like to enter the professions.

### **Issues raised by the new system**

**1.18** At the time of writing this report, most of the facts were known about the new system of fees, grants, loans and bursaries, for example the £3,000 fee cap limit and the extent of grants and loans available to students. A clearer picture was also emerging about the fee levels. The 70% of students not eligible for the full £3,000 support (grant and bursary) may well face higher levels of debt than under the current system. For the health professions and schoolteachers there is additional support available to students which should reduce their levels of debt significantly. For other professions such as architecture levels of debt could be very high, with the Royal Institute of British Architects (RIBA) predicting a debt figure up to £36,000 on graduation. This raises questions about whether high levels of debt will deter some people from entering some key professions. However, the extent to which this will happen will depend on the extent to which the repayment regime for government student loans is truly understood by prospective students. It also raises questions about whether there is scope to redesign some professional courses so that a higher proportion of study is undertaken in conjunction with relevant, paid employment. These issues are examined in more detail in Chapter 7.

## Chapter 2 : Methodology

**2.1** The preparatory work leading to this report started in July 2004 following Royal Assent of the Higher Education Bill. Since then a number of approaches have been used to build a better understanding of the professions, the issues they face, and their views on the potential impact of the introduction of variable fees. Key activities are set out below.

### Workshops and consultation events

Events were held on 21 July 2004 and 10 January 2005 involving universities and other higher education institutions, professional bodies, employers and government departments.

### Reference Groups

There have been two meetings of the two Reference Groups that the Secretary of State for Education and Skills asked to be established, covering both the public and the private sectors. The meetings helped to identify key issues and inform the recommendations in this report. Membership of both groups is shown at Annex B.

### Consultation

A consultation questionnaire was launched on 10 January which included background information about the work being undertaken, key themes and issues, and an invitation to respond to a number of key questions relevant to this report. The document was made available to a wide range of organisations with an interest in the professions. Key stakeholders and partners were encouraged to participate in the consultation. The questionnaire was also made available on the Gateways to the Professions website at [www.dfes.gov.uk/hegateway/hereform/gateways-to-the-professions](http://www.dfes.gov.uk/hegateway/hereform/gateways-to-the-professions). A total of 91 responses was received from universities and other higher education institutions, public sector professions, private sector bodies, trade unions and other interested parties. An analysis of the responses to our consultation document is also available on the Gateways to the Professions website.

### Literature review and desk research

**2.2** A number of pieces of work have contributed to the preparation of this report:

- > a preliminary study which looked at the international comparisons of the impact of variable fees on entry to the professions. This was conducted in September 2004 by Laura McCann, a research student on work placement at the DfES;
- > a literature review which investigated three areas: the drivers which influence student choice in relation to the professions they would like to pursue; recruitment and retention strategies which are known to be effective; and to what extent and in what context economic factors are prevalent. This review was carried out by CRG Research Ltd and is published as a supporting document to the main report (available on the Gateways to the Professions website);
- > profiles which identify the specific issues facing key professions;
- > analysis provided by DfES and other organisations which contributed to the consultation process.

### One to One Meetings

**2.3** To supplement the workshops, the consultation process and the Reference Group meetings, a number of meetings were held with professional bodies, Members of Parliament and other bodies including employers organisations. A full list is included at Annex C.



## Chapter 3: Current trends

### Summary

- > Demand for university places, including courses leading to the professions, remains high and applications continued to rise even when fees were introduced in 1998
- > There are different gender and minority ethnic variations in entry to courses leading to the professions. For example, more men than women enter engineering and architecture and more women enter law, medicine, social work and teaching. Professions such as accountancy and dentistry attract a high percentage of black and minority ethnic entrants; but others such as teaching and veterinary science a small percentage
- > There is a social class gap in applications to most of the professions, although some progress has been made in closing this gap in recent years
- > The total number of students studying both part-time and full-time courses in the UK increased by 24% between 1996/97 and 2002/03. The largest increases relating to the professions were in teaching, social work and law, with slight increases in medicine and dentistry. Veterinary science and architecture did not change
- > The number of graduates leaving university and other higher education institutions with first degrees in specific professional subjects has remained relatively stable. Engineering has been declining and although there has been a decrease in first degrees in teaching, the numbers entering initial teacher training have increased significantly over the last four years through a variety of routes
- > Work and unemployment rates vary greatly between different subject areas; those with professional and vocational degrees were amongst the most likely to be in full-time employment (particularly health professionals and school teachers)
- > The number of PhDs awarded has been growing in the UK - up 31% between 1999 and 2003
- > Skills shortage vacancies show architecture and associated disciplines as having the highest skill shortages with science and engineering and law also above average
- > Projections of future demand up to 2012 show a continuing demand for professional, managerial and associate professional/technical occupations
- > There are strong financial benefits to attaining a degree in most subjects, although there is a marked variation in pay across the professions

- > The phasing out of mandatory grants and the introduction of course fees and students loans has resulted in increased graduate debt. Evidence from the *Student Income and Expenditure Survey*<sup>1</sup>, which covers full time, young, single, childless undergraduates, reports that students graduating in 2002/03 expected to finish university with debts two and a half times greater than students graduating in 1998/99<sup>2</sup>
- > Surveys suggest that employers are recruiting migrants to fill professional vacancies where there are skill shortages
- > Compared to national average earnings of £430 per week, architects, legal professionals, medical practitioners, engineers, social workers and accountants earn above the average for most of their working life
- > Estimates of "returns" by subject showing the relative pay levels achieved by an individual with a degree versus a similar individual with two or more 'A' levels indicate health and law as having the best financial returns. In terms of "rate of return" by degree subject, where the average rate of return is 12%, law, management and engineering degrees perform well, whilst history, linguistics and biological studies perform poorly
- > Participation in higher education is lower for young people from semi-skilled and unskilled social classes than from young people from professional classes. The single most significant factor in social class division in higher education participation is the continuing differential attainment in schools and colleges
- > The number of 18 year olds, representing potential entrants to higher education and the professions, has been increasing for a number of years. This trend will continue until 2010 when it will start to fall

## Applications and acceptances to university places

**3.1** Demand for university and other higher education places remains high. Between 1989/90 and 2003/04 applications for full-time and part-time courses rose from 273,000 to 476,000<sup>3</sup>, an increase of almost 75%. Acceptances over the same period rose by 138%. There is no evidence to suggest that the progressive reduction of maintenance grants, the introduction of student loans, and the advent of tuition fees in 1998 has deterred people from pursuing higher education.

**3.2** Courses such as medicine, which have a longer undergraduate course of five years and therefore potentially higher debt accrued over that period of time, recorded an increase in the number of applications from 40,605 in 2000 to 69,780 in 2004, an increase of 72%. Dentistry on the other hand, with a similar undergraduate course duration, had only a modest increase in the number of applications from 8,805 in 2000 to 8,820 in 2004, despite increases in the number of university and other higher education places available.

**3.3** Figures 1 and 2 below provide a breakdown by gender and ethnicity covering entry to the main professions and the total number of applications and acceptances.

<sup>1</sup> Callender, C and D Wilkinson (2003)

<sup>2</sup> Average anticipated student debt on graduation, in real terms, rose from £3,465 in 1998/99 to £8,666 in 2002/03

<sup>3</sup> HE in Facts and Figures, Summer 2004, UUK

**Figure 1: UK domiciled full-time and part-time undergraduate entrants 2003/04 by gender and ethnicity**

Subject	Total entrants	% women entrants	% non-white entrants
Accountancy	9,275	50	30
Architecture	3,540	35	15
Chemistry	3,925	45	20
Dentistry	970	60	40
Engineering	23,380	10	15
Law	18,885	60	25
Medicine	7,260	60	25
Social work	16,570	80	15
Teaching	15,260	75	5
Veterinary science*	705	75	5

Source: HESA 2003/04 \*includes Clinical Veterinary Medicine and Clinical Veterinary Dentistry

**Figure 2: UK domiciled applicants and accepted applicants through UCAS to full-time undergraduate courses at UK institutions, 2003 entry**

Subject	Applicants <sup>4</sup>	Acceptances
Accountancy	4,405	4,610
Architecture	2,660	2,490
Chemistry	2,435	2,800
Dentistry	1,645	870
Engineering	13,220	16,100
Law	17,005	15,820
Medicine	11,920	6,955
Social Work	4,520	3,505
Teaching	11,175	7,265
Veterinary Science*	1,325	775

Source: UCAS 2003. \*includes Clinical Veterinary Medicine and Clinical Veterinary Dentistry

**3.4** In terms of acceptances by social class Figure 3 shows the take-up by upper and lower socio-economic groups against broad subject areas and how this has changed over time.

<sup>4</sup> Note: applicant figures for some students are lower than acceptances because acceptances include those who have switched from subjects they have applied to but were not successful

**3.5** There is clearly a wide variation in the social class divide in applications, with veterinary science, medicine and dentistry dominated by higher socio-economic groups, whilst social work has a more even mix. However there have been improvements in this mix over time, with the proportion of veterinary science applications from the lower socio-economic groups doubling since 1996. In all subjects, the social class gap has narrowed or (in just one case – chemistry) been maintained.

**Figure 3: Acceptances to UCAS: proportion of upper and lower social classes by subject/subject area**

Subject	1996		2001		2002		2004	
	Upper Social Class %	Lower Social Class %	Upper Social Class %	Lower Social Class %	Upper Social Class %	Lower Social Class %	Upper Social Class %	Lower Social Class %
Accountancy	66	34	67	33	63	37	61	39
Architecture	74	26	75	25	74	26	73	27
Chemistry	72	28	71	29	70	30	72	28
Dentistry	81	19	86	14	78	22	80	20
Engineering	69	31	71	29	66	34	68	32
Law	74	26	74	26	71	29	69	31
Medicine	89	11	88	12	86	14	85	15
Social work	62	38	59	41	55	45	59	41
Teaching	69	31	64	36	62	38	63	37
Veterinary science	89	11	88	12	82	18	78	22

Source: UCAS

Note 1: Some subject classifications changed over the time period covered. Veterinary science in 2002 and 2004 includes clinical dentistry. Teaching is included within a broader categorisation of Education for 1996 and 2001. For 2002 and 2004, a separate category for training teachers exists. Caution should therefore be exercised in comparing the differing years.

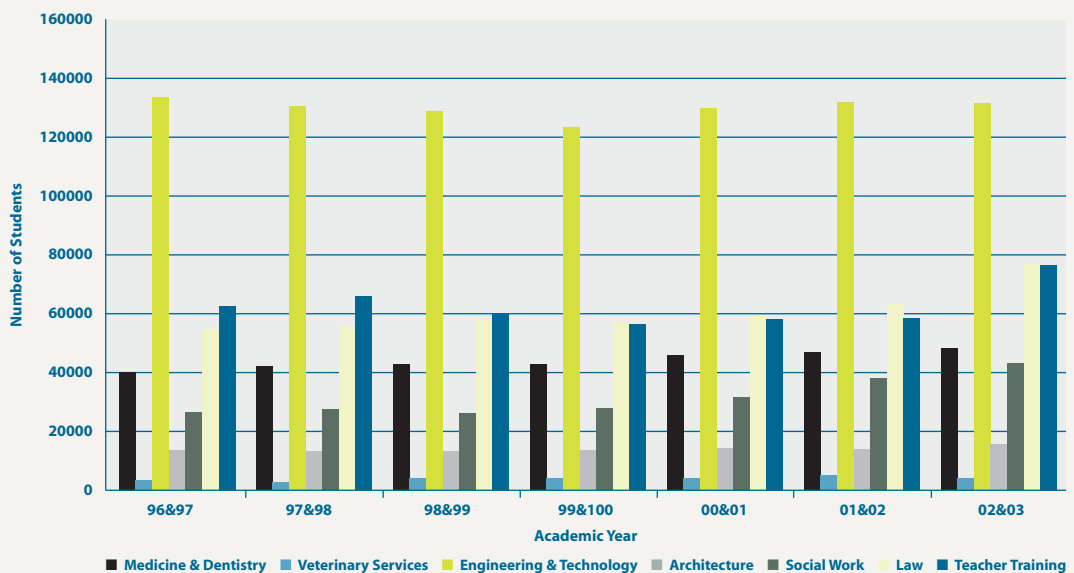
Note 2: For 1996 and 2001, lower social groups comprised skilled manual, partially skilled manual and unskilled manual. For 2002 and 2004, when a new categorisation was introduced, it includes small employers and own account workers, lower supervisory and technical occupations, semi-routine occupations, and routine occupations. Caution therefore needs to be exercised in comparing the different years.

## Number of students studying for the professions

**3.6** The total number of students studying courses<sup>5</sup> in the UK increased from 1,756,180 to 2,175,155 between 1996/97 and 2002/03<sup>6</sup>, a 24% increase.

**3.7** When broken down into specific professions, it can be seen from the chart below that the largest increases in student numbers were in teaching, social work and law, with smaller increases in the numbers studying medicine and dentistry. On the whole, the number of students studying veterinary science and architecture remained stable between 1996/97 and 2002/03.

**Figure 4: The total number of students studying undergraduate professions in higher education between 1996 and 2003**



## Destination of leavers

**3.8** The 2003 *Destinations of Leavers from Higher Education* survey showed that, six months after graduation, 63% of full-time graduates were in employment, with nearly a quarter (24%) undertaking further study or training<sup>7</sup>. The remainder were either unemployed (7% in total) or not available for work (6%)<sup>8</sup>.

**3.9** The number of graduates leaving university and other higher education institutions with first degrees in specific professional subjects has remained relatively static, with the biggest changes over time seen in teacher training and engineering (Figure 5). The steady decline in the number of students entering higher education to study engineering is matched by a similar decline in registration as chartered engineers<sup>9</sup>. Although there has been a decrease in first degrees in teaching, the numbers entering initial teacher training has actually increased quite dramatically over the last four years, for instance more than 40,000 were recruited in 2003/04 alone.

<sup>5</sup> Including full-time and part-time undergraduates and post graduates, non-EU and UK domiciled students.

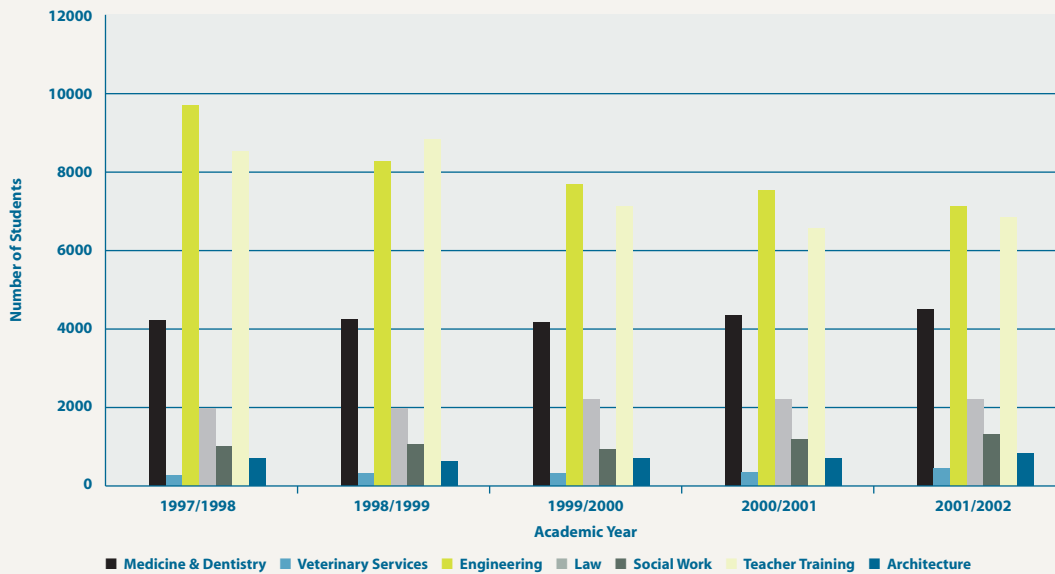
<sup>6</sup> HESA data

<sup>7</sup> Either solely, or in combination with employment

<sup>8</sup> HESA, *Destinations of Leavers from HE, 2002/03*

<sup>9</sup> *Digest of Engineering Statistics 2003/04*

**Figure 5: The total number of UK domiciled students obtaining first degrees**



**3.10** Work and unemployment rates vary significantly between different subject areas. In 2002/03 graduates from medicine, subjects allied to medicine and education were amongst the most likely to enter employment on graduation. This is not entirely surprising, as the number of places available to students in these professions is set by national government targets which aim to balance supply and demand.

### Growth in PhDs

**3.11** Figure 6 below shows the numbers of students obtaining a doctorate in 2002/03 and 2003/04. The number of PhDs awarded has been growing in the UK. In the five year period from 1999 to 2003 there has been a 31% increase in the number of PhD researchers expected to graduate during the calendar year. Much of this growth has come from significant increases in non-UK domiciled full-time researchers (+65%) and part-time UK researchers (+72%). Growth of UK domiciled researchers has been particularly low at 11%<sup>10</sup>.

<sup>10</sup> What do PhDs do? 2004 analysis of first destinations of PhD graduates, published by UK GRAD programme/Graduate Prospects : page 4

**Figure 6: Students obtaining a doctorate in 2002/03 and 2003/04**

Subject	2002/03			2003/04		
	UK domiciles	Non-UK domiciles	All	UK domiciles	Non-UK domiciles	All
<b>Architecture</b>	<b>23</b>	<b>42</b>	<b>65</b>	<b>22</b>	<b>40</b>	<b>62</b>
<b>Chemistry</b>	<b>685</b>	<b>315</b>	<b>999</b>	<b>747</b>	<b>291</b>	<b>1,038</b>
Clinical Dentistry	38	21	59	35	18	53
Pre-clinical Dentistry	8	0	8	5	3	8
<b>Total Dentistry</b>	<b>46</b>	<b>21</b>	<b>67</b>	<b>40</b>	<b>21</b>	<b>61</b>
Research and Study Skills in Education	13	15	28	11	5	16
Academic studies in Education	262	185	447	315	179	494
Others in Education	48	83	131	36	41	77
<b>Total Education</b>	<b>323</b>	<b>283</b>	<b>605</b>	<b>362</b>	<b>225</b>	<b>587</b>
General Engineering	159	178	337	190	219	409
Civil Engineering	106	123	228	94	114	208
Mechanical Engineering	168	194	362	139	151	289
Aerospace Engineering	16	19	35	23	16	38
Naval Architecture	2	4	6	1	3	4
Electronic and Electrical Engineering	204	313	517	188	319	507
Production and Manufacturing Engineering	41	29	70	43	44	87
Chemical, Process and Energy Engineering	75	114	189	89	122	211
Others in Engineering	1	2	3	14	38	52
<b>Total Engineering</b>	<b>771</b>	<b>974</b>	<b>1,745</b>	<b>779</b>	<b>1,025</b>	<b>1,804</b>
<b>Law</b>	<b>109</b>	<b>149</b>	<b>257</b>	<b>84</b>	<b>110</b>	<b>193</b>
Pre-clinical Medicine	77	31	108	65	13	78
Clinical Medicine	923	215	1,137	1,126	221	1,347
<b>Total Medicine</b>	<b>999</b>	<b>246</b>	<b>1,245</b>	<b>1,191</b>	<b>234</b>	<b>1,425</b>
<b>Social Work</b>	<b>39</b>	<b>12</b>	<b>51</b>	<b>32</b>	<b>10</b>	<b>42</b>
Pre-clinical Veterinary Medicine	8	4	12	10	6	16
Clinical Veterinary Medicine and Dentistry	41	18	59	35	8	43
<b>Total Veterinary science</b>	<b>49</b>	<b>22</b>	<b>71</b>	<b>45</b>	<b>14</b>	<b>59</b>

Source: HESA  
 Figures include qualifications obtained from all modes of study (including dormants, those on sabbatical and those writing up)  
 The method of coding subject of study was changed in 2002/03 which means figures for 2002/03 onwards are not comparable to earlier years.

**3.12** Data is also available on completion rates. By following the progress of students commencing doctorate degrees (mainly by research) in 1996/97, HEFCE report that 71% of full-time students and 34% of part-time students had completed their course within seven years<sup>11</sup>. Higher rates of completion of PhDs<sup>12</sup> are normally associated with the following groups:

- > students with financial backing, particularly from Research Councils, charities or the British Academy;
- > students from overseas;
- > younger students;
- > students following programmes in the natural sciences.

### Estimates of current employment levels

**3.13** Figure 7 below is an estimate of the numbers employed in the key professions which we have reviewed. These are based on the Labour Force Survey and the job titles offered by respondents – they are not necessarily members of any professional body. The table clearly demonstrates the wide variation in size of professions, though it masks recent growth or decline, and whether workers within the profession tend to be relatively old or young.

**Figure 7: Numbers employed in the professions in the UK<sup>13</sup>**

Architects	46,000
Dentists	23,000
Engineers	427,000
Legal professionals	143,000
Teachers	772,000
Chemists	33,000
Social workers	101,000
Medical practitioners	188,000
Accountants	155,000

Source: Labour Force Survey, Winter 2004, rounded to nearest thousand

Veterinary scientists have not been included because of small sample sizes, although there are thought to be between 10,000 and 20,000 in the UK.

<sup>11</sup> PhD research degrees: Entry and completion, HEFCE 2005 : 3. Note that a further minority of students go on to achieve an MPhil during this period

<sup>12</sup> ibid

<sup>13</sup> All professions are defined using the SOC2000 classification under "professional occupations". Engineers and legal professionals use the 3-digit definitions "212" and "241", whilst all others use a 4 digit definition. Note that "teachers" are an amalgamation of secondary ("2314") and primary/nursery ("2315") teaching professionals.

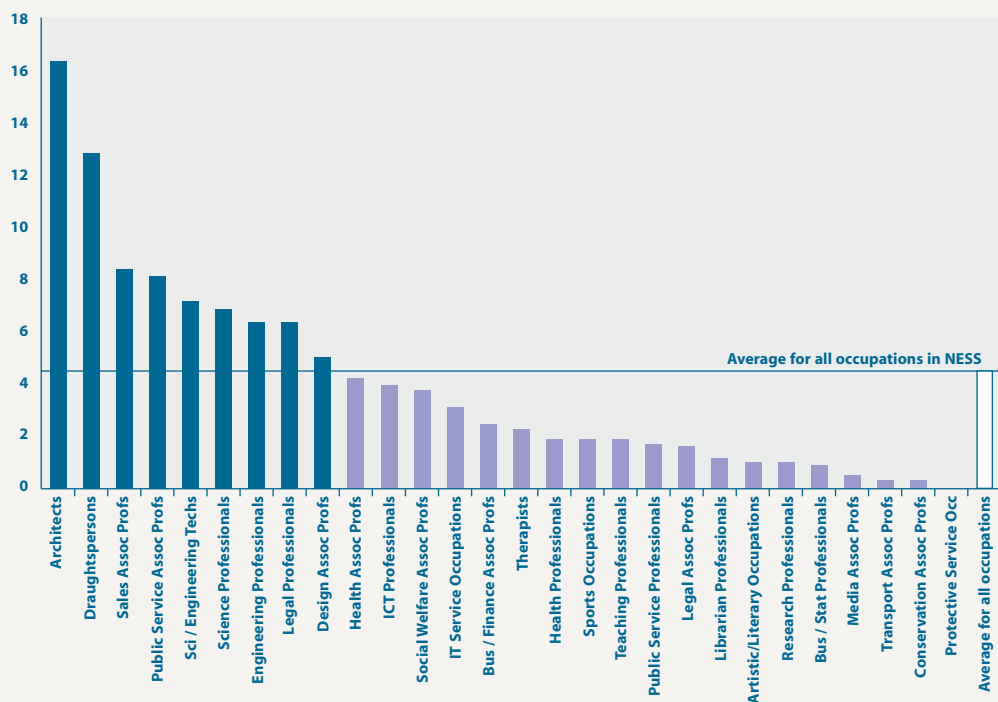


## Skill shortages

**3.14** Figure 8 shows the density of skills shortage vacancies for professional and associate professional occupations, based on the National Employer Skill Survey 2004 (NESS). The NESS asks employers whether they have any vacancies that are hard to fill and the reasons for this. Vacancies that are hard to fill because of a low number of applicants with the right skills, work experience or qualifications the company demands are deemed “skill shortage vacancies (SSVs)” and are expressed here per 1,000 workers in that occupation<sup>14</sup>.

**3.15** The information shows architecture and associated disciplines as having the highest skills shortages, with science and engineering and law also above-average. The teaching profession have relatively few skills shortages on this measure, although this might mask significant variation by subject and region.

**Figure 8: SSVs for professional and associate professional occupations, per 1000 employees**



## Projections of future demand

**3.16** It is not just current skills gaps that we need to worry about - investment in higher education is necessary to meet future demand. Figure 9 below projects future demand for occupations up to 2012, both through expansion of the workforce, or replacing existing staff (for example, due to retirements).

<sup>14</sup> These are 3 digit SOC 2000 definitions. The NESS does not calculate data on a 4 digit basis

**3.17** It has not been possible to look at individual occupations such as dentistry<sup>15</sup>. However, Figure 9 gives some indication of the main occupational growth areas and also those that are declining. It shows that half of the total 13.5 million jobs expected to be needed by 2012 are in managerial, professional or associate professional occupations - posts in which graduates are most likely to be employed. It also demonstrates a future expected demand of 825,000 teaching and research professionals by 2012, mostly to replace retirements in the existing workforce.

**Figure 9: Replacement demand by Standard Occupational Classification (SOC)  
Sub-Major Group, 2002/2012**

<b>UK, All Industries (Results in 000s)</b>	<b>Expansion demand</b>	<b>Replacement demands (retirements &amp; mortality)</b>	<b>Net requirement (excluding occupational mobility)</b>
Corporate Managers	662	1,321	1,983
Managers and Proprietors	-77	469	392
Science/Tech Professionals	203	299	502
Health Professionals	50	93	143
Teaching/Research Prof.	273	552	825
Business/Public service Prof.	178	244	422
Science Associate Prof.	144	178	322
Health Associate Prof.	130	514	644
Protective Service Occs.	83	230	312
Culture/Media/Sports Occs.	193	252	445
Bus/Public Serv. Assoc Prof.	225	604	829
Admin & Clerical Occupations	-180	1,309	1,129
Secrerarial & Related Occs	-244	540	296
Skilled Agricultral Trades	10	123	134
Skilled Metal/Elec Trades	-408	627	219
Skilled Construct. Trades	-90	342	252
Other Skilled Trades	-54	248	194
Caring Personal Service Occs.	703	633	1,336
Leisure/Oth Pers Serv Occs.	45	214	259
Sales Occupations	202	755	957
Customer Service Occupations	196	211	407
Transport & Mach Ops	-311	519	208
Transport Drivers and Ops.	62	421	482
Elementary: Trades/Plants/Mach.	-213	376	163
Elementary: Clerical/Service	-460	1,108	647
<b>All Occupations</b>	<b>1,322</b>	<b>12,181</b>	<b>13,503</b>

Source: CE/IER estimates, based on LEFM Replacement Demand Module, MDM95 F95F95 Forecast., Replacement Demands.xls (Sector RD).

Note: a) Numbers may not sum due to rounding.  
b) Occupational and Geographical mobility are assumed to be zero for the puposes of these estimates.

<sup>15</sup> This is based on the less-detailed 2 digit SOC 2000 classification

**3.18** Short term projections like the CIPD Quarterly Labour Market Outlook for Spring/Summer 2005 show that 53% of employers anticipate recruitment difficulties and that a lack of specialist skills required (58%) and lack of relevant experience (44%) were the main reasons for recruitment difficulties in Winter 2004/05. Also, 27% of employers planned to recruit migrant workers in Spring 2005, with migrants from the new EU member states currently being the most sought after, and 48% of employers hire migrants to fill professional vacancies.

### Earnings data

**3.19** A crude market-based solution to recruitment difficulties is for employers to look at salary levels offered to its professionals: other things being equal, higher salaries would increase the number of recruits. In the context of introducing variable fees it is useful to investigate earnings progression against age.

**3.20** Consistent earnings data across different occupations is very difficult to derive from existing sources. The best source available is the Annual Survey of Hourly Earnings - a survey of 1% of employees registered for a PAYE scheme. However this *excludes* self-employed workers, which is likely to bias the earnings data for certain professions, architects for example.

**3.21** These estimates are averages across all workers *currently* in these professions in the economy at present; there is no certainty that *new* graduates will follow the same earnings path.

**3.22** With these important caveats, Figure 10 shows gross weekly earnings by age band for six professions. Compared to the national average<sup>16</sup> earnings (of £430 per week) all workers in the six professions are above-average for most of their working life. However there are marked differences in earnings across these professions. Medical professionals earn on average £1,250 per week, which seems to increase steadily with age, and legal professionals also fare well, although this appears to tail-off for older workers.

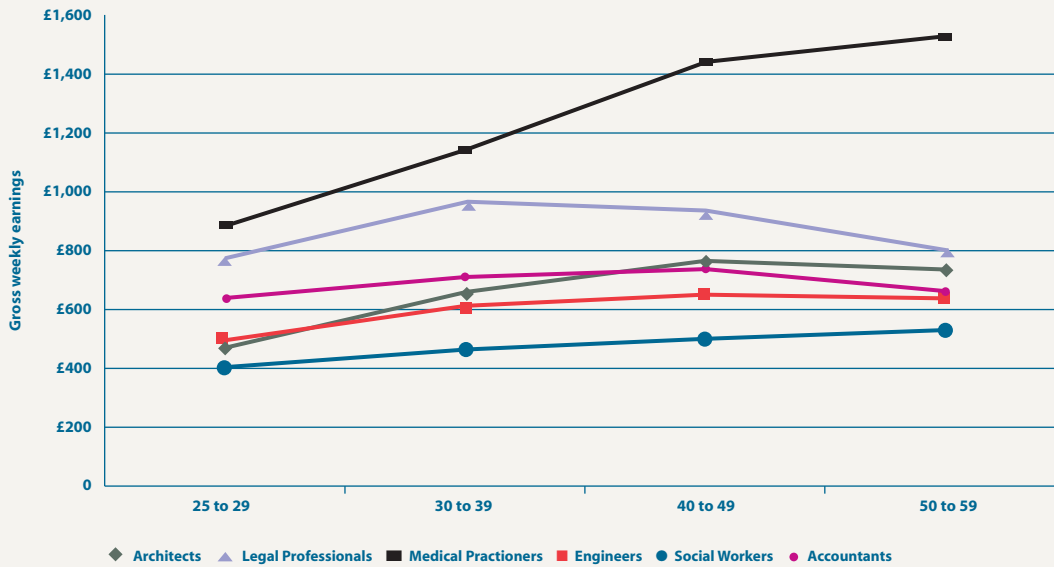
**3.23** By comparison, social workers earn the lowest of the profiles for which data is available – an average of £500 per week. It also appears that earnings do not grow very strongly with age, perhaps supporting anecdotal evidence of a poor career structure in the profession with few chances for advancement.

**3.24** The earnings of teachers and chemists (not shown) follow a very similar path to engineers, whilst data for veterinary science and dentistry are not available due to small sample sizes.

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<sup>16</sup> All average figures are measured as medians

**Figure 10: Earnings by age group for six professions**



Source: Annual Survey of Hourly Earnings, 2004. Full-time employees only, whose earnings were not affected by absence, in England.

### Returns by subject

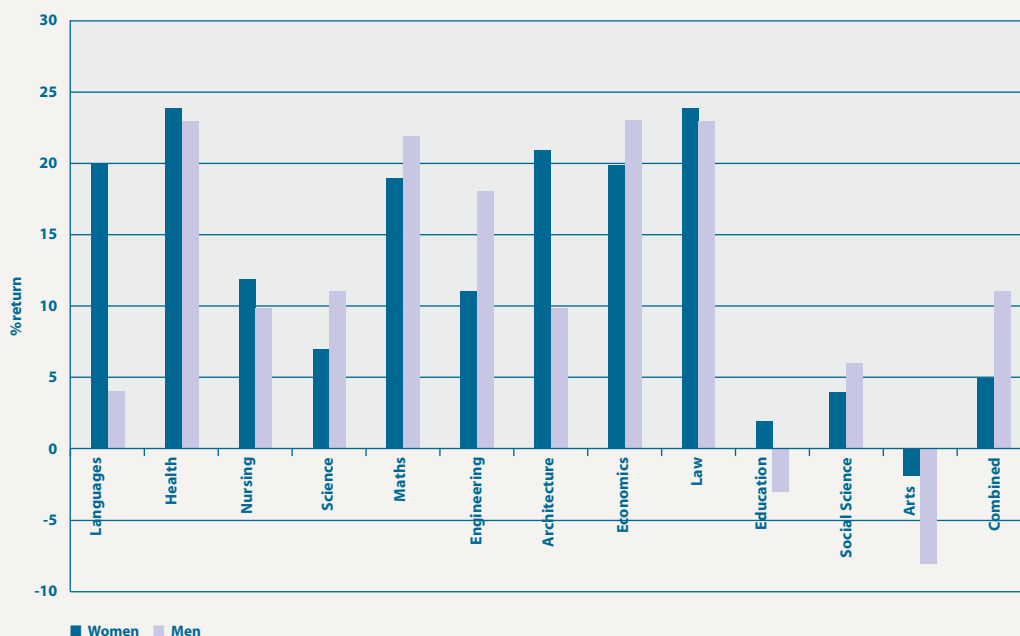
**3.25** Figure 11 presents similar data in a different way. It shows the percentage wage benefit of a degree by subject versus a similar individual with two or more 'A' levels, after stripping out the effects of a limited set of personal and employer characteristics<sup>17</sup>.

**3.26** Health and law come out again as having very high financial benefit, with economics and maths also performing well in earnings-terms. The study could not disaggregate separately to qualifications with lower take-up (such as social work). Interestingly, social science, education and arts have a very low return<sup>18</sup>.

<sup>17</sup> Such as region, employer size etc

<sup>18</sup> Indeed, the returns to arts appear negative. However this may reflect unobservable differences in the characteristics of students.

**Figure 11: Returns by subject**



Source: Walker and Zhu (2002)

### Rate of return by subject

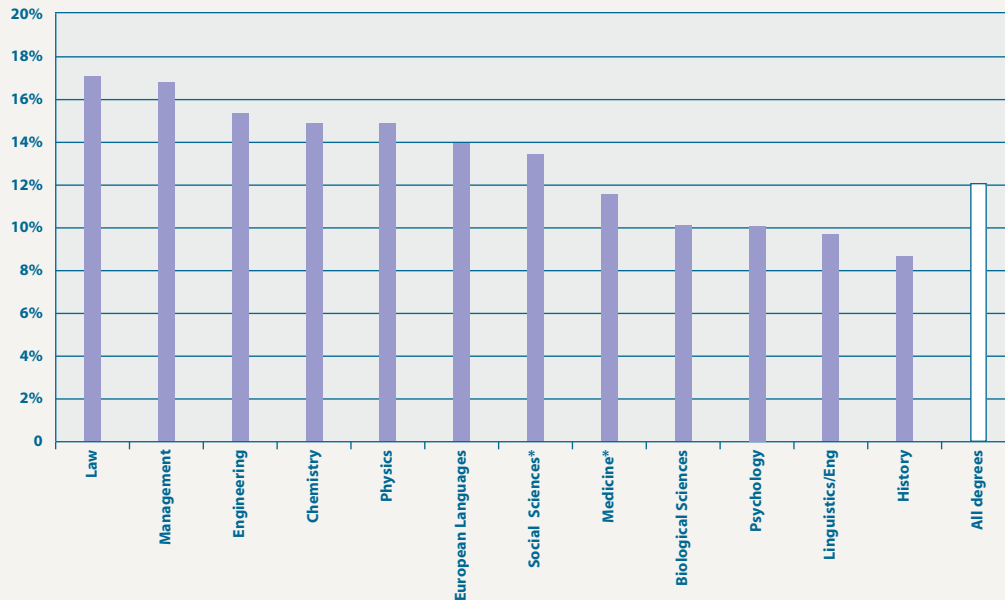
**3.27** Distinct from the “return” (just the benefits) of a degree, is the “rate of return” which reflects both the benefits **and** the costs to the individual<sup>19</sup>. On the benefits side, individuals not only enjoy higher earnings, but also a greater likelihood of being employed and also receive an interest subsidy from government on their loans. These are then compared to the costs. As well as the tuition fee and the loan repayments students also forego three years earnings (longer in the case of some degrees).

**3.28** PwC<sup>20</sup> have provided evidence of the rate of return by degree subject, shown in Figure 12 (although not for all the professions considered above). Compared to an average rate of return of 12%, law, management and engineering degrees perform well, whilst history, linguistics and biological sciences perform relatively poorly. Note that medical degrees also have a marginally lower-than-average rate of return despite having strong earnings benefits. This is because of the longer period of study.

<sup>19</sup> Formally, a rate of return is the discount rate which equates the net present value of the benefits with the costs of an investment. The higher this discount rate, the greater is the relative benefit. Data shown here are *private* rates of return – ie the costs and benefits assessed from the individual student’s perspective. However, they do not include non-monetary benefits, such as improved health, which are also associated with having a degree.

<sup>20</sup> PwC(2005) *The economic benefits of higher education qualifications*, RSC & IoP.

**Figure 12: Rate of return by subject**



Source: PwC (2005) The economic benefits of HE qualifications, RSC & IoP, Jan 2005. \*Social sciences excl law and psychology, Medicine excl dentistry.

## Graduate debt

**3.29** There are a host of different measures of graduate debt:

- Student Loans Company data shows that the average student loan debt going into repayment in 2005/06 is £8,340;
- the 2002/03 Student Income and Expenditure Survey (SIES)<sup>21</sup> found an average net debt level of £8,666 (this covers both private debt and government student loans);
- the UNITE/MORI survey in 2005 estimated debt, both private and government, of £9,744<sup>22</sup>;
- the Barclays Bank annual survey generates the highest estimate of all, in the region of £12,000-£13,000 in 2004.

But it is clear that the phasing out of mandatory grants and the introduction of course fees and student loans has resulted in increased graduate debt. Evidence from SIES<sup>23</sup> shows that students graduating in 2002/03 expected to finish university with debts two and a half times greater than students graduating in 1998/99<sup>24</sup>. The Barclays Bank annual survey of graduate debt reports a five fold increase in the 10 years to 2004 with average graduate debt in the region of £12,000-£13,000.

21 Callender, C and D Wilkinson (2003). The SIES covers full-time, young, single, childless undergraduates. For final year students, their debt represents their final debt on leaving university. Net debt has been calculated by subtracting any savings from the total borrowings.

22 The UNITE Student Experience Report, 2005

23 Callender, C and D Wilkinson (2003)

24 Average anticipated student debt on graduation, in real terms, rose from £3,465 in 1998/99 to £8,666 in 2002/03

**3.30** A study by Universities UK (UUK)<sup>25</sup> suggests that the financial barriers to entry into higher education are particularly marked among those undecided about entry. A lack of money and concerns about accumulating debts are cited as contributing to indecision. The research also provides evidence that unlike their more affluent contemporaries, low income entrants restrict their choice of university and/or higher education institution and course according to cost. This is possibly why the Government has adopted the policy of the £2,700 grant and £300 bursary for the lowest income students.

**3.31** A second survey of current students from the same study states that 75% agree that borrowing money for a university degree is a good investment. More than 80% of current students believe debt deters entry to higher education and 83% think one of the worst aspects of going to university or other higher education institution is being in debt. However, once they have embarked on their degree, attitudes change. The majority of final-year students, almost two-thirds, take a pragmatic view that debt is a normal part of today's lifestyle. Whilst almost three quarters of final year students have serious concerns about the build up of debts and how they will pay them off, the UNITE Student Experience Report 2005<sup>26</sup> conducted by MORI shows that 95% of students agreed that going to university was a worthwhile experience.

**3.32** Nevertheless, there are safety nets in place for students with loans delivered by the Student Loans Company, including an interest subsidy and a £15,000 repayment threshold.

### Widening participation

**3.33** Participation in higher education is lower for young people from semi-skilled and unskilled social classes than from young people from professional classes. Recent research published by HEFCE<sup>27</sup> indicates that young people living in the 20% most advantaged areas are five or six times more likely to enter higher education than those living in the 20% least advantaged areas.

**3.34** In looking at entry into the professions, the single most significant factor in social class division in participation is differential attainment in schools and colleges. Whilst 69% of 18 year olds from higher professional occupational family backgrounds gain two or more 'A' levels, only 23% of those from routine occupational family backgrounds do so. By the age of 21, nine out of ten teenagers with two or more 'A' levels achieved by age 18 go on to higher education, regardless of social class; and one in two who have the vocational equivalent. It is widely known that young people from low income backgrounds have lower 'A' level attainment, lower post-16 staying on rates, lower GCSE attainment and lower attainment at Key Stage 3.

### Demography

**3.35** Figure 13 below shows the projected population at mid-year for people aged 18, for the years 2005 through to 2020. This age group, which represents potential entrants to university and other higher education institutions and the professions has been increasing for a number of years. This trend will continue until 2010 when it will start falling.

25 Universities UK (2003) Attitudes to debt : School leavers and further education students' attitudes to debt and their impact on participation in higher education, [www.universitiesuk.ac.uk](http://www.universitiesuk.ac.uk)

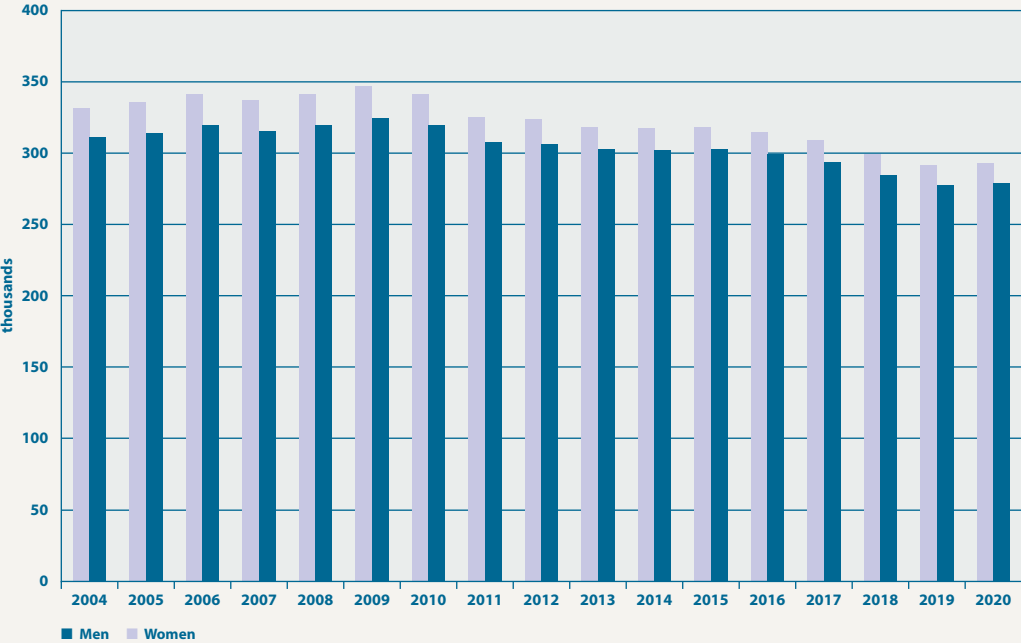
26 UNITE Student Experience Report 2005

27 Young Participation in Higher Education, HEFCE 2005

**3.36** In the period up to 2010 the Government is committed to working towards 50% of the 18-30 age group participating in higher education. With young people achieving improved GCSE and 'A' level results this means that demand for higher education is likely to increase during this period. If the Government continues to promote more work-based higher education provision, as it has done with the expansion of Foundation Degrees, it is also possible that there will be more demand from older workers and people who want to change careers or develop their existing careers.

**3.37** For employers seeking to recruit people into the professions there should be an increasing pool of potential undergraduates. However, from 2010 until 2020 the number of 18 year olds declines and remains lower than current numbers beyond that period.

**Figure 13: Estimated population at mid year, by age 18 at mid year, revised estimates and projections - England (thousands)**



Source: Government Actuary Department 2003-based population projects



## Conclusion

**3.38** On the whole this evidence presents a positive picture in terms of numbers applying for courses at universities and other higher education institutions leading to the professions. The loss of maintenance grants and the introduction of fees in 1998 has not reduced the numbers of people applying for higher education places which lead to professional careers. The prospects for entering employment have been good and although there are concerns about the build up of debt, the rates of return for graduates have been reasonably high. However, there are concerns about the differential attainment of students from different socio-economic backgrounds in schools and colleges and there is evidence that participation in higher education is already lower for young people from semi-skilled and unskilled social classes than from young people from professional classes. Many respondents to the consultation exercise raised concerns about the impact of debt on future study for the professions and believe that the introduction of variable fees may further undermine the policy of widening participation. This may depend however on the extent to which the nature of the student loan repayment regime is properly understood by prospective students.

## Chapter 4: Literature reviews

**4.1** Two literature reviews have been undertaken to support this work. The full reports can be accessed via the website [www.dfes.gov.uk/hereform/gateways-to-the-professions](http://www.dfes.gov.uk/hereform/gateways-to-the-professions)

### International Experience

**4.2** In September 2004, Laura McCann (a research student), undertook a preliminary study which looked at the international experience of introducing variable fees on entry to the professions. The key findings were as follows:

- > There is a distinct lack of evidence on the potential or actual effect of variable fees on students whose family income places them just above the threshold for grant aid. Attitudes towards debt aversion need to be investigated further
- > Variable fees are not the total of student debt: living costs make up a large proportion of that debt, and the example of the United States suggests that when fees increase, students prefer to study in their home state
- > Where variable fees are at their highest, students choose degrees that lead to careers with a high rate of economic return over those leading to the professions, and the experience of law graduates indicates that the private sector is still preferred to careers in the public sector
- > Certain degrees linked to the health and education professions are in general the next most popular courses after business and management subjects, possibly due to the stable career opportunities they offer
- > Where degrees such as engineering have reasonably high rates of return, it seems that a lack of interest in science in schools is the main reason for the low uptake of degrees in the subject
- > The arts, humanities and theoretical sciences have suffered from the introduction of variable fees more than any other subject area
- > Loans are the most common method of funding degrees related to the professions, although Australia, New Zealand and the United States are directly supporting shortage professions through increased support
- > A small number of fee remission schemes exist for people studying for degrees that lead to a profession, but most bursaries only apply to students from low socio-economic backgrounds
- > Students going into teaching are benefiting the most from financial aid packages in the comparator countries. However the UK already has a number of incentive schemes for trainee teachers
- > New Zealand is piloting "Step-Up Scholarships" for 2004-05 in the human and animal sciences - these mainly target disadvantaged students
- > The United States runs the successful *Americorps* programme, which enables students to pay off part of their debt through voluntary work. It is unlikely that this could transfer directly to the UK because much of the work is already undertaken by the British welfare system. *Teach for America* defers student loans and pays off any interest accrued during the voluntary placement, but does not guarantee any other financial support

- > It is hoped that work in schools and universities to encourage children to take a greater interest in science will have a positive impact in the future

### **CRG Research Limited: Literature Review Conclusions**

**4.3** Earlier this year CRG Research Ltd were commissioned to undertake a literature review investigating the drivers which influence student choice in the professions they would like to pursue; what recruitment and retention strategies are known to be effective; and to what extent and in what context economic factors influence gateways to the professions. The key conclusions to emerge from this work are set out below.

- > Although there is substantial literature about the concept and behaviour of professions, there is relatively little evidence about the impact of increased personal costs on recruitment into specific professional groups
- > Probably the most useful concept is the 'Regulative Bargain'<sup>28</sup> which argues that in return for money and status individuals will invest in learning and training and consent to be regulated. The results of increased costs to the individual coupled with increased regulation should theoretically reduce the attractiveness of the professions - especially if more market led occupations are available. These factors may ultimately result in pressure for higher starting salaries to mitigate the effects of student debt
- > The literature on career choice all points to many career choices being made at a relatively early age - around 14-16 years old. However, professions vary in the specificity of their qualification requirements - failure to choose science subjects in Year 10 might preclude a career in medicine, whereas, a degree in a wide range of subjects would qualify a student to take a postgraduate teaching qualification. Whilst most accountants are graduates not all of these studied accountancy at university<sup>29</sup>
- > The flexibility of entry into some professions makes 'cause and effect' very difficult to demonstrate. Similarly, with high specificity professions such as medicine, the parental and other influences affecting career choice may have had their effect before any of the recent changes in funding arrangements
- > Employers and professional bodies have been largely reactive to potential shortages in recruitment, with the public sector taking more of a lead than the private sector which tends to be dominated by smaller organisations. A range of financial measures has been adopted by employers, including bursaries, golden hellos and deferred loan repayment, as well as increased flexibility of training and the development of new career routes. The Pay Review Bodies have noted a number of concerns about recruitment and retention but have recommended relatively little change

28 Cooper, D Puxty T, Robson, K Willmot, H Regulating the UK Accountancy Profession ESRC Research Conference. Policy Studies Institute London 1988

29 See for instance ICAEW Annual Report 2004. 2003-2004 Graduate intake over year by degree subject and class.

- > Whilst trends show that debt has had no impact on participation in higher education (at both undergraduate and postgraduate levels) there are some factors which are of concern in relation to widening participation. These may have an impact on diversity in recruitment to the professions, for example if there are few law students from the lower socio-economic groups, the pool from which solicitors can be selected will be narrowed. Evidence from the professional bodies acknowledges that they have difficulty in achieving diversity in recruitment.
- > Some reductions or slow down in recruitment to professions, for example in engineering, reflect longer term changes to the UK's industrial structure and changing attitudes to the physical sciences among school students
- > The overall conclusion is that on the available evidence, changes in funding patterns have had no detrimental impact on the number of people applying to universities or other higher education institutions with a view to pursuing professional careers. However, these findings need to be treated with some caution for two reasons. Firstly, the available evidence is patchy and much of the hard data relies on first destinations rather than long term career mapping. Secondly, much of the evidence is historical and is based on behaviour and patterns established when higher education was largely a 'free good' and its value to the individual in terms of lifetime earnings was guaranteed. If the 'Regulatory Bargain' theory is correct then at some point a greater personal investment and tighter regulation will result in demands for higher incomes. If these are not forthcoming and other parts of the labour market are buoyant it is possible that there would be a decline in the number of people entering the professions
- > Finally, the very long lead time between fixing on a career preference and actually entering a profession means that the impact of funding changes are unlikely to have had much effect on the current generation of students or their parents. Any measurable impact of the introduction of variable fees may be at least three to five years in the future

## Chapter 5: Responses to our consultation

**5.1** A consultation document was made available in January 2005 to professional bodies, employers, universities and other higher education institutions. These bodies were invited to respond to a number of broad questions which in summary focused on:

- modernisation of the professions;
- recruitment and retention;
- career choices;
- widening participation; and
- other issues relating to the gateways to the professions.

**5.2** Ninety one responses were received and the full analysis of the responses can be found at [www.dfes.gov.uk/hegateway/hereform/gatewaysstotheprofessions](http://www.dfes.gov.uk/hegateway/hereform/gatewaysstotheprofessions). The key points are summarised below.

### Modernisation of the Professions

**5.3** Some organisations, such as Proskills (the proposed Sector Skills Council for the Process and Manufacturing industry) are attempting to define what knowledge and skills are required by employers of professional people. However, many employers are content to leave this to universities and other higher education institutions to determine.

**5.4** Effective links between universities and other higher education institutions, professions and employers are important. Many respondents highlighted examples of good practice, for example business and professional input to curriculum design; teaching provided by visiting professorships; and the provision of work experience. However some sectors felt that they did not have sufficient resources to devote to these activities.

**5.5** Most respondents believed that widening participation in the professions required concerted action by employers, professional bodies and universities and other higher education institutions working in partnership. The key areas to be addressed included improving the poor image of some professions; disseminating more accurate information about career opportunities; reducing the reliance on 'good first degrees' as the sole criterion of admission to a profession; and providing adequate financial support, properly publicised, for people from poorer socio-economic backgrounds.

### Recruitment and Retention

**5.6** A number of respondents argued that finance was a key cause of recruitment problems in some disciplines. Student debt and in some cases, the absence of bursaries, scholarships or loans can deter people, particularly from minority ethnic or disadvantaged groups from applying to university. Students undertaking longer courses (for example in medicine, dentistry, veterinary science and architecture) are also thought to be particularly disadvantaged by the new arrangements. It was also argued that these effects were exacerbated in some professions by low starting salaries. One suggestion for the public sector is for other incentives, for example a training package, to be offered to staff to support career development.

**5.7** There is also real concern that the disparity between academic salaries and those which professionals can earn outside universities and other higher education institutions result in recruitment difficulties in academia, which may ultimately limit the quantum and the quality of teaching and research in some professional disciplines. As public and private sector pay increases for many professionals, it may be that universities and other higher education institutions will simply have to pay market rates to recruit and retain able staff. Even when there is reasonable parity in pay – for example in the case of clinical academics – the onerous nature of an academic career which requires a commitment to practice, teaching, research and administration may limit recruitment.

### **Career Choices**

**5.8** Respondents argued that there is a need for accurate and up-to-date information to be made available both early on (before choices are made) and via all media, particularly electronic, which enables students to access information when they need or want it. Many commented on the need for better funding of this kind of activity because many professions, particularly the smaller ones, do not have the resources to deal with this problem. Many organisations claim to be putting a lot of effort into this kind of activity, but all see the need for more.

### **Widening Participation**

**5.9** This issue can only be tackled in partnership or co-operation between employers, professional bodies and universities and other higher education institutions as unilateral action is likely to result in blockages and disappointment at later stages in the qualifying process. Practical steps which have been taken to address this issue focus on financial support (including bursaries) and the development of different routes to qualifications - for example via part-time courses and greater emphasis on distance learning. However, it is pointed out that professional training usually demands some face to face teaching and learning which cannot always be met purely on the basis of part-time or distance learning.

## Chapter 6: Profiles of the key professions

Discussions have been held with a number of employers, professional bodies, government departments and their agencies. These discussions have been distilled into a series of profiles which set out the key issues for the professions in terms of education and employment.

### 6.1 Accountancy

#### Key issues facing the profession

- > Outdated perceptions of the profession - it now attracts students from a wide variety of backgrounds. Women make up 51% of student intake and there are a variety of flexible pathways to becoming an accountant
- > Growth of student debt is affecting the graduate employment market. Salary levels are increasing to accommodate student debt and this is affecting some industry sectors
- > Retention is a key issue amongst employers. Demand for qualified staff is at an all-time high which is putting pressure on salary levels. Employers are starting to cast a wider net to plug skills gaps and are investing greatly in retention strategies

An accountancy qualification can give graduates many opportunities in different fields including commerce and industry, management and financial consulting and working in accounting firms. UK professional accountancy qualifications have a worldwide reputation and credibility. Employers look for a professional accounting background for a wide range of jobs.

There are a number of professional bodies for accountancy in the UK. These include:

- > Association of Chartered Certified Accountants (ACCA);
- > Institute of Chartered Accountants in England and Wales (ICAEW);
- > Chartered Institute of Management Accountants (CIMA);
- > Institute of Chartered Accountants of Scotland (ICAS);
- > Chartered Institute of Public Finance and Accountancy (CIPFA);
- > Institute of Chartered Accountants in Ireland (ICAI); and
- > Association of Accounting Technicians (AAT).

The accountancy qualification offered by the AAT provides a vocational progression route into the higher levels of the profession for non-graduates.

The ACCA is the largest and fastest-growing international accountancy body, with 345,000 students and members in 170 countries. ACCA has an extensive network of over 70 staffed offices and other centres around the world.

ACCA offers two core qualifications:

- > a technician level qualification providing a comprehensive introduction to accountancy;
- > a professional scheme qualification based on a relevant and targeted combination of examinations and practical experience.

ACCA provides lifelong learning and support to its members and students, whatever career they are pursuing. It is using the concept of "progression" as a way of providing a clear path to qualifications, and a method of providing opportunities for people with ability. For example ACCA offers:

- > with its professional scheme, a Bachelor of Science in Applied Accounting from Oxford Brookes University which centres on practical analysis in the work place; and
- > an MBA designed to broaden business understanding and enhance strategic decision making.

## Education

Training to be a qualified accountant involves completion of professional exams as well as work-based assessments/targets/ competences, together with a period of structured work experience. Rules surrounding where and when trainee accountants gain their work experience vary between professional bodies. However, typically, three years work experience is required in all cases.

ACCA is the first body to develop a competence framework for trainee accountants as a way of ensuring that appropriate work place skills are demonstrated before the qualification can be gained. This ensures that the process to ACCA qualification is transparent and provides a guarantee to employers that ACCA qualified accountants are competent and experienced.

### Entry requirements

The Key Facts and Trends in the Profession produced by the Professional Oversight Board for Accountancy (POBA) show that graduate entry to the accounting profession ranges from 50% to 87% across the professional accounting bodies. Entry is open to graduates of all disciplines and while a large number have business-related degrees, other subjects are strongly represented such as science, maths, languages, arts and social sciences. UCAS points are often important to recruiters as they feel there is a direct correlation between UCAS points and professional examination results.

Entry regulations vary slightly between the professional institutes, but typically a good honours degree or equivalent in any subject plus maths and English GCSE (grades A or B) are required. Maths beyond GCSE is not essential, though firms will test numeracy skills as part of the selection process.

Recently there has been an increase in non-graduate entry to the profession as organisations are looking for more diverse ways to recruit and retain staff. This fits with ACCA's value of "open access". ACCA's entry routes are designed for people of high ability and application, including school leavers, graduates and mature candidates. Its "open access" entry route provides non-degree holders with the opportunity to obtain a BSc Honours degree in Applied Accounting whilst taking their ACCA exams. This initiative has been developed with Oxford Brookes University.



Trainee accountants complete a research and analysis project alongside their ACCA professional studies. This is assessed by Oxford Brookes University and alongside the ACCA examinations, determines the class of degree awarded. Completion of the research and analysis project develops the individual's analytical and written skills and provides them with a range of skills expected from university graduates.

There are also vocational routes available through accounting technician qualifications offered by ACCA or AAT for those without the appropriate qualifications or those who wish to have a non-graduate route into the accounting profession.

### **Debt**

Employers are aware that graduates may leave university with considerable debts and will try to alleviate the problem. For example, the Big Four accounting firms<sup>30</sup> offer subsidised loans. However, not all employers can sustain this level of financial support and the increasing amount of debt held by graduates is affecting the graduate employment market. Salary levels are increasing to accommodate repayment loans and this is affecting certain industry sectors.

Employers are now looking at more innovative ways to recruit - for example by offering school leavers an alternative mode of training to university education, with the advantage of lower salary levels and potentially increased retention. The AAT is finding that some well-qualified school leavers are deciding not to go to university but are taking up training opportunities in accountancy as an alternative. They are able to qualify as chartered accountants in four years (without incurring debt) by taking one of the AAT's "earn while you learn" work-based fast track routes into the profession. Employers can benefit from subsidised training by offering Apprenticeships for the AAT component of the fast track route.

## **Employment**

### **Recruitment and retention**

The majority of organisations which recruit trainee accountants still recruit graduates. The accounting profession attracts graduates from a wide range of degree subject areas. There are a large number of accounting degree courses available and there are no major shortages in the academic infrastructure. Many employers have links with universities and other higher education institutions and specific degree programmes. Some employers offer student placements, work experience or advise on syllabus content.

Under the ACCA programme, the three year work experience requirement can be completed before, during or after completion of ACCA examinations, and students are able to change their employer as often as they wish. As long as their work meets the work experience competencies, students can work in any organisation, anywhere in the world, to complete their training.

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<sup>30</sup> Deloitte, Ernst & Young, KPMG and PwC

As mentioned before, organisations are looking at more diverse ways to recruit. This has led to an increased level of school leaver recruitment, supported by innovative accountancy programmes such as the ACCA and Oxford Brookes University partnership.

Retention is currently a key issue amongst employers of accountants. Demand for qualified staff is at an all-time high which is putting pressure on salary levels. Employers are starting to cast a wider net to plug skills gaps and are investing greatly in retention strategies.

### **Remuneration**

The main measures to attract trainee accountants currently (outside of salary) tend to centre on training benefits. Many employers will offer a training package which will cover costs of studying and examinations for professional qualifications. Some will also guarantee experience in the areas needed to complete the work experience element of the qualification. Other benefits such as pension provisions are also evident, particularly in big organisations.

Starting salaries for graduates and school leavers vary considerably depending on location and size of firm, but can go up to £25,000 for trainees, whereas school leavers can expect to earn up to £17,500. Salary data collection in March 2004 shows that on qualification, salaries can double. Salaries at senior level and with experience of between 10 and 15 years also vary widely depending on role and location. Salary packages can also include benefits such as pay bonuses, share options, pension, medical insurance and company car.

### **Destinations**

Accountants work in many areas of the private and public sector, in roles ranging from sole practitioner to chief executive of a multinational company. Many accountants work for accountancy firms which provide services such as audit, tax, business advice, management consultancy, corporate finance, corporate recovery and forensic accounting. In commerce and industry and the public sector, accountants work in financial management, financial reporting, management accounting and internal audit roles in addition to more specialist roles.

There are four broad areas and designations of accountant:

- > **ACCA/FCCA** (Chartered Certified Accountants) work in a range of sectors including accounting firms, commerce and industry and public sectors. The flexibility and optionality of the ACCA syllabus allows ACCA students and members to work and transfer between industry sectors, allowing them to be portable and marketable;
- > **CIPFA** (Chartered Institute of Public Finance Accountants) usually work in the public services sector and employers include local and national government departments, local authorities, health services and "not-for-profit" organisations;
- > **ACMA/FCMA** (Chartered Management Accountants) focus on management accounting in business. They provide an understanding of facts and figures critical to business decision making. They usually work as an 'in-house' accountant working as part of the management team;
- > **ACA/FCA CA** (Chartered Accountants) usually work for firms of accountants. They audit the accounts of other organisations and can also be involved in other areas of financial advice, for example tax planning and consulting.

### **Equality and diversity within education and employment**

Accountancy is one of the most flexible professions to follow. Many of the qualifications can be studied full-time at a college or university, and part-time whilst working or through distance learning.

The historical perception that the accounting profession is male and middle class dominated has reduced significantly. For example 51% of ACCA's student intake is female and all ages, educational and ethnic backgrounds are represented.

## **6.2 Architecture**

### **Key issues facing the profession**

- > Linked to fluctuations in the economy, architecture lacks the stability and income levels for large-scale employer sponsorship and incentives
- > Architecture courses attract women students, but they find working in practice problematic – architecture is not seen as family friendly
- > The industry does not attract enough people from minority ethnic groups. This may be due to a perception that architecture does not have high enough status or does not pay highly enough
- > Concerns about high levels of student debt on graduation following the introduction of top up fees. Jobs are relatively poorly paid, with a potential for creating a 'brain drain' to better paid jobs overseas

The Royal Institution of British Architecture (RIBA) is a member organisation with approximately 30,000 members comprising 87% chartered members, 11% student members and 2% subscriber members.

### **Education**

The qualifying programme for an architect in the UK is five years university-based study (or part-time equivalent) and two or more years of professional experience and development. The academic study is divided into RIBA Part 1 and undergraduate qualification at RIBA Part 2. Part 1 is usually followed by a 'year out' of professional experience. Students undertake at least one more year of professional experience after their Part 2, before taking the final professional practice examination, RIBA Part 3.

At present there seems to be little scope for developing a more flexible approach to gaining the qualification because of European Directive requirements. SCHOSA (Standing Conference of Heads of Schools of Architecture) is looking at alternatives to the current pattern of Parts 1, 2 and 3. It is also considering more flexible learning methods, including work-based learning, to reduce student debt. There is concern that the financial burden will increase on universities and other higher education institutions, and they may no longer be able to support these courses.

In 2003/04, 2,542 students joined recognised architecture degree courses. However, only 1,349 students started Part 2 courses – a continuing steady decline, down from 1,643 in 1999/2000.

### **Entry requirements**

Although specific mandatory entry requirements are not set for architecture courses, applicants generally need at least two academic 'A' levels and five GCSEs including English language, maths and science, or equivalent qualifications. Ideally, students should have studied a mixture of arts and sciences. Most schools of architecture expect to see a portfolio of creative work. RIBA have incentives for recruitment to architecture courses, including bursaries and a mentoring scheme for students.

### **Diversity within education**

Architecture degree courses recruit well from a broad range of potential students. Women students have increased from 28% to 38% over the past 10 years, and the proportion of students from minority ethnic groups compares well (at 12-13%) to other higher education courses. There may be a slight increase in drop-out rates among women during the seven-year training process.

### **Debt**

The architecture course is long, which makes it expensive for students. RIBA's view is that debts of up to £36,000 are quite likely for graduates, once variable fees have been introduced. However, the DfES is of the view that the average is likely to be much less than this. Financial support is available through student bursaries from local education authorities and RIBA. On work placements, students tend to be poorly paid, particularly at Stage 1.

## **Employment**

### **Recruitment and retention**

Being linked to fluctuations in the economy, and with many very small practices, architecture lacks the stability and income levels that make employer sponsorship and incentives possible on a large scale.

Retention is a problem, both whilst training and after qualification. Despite the rapid expansion in student numbers in the Part 1 course since 1988, the number of students passing Part 3 has remained stable.

### **Diversity within employment**

There are approximately 28,000 registered architects in the UK of which around 22,600 are in full-time employment and 14% are women. Although architectural courses attract women, the hours are long and salaried architects find it difficult to afford good childcare for the hours required to progress in their career.

The industry does not attract enough people from minority ethnic groups, perhaps because architecture does not have high enough status or is not thought to pay well. RIBA aim to improve this situation through their equal opportunities policy and by promoting good employment practices.

### Remuneration

RIBA supports a recommended minimum salary for students in their first year of professional experience: currently £6.80 an hour (£8.17 in London). Some students work for free to gain experience to benefit their career. RIBA also publish figures relating to salary levels during education and training. In London, Part 1 (first year out) students receive between £14,000 and £18,550; Part 2 (assistants/recent post Diploma) between £19,000 and £23,000; Part 2 (1-2 years post Diploma) between £24,000 and £29,000; and Part 3 (newly registered architect) between £28,000 and £31,000.

Jobs are relatively poorly paid in comparison to other professions and RIBA reports anecdotally that there is some evidence of architects moving to better paid jobs overseas (a potential 'brain drain'). The RIBA Architects' Employment & Earnings annual survey 2004 indicated in August 2004 that the median earnings for qualified architects were £36,027. Median earnings of principals in practice with 51 or more architectural staff were £72,500, with sole principals achieving median earnings of £49,000. Median earnings in the public sector were £34,000 in local authorities and £40,000 in central government.

### Destinations

Architecture courses give students skills which can be applied to a wide range of careers, for example:

- > town planner
- > planning and development surveyor
- > housing manager/officer
- > historic buildings inspector/conservation officer
- > interior/inscape designer
- > industrial/product designer
- > landscape architect.

Local authorities, which used to be major employers of architects, now tend to contract out the work.

## 6.3 Chemistry

### Key issues facing the profession

- > Altering the perceptions of chemistry in the minds of young people who are not fully aware of the key role of chemistry and the career opportunities available
- > Ensuring diversity and geographic provision of chemistry courses meets demand
- > Increasing the participation of high ability students in chemistry
- > Recruitment of specialist teachers of chemistry at school level and the age profile of the chemistry teaching workforce
- > The decline in graduates undertaking higher degrees in chemistry which may impact on resource for research and development

## Education

### Entry Requirements

Entry to chemistry degree courses typically requires three 'A' levels or equivalent qualifications including chemistry. Entry to the profession at chartered level is usually by studying for a four year MChem degree followed by four to five years work experience to achieve professional competence. There are also routes to chartered status for those studying for a three year BSc (Hons) if further study is undertaken. The Royal Society of Chemistry (RSC) recognises a wide range of routes into membership including professional experience. It also offers and supports part time and distance learning courses. The RSC's publication Awards, Sponsorship and Scholarships lists a number of companies and universities and other higher education institutions that offer sponsorship.

The number of students accepted to study chemistry degrees has, in general, decreased since 1994, both in absolute terms and as a proportion of the 18 year old population. In 2004 there were 2,550 UK domiciled graduates in chemistry. The RSC claims that the closure of several chemistry departments across the UK has resulted in lack of provision and diversity of provision in certain areas of the country, in spite of evidence of demand from applicants for places. It feels that the introduction of variable fees and the likelihood of students wishing to stay close to home could be a major inhibiting factor for those wishing to study both on a full-time and part-time basis. However data from the RSC Statistics of Chemistry Education shows that between 1996 and 2004 although the total 'A' level entries in the UK went up by 3.5% there was a 7.8% drop in the numbers taking 'A' level chemistry. HESA figures show that between 1995/96 and 2001/02 around 25% of 2003 chemistry and physics graduates whose destinations were known went on to do a higher degree; but whilst the number of doctorates awarded in these subjects rose by 24.5% and 38.1% respectively, in terms of percentages of all doctorates awarded, both subjects saw declines of 34% and 26.8% respectively during this period.

HEFCE is bringing together a series of activities to support certain "strategically important and vulnerable" subjects, which includes chemistry. Its recent report (June 2005) indicated that along with other Science, Technology, Engineering & Mathematics (STEM) subjects, undergraduate provision has declined over recent years.

### Diversity within education

The percentage of female chemistry graduates is increasing. When compared with other subjects, the percentage of female graduates is higher in chemistry (45.7% in 2003) than in physics and mathematics, but is lower than in biology. The percentage of females achieving higher degrees in chemistry is smaller than at first degree but it is increasing (38.8% in 2003).

"Chemistry: the Next Generation" is an outreach exercise supported by HEFCE's Aimhigher National Activity initiative which aims to help widen participation in UK higher education, particularly amongst students from non-traditional backgrounds, minority groups and the disabled. Almost £1 million has been earmarked for the project with the aim of raising the interest and expectations of young people with untapped potential.

### **Debt**

The Roberts Review 'SET for Success' (April 2002) found there were concerns that the longer hours of study demanded from science and engineering students, in the laboratory and lectures, would hinder students' ability to take on part-time work to help with student debt. It also found that low stipends and increasing debt are thought to be two of the factors reducing the attractiveness of postgraduate study.

## **Employment**

### **Recruitment and retention**

Concerns have been expressed that a drop in the number of undergraduate chemists over the past few years has serious implications for the UK economy. The Government's Science and Innovation Investment Framework 2004-2014 outlines a range of measures to support graduates in the physical sciences, particularly in relation to science teaching. However the main reported skill shortage is at higher technical and associate professional level. The RSC reports anecdotally that pharmaceutical companies are now actively recruiting large numbers of chemistry graduates from Europe. The RSC is currently considering undertaking some labour market intelligence on the current and future need for chemists. The RSC also reports that public sector organisations have suffered poor recruitment and retention of chemists and some have adopted the strategy of recruiting students with 'A' levels and offering day release opportunities for further academic study. It believes a positive step would be for companies to offer golden hellos to chemists in the same way as the teaching profession. Another area of concern is the recruitment for specialist teaching of chemistry at school level.

The Government Academic Fellowship Scheme, which gives £125,000 per Fellowship to universities and other higher education institutions to help young researchers move from short term contracts to permanent academic jobs, was launched in 2004. Plans are to create 200 new five year Fellowship posts each year. The Government has also introduced the Undergraduate Ambassadors Scheme which allows undergraduates to spend time in schools and explore teaching as a career and as act as role models for students interested in the sciences.

### **Diversity within employment**

The RSC has expressed concern at the age profile of the chemistry teaching workforce. It has commissioned a report on this and is working with the DfES on a further study. Baroness Greenfield's 2002 report "SET Fair: a report on women in science, engineering and technology" found that women were "under-represented in nearly all areas of scientific endeavour, ethnic minority women even more so". It also found that women perceived institutional sexism, work place culture and issues with work/life balance to be problems in the areas of science and engineering.

## Remuneration

A report produced by PricewaterhouseCoopers LLP in January 2005 on behalf of the RSC found that chemistry and physics graduates will earn on average over 30% more during their working life than 'A' level holders. It reports that by the age of 60, chemistry and physics graduates might be expected to earn approximately £10,000 per annum more than someone in possession of a biological sciences degree and £7,000 per annum more than someone in possession of a psychology degree. The RSC's last remuneration survey (2004) showed that typical salaries for those recruited at BSc level was £24,000 and those recruited at Doctorate level was £26,000.

## Destinations

The majority of first degree chemistry graduates from universities and other higher education institutions enter home employment in industry or commerce. The major employers of the graduates working in science-based industries are in the oil, mining, chemical and allied industries. Of those first degree graduates entering commerce the majority work in accountancy. Fewer higher degree graduates enter commerce, with a larger number entering the educational sector. A substantial number are on postdoctoral fellowships. The total of known first destinations of first degree university chemistry graduates in 2003 was 2,235. Of those 1,090 were employed and 760 went on to further study; 135 were working and undertaking further study.

## 6.4 Dentistry

### Key issues facing the profession

- > There is a risk that dentists will choose to do less NHS work when the arrangements for local commissioning of NHS dental services are introduced (by April 2006). However, it may not become a major problem until the end of the three year guaranteed period for gross earnings in 2009
- > Whilst the Department of Health (DH) is taking steps to tackle shortages of dentists, there is a risk that targets will not be met and shortages may continue
- > As dental students already have to take on large debts, increased tuition fees could put people off studying dentistry in the future
- > The change from a male to female-dominated profession may have a significant effect on work patterns, and more dentists may be needed to provide the same level of service

There are around 32,500 registered dentists in the UK, and in England approximately 23,000 dentists work in the NHS. This includes around 18,300 general practitioners providing NHS care under the General Dental Services (GDS) scheme – independent contractors who choose how much NHS treatment they provide. By April 2006 the DH is reforming NHS general practitioner dental services in England, so that dentists will be paid for delivering local contracts rather than for each item of treatment. Over the last 10 years, private dentistry has grown several-fold.



## Education

### Entry requirements

All dentists in the UK initially follow the same education and training in order to be qualified to work. There are three main stages: undergraduate education (either a BDS or BChD degree, from one of the 13 dental schools); postgraduate education, including training in the first one to two years after qualifying; and continuing professional development. New dental graduates wishing to work in GDS have to undertake one year's vocational training. Undergraduate dental courses last five years, but dentistry is still a very popular degree, with more than eight applicants for every place.

### Diversity within education

In the mid-1990s, a study into the ethnic and gender variations in university applicants to UK medical and dental schools showed that 54% of applicants were male and 46% female, and that 48% were from minority ethnic backgrounds (of these, the single largest group was constituted by those from an Indian background) (Bedi R, Gilthorpe MS). Recent (2004) British Dental Association (BDA) surveys indicate that 45% of current dental students are male and 55% female, and that 40% are from black and minority ethnic groups. The DH has committed £3 million over five years towards widening participation, and HEFCE a further £6 million. People with disabilities face unique challenges in the dental profession, due to the manual nature of the work. However, there are some non-practising career routes. The BDA and British Dental Students' Association are committed to widening access for students from more excluded socio-economic groups and those minority ethnic groups that remain under-represented in the profession.

### Debt

For the first four years, students are supported through their local education authority. From Year 5, tuition fees are paid by the DH, and students may receive a means-tested bursary on top of their student loan. Dental students are particularly likely to accumulate large debts, as they have to study for five or six years. They must also be at university for up to 45 weeks of the year, compared to 30 weeks for other subjects, which leaves little time for holiday work. A BDA survey indicated that in August 2004, the average debt for final-year dental students was £20,100, a substantial increase since 2000. To subsidise spending, 49% of students had a part-time job. A quarter of dental students considered that the level of their debt would influence their career choice. 81% of respondents either strongly agreed or agreed that changes in tuition fees would put people off studying dentistry in the future.

## Employment

### Recruitment and retention

In 2002, the DH estimated that in 2003 there would be a shortage of 1,850 dentists, and the equivalent of 1,000 new dentists would be needed by October 2005. The DH intends to tackle this by encouraging qualified dentists to return to work and to increase their NHS commitment, and by recruiting dentists from overseas. The number of training places is also being expanded by 170. However, the National Audit Office believes there is a risk that these targets will not be met and that shortages of dentists will continue.

### **Equality and diversity within employment**

In December 2003, 66% of registered dentists were male and 34% female, although according to the Dental Practice Board, 51% of Vocational Dental Practitioners (those undergoing their mandatory year of vocational training) were male and 49% female. Dentistry is an increasingly popular career for women, and by 2005 there are likely to be more women than men graduating from dental schools. However, women still seem to earn less than men from NHS dentistry (possibly in consequence of gender differences in working patterns) and a smaller proportion of women in GDS own their own practice. Women tend to have different work patterns to men (women being more likely to work part-time), so as the balance shifts towards women, more dentists may be needed for the same level of output. A 2004 survey showed that 43% of graduates belonged to a black or minority ethnic (BME) group, but not all BME groups are adequately represented within the profession. Comprehensive data on the make-up of the profession is not yet available; however, the General Dental Council has begun monitoring at the point of registration and this data is expected later in 2005.

### **Remuneration**

Dentistry offers the highest earnings on graduation of any career except computer science, with a salary of £26,520 (2004/5) payable during the vocational training year. Typical full-time earnings for a general practitioner working mainly or entirely in the NHS are around £60,000-£70,000 a year (for a working week of 42 hours). Dentists in the Salaried Primary Dental Care Service receive an annual salary of between £30,313 and £66,694 (including performance-based increments), according to their grade. Hospital dentists receive a basic annual salary of between £24,587 (the starting salary for a senior house officer) and £90,838 (the highest spine point for a consultant).

### **Destinations**

Dentists may become academics in dental schools or work in hospitals or community clinics, but most become general dental practitioners. Other options include dentistry in the armed forces or in industry. The BDA Student Debt Survey 2004 indicates that the high cost of a dental degree leaves many dental graduates with a level of debt that significantly affects their career choices, influencing them against lower-paid hospital and university careers.

## **6.5 Engineering**

### **Key issues facing the profession**

- > Encouraging young people to choose engineering as a career and addressing the concern about falling numbers choosing to study the relevant subjects at school and university or college
- > Addressing gender and ethnicity issues relating to study and employment
- > Addressing skills gaps in particular areas of engineering

## Education

More young people need to be attracted to the engineering profession. By the age of 17, it seems only about 7% of pupils choose engineering as a career, and it often has a 'negative image'. The Royal Academy of Engineering (RAE) BEST programme offers young people a range of schemes to interest and develop engineers of the future from the age of nine.

### Entry requirements

There are a number of ways to enter the profession and become registered as a Chartered or Incorporated Engineer - the most common is a degree in engineering. For a Chartered Engineer, the exemplifying academic qualification is an accredited three year Honours degree followed by either an approved Masters degree, or by other appropriate further learning to Masters level. Alternatively, a four year integrated MEng degree provides a means of meeting the academic requirement in one go. For Incorporated Engineers, the exemplifying qualification is a three year Bachelors degree. Although precise figures are not available, the three year honours degree is the most common route, followed by well over 60% of engineering students.

The number of UK students joining engineering courses fell from 19,156 in 1994 to 16,622 in 2004; this represented a 13.3% decline in student acceptances onto engineering courses. In 2004, just 5.2% of new students were studying engineering. A principal reason for the decline is the falling number of pupils studying 'A' level mathematics, physics and chemistry, a pre-requisite to most engineering courses at university or college. During the period from 1994-2004 the number of pupils taking 'A' level mathematics fell by 20.8%. 'A' Level physics suffered a similar trend with a 22.6% fall in the number of pupils being taking the subject.

### Diversity within education

Since 1991, the proportion of women joining engineering and technology degrees has changed little, and was still only 13.7% in 2004. However, the proportion varies in different areas of engineering: women made up 20% in chemical engineering, 7% in mechanical engineering, 40% in mathematical and physical sciences, and 17% in computer science, but 65% in the biological sciences including sports science.

### Debt

The Digest of Engineering Statistics 2003/04 reported that research into first destinations of graduates indicated student debts had reached £7,695 on average for engineering graduates in 2000 (compared to £6,507 for all graduates) and were projected to reach £14,000 by 2002 (£12,000 for all graduates). However, a later graduate survey from Barclays Bank found that engineering student debt levels averaged £11,000 in 2002 and were therefore below the expected £12,000 for all graduates. It is becoming harder to encourage UK graduates to take a PhD in engineering, as the gap between PhD stipends and starting salaries has increased dramatically. This has recently worsened as undergraduate debts have risen. The changes to student funding may affect engineering more severely than many other subjects.

## Employment

Engineering has many sub-disciplines, such as electronics, aerospace, mechanical, marine, civil and chemical engineering. Engineers therefore work in a wide range of industry sectors.

### Recruitment and retention

Although it still does not attract enough of the brightest and the best students, engineering is one of the few subjects which can offer almost certain employment and a high probability of a good quality job. The number of people with degrees in engineering or technology who were in work rose from about 437,000 in 1992 to 494,000 by 2000. The number of professional engineers has fallen but this is outweighed by growing numbers of computer analysts and programmers, software engineers and computer engineers. Also, many move into managerial positions, areas such as the armed forces, or other work such as finance and management consultancy. In general, supply appears to be more or less equivalent to demand, but there are specific shortages. There seems to be a shortage of professional engineers in electronics manufacture and in construction. The demand for civil engineers and other engineers in construction is very strong.

### Diversity in employment

Although women are beginning to make progress, they have not entered all areas of engineering to the same extent as men, and they remain at or near the bottom of the ladder. In some fields, the position of women is worsening. At the end of 2003, only 3.2% of Chartered Engineers were women, and women make up 1% of Incorporated Engineers and 1.2% of Engineering Technicians.

Nearly 3% of registered engineers describe their ethnicity as other than 'white', and neither women nor people from minority ethnic groups were fully represented in the Royal Society and the Royal Academy of Engineering in 2002.

### Remuneration

The average annual gross earnings for all professional engineers and technologists was £33,324 in the year ending 2002. The median salary for Chartered Engineers was £43,477 in the year to 5 April 2003, whilst for Incorporated Engineers it was £34,000. In 2003, 13% of Chartered Engineers earned over £70,000. Graduate starting salaries for students following engineering courses varied from £21,049 for chemical engineering and £19,388 for civil engineering. It is worth noting that engineering courses made up six of the top 12 best paid undergraduate degree courses in 2003.

### Destinations

At 45%, a large proportion of new 2002 engineering graduates were in professional jobs, although this is down from 51% a year earlier. This contrasts with only 25% of new graduates as a whole. In 2002, new engineering graduates earned 29% more than the average for graduates six months after graduating.

There were around 880,000 professional engineers (including software and IT professionals) employed throughout the economy in 2001. Over half were in businesses whose primary function is not engineering: 38% in manufacturing, 8% in construction, and the rest in areas such as electricity, gas and water supply, transport and communications, media and services. Many UK engineers work abroad at various stages of their careers.

## 6.6 Law

### Key issues facing the profession

- > The large proportion of trainees and law students in debt intend to repay it from their salaries. This may deter graduates from a career in legal aid work
- > The main concerns of trainees and law students were career prospects, student debt and working conditions, which puts many off pursuing a career in legal aid work
- > Whilst there has been good progress in addressing diversity, there are still some issues around social background and access

### Education

This overview focuses on solicitors as a major area within the legal profession. Qualifying as a solicitor demands considerable intellectual and financial commitment. Around 6,000 solicitors from all walks of life qualify each year in England and Wales.

#### Entry requirements

Competition for law degrees is fierce. Applicants need a strong academic record with three good passes at 'A' level in any academic subject. Most solicitors undertake a first degree in law, then the Legal Practice Course (LPC), followed by a two-year traineeship to get practical experience in varied areas of law, whilst receiving a salary. This can be completed in six years. LPC places have increased, from 7,695 full-time and 1,486 part-time places in 2002/03, to 7,859 full-time and 1,700 part-time places in 2003/04. Non-law graduates undertake a one-year conversion course and the Common Professional Exam (CPE), and then qualify in the same way as law graduates. This is the second most common route. Non-graduates first qualify as a Fellow of the Institute of Legal Executives (FILEX) and then undertake the LPC. There is also a route for mature students over 25.

In 2002 there were 18,600 applicants to study law degrees in England and Wales, and 11,848 (63%) were accepted. Of the 9,204 graduates in 2002, over half achieved first or upper second degrees. More women (56.4%) than men (52.3%) achieved firsts and upper seconds. A number of leading law schools are planning to launch a National Admissions Test (LNAT) for law degrees to help to make fairer choices among the many highly qualified applicants who want to join undergraduate law programmes. The LNAT must be taken by anyone who is applying for 2006 entry (or deferred entry in 2007) to an undergraduate programme. This may also help to widen participation in law courses.

### **Diversity within education**

In total, ethnic minority law students accounted for 25.5% of students starting a first degree law course in 2002. This represents a slight increase on 2001, when the comparable proportion was 25.0%. Within this total, female acceptances were more likely than males to be drawn from ethnic minorities: 27.0% of acceptances as opposed to 23.0%. There are no figures showing the classes of degree awarded to ethnic minority law students

All students who wish to embark on the LPC or enter into a training contract must enrol with the Law Society as student members. In the year ending 31 July 2003, 9,195 students enrolled and of these students 62.4% were women and 22.1% were drawn from the ethnic minorities.

### **Debt**

The Law Society claims that the fees for studying the LPC can be between £5,000 and £9,000, and there are no student loans. The Survey of Career Choices in Law (March 2004) showed that 84% of trainee solicitors were in debt. Most owed between £5,000 and £15,000, and 17% more than £20,000. 82% of students wanting to become solicitors were also in debt. 76% owed more than £5,000, and 45% between £5,000 and £10,000. Most intended to repay their debts through their salary.

## **Employment**

### **Recruitment and retention**

In July 2002, 92,752 solicitors held current practising certificates. Of the 2,246 law graduates in 2002/03 who found jobs, only 483 were working in 'legal activities'. The Law Society commissioned TPR Social and Legal Research to undertake independent research in 2003 – "Recruitment and Retention of Solicitors in Small Firms". The results of this showed that whilst there were recruitment problems, this depended on a number of factors including location, specialism, size and type of firm. The most dramatic finding was that 42% of vacancies remained unfilled up to two months after advertising and that this was not confined to legal aid practices. Crime, probate and conveyancing were identified as giving particular cause for concern. Country practices also have difficulty recruiting young solicitors.

There are sponsorships of £5,080 to £7,120 to work in the Government Legal Service. Large city firms can also offer good incentives such as sponsorships, and this is likely to affect students' choices of employment. The Legal Services Commission pay the LPC fees for up to 100 trainees seeking a career in legal aid and also provides another 100 training grants to legal aid firms.

### **Diversity within employment**

At 31 July 2002 there were 92,752 solicitors holding current practising certificates. The proportion who are women was 39.7% at 31 July 2003, compared with 27.6% in 1993. For the past 10 years women have accounted for over one half of new entrants to the profession, so this proportion is set to increase at least for the foreseeable future.

Ethnic minority solicitors make up 8.8% of Solicitors on the Roll, of whom 24.3% are resident abroad. In England and Wales, the greatest concentration of ethnic minority solicitors on the Roll is found in the Central and South Middlesex constituency, where over a quarter of solicitors are drawn from minority ethnic groups.

More women solicitors are aged 30 or younger, but most in the older age groups are men.

### **Remuneration**

The Law Society recommends that all trainee solicitors are paid at least a minimum salary set by the Society. The level for 2004/05 is £15,900 for Central London and £14,200 elsewhere. In 2002/03 average starting salaries for trainees were highest in central London (£26,635), and lowest in Wales (£13,757). Male trainee salaries increased by 2.9% on average, but by only 2.4% for female trainees, and male trainees were offered starting salaries 7.6% above the average for females.

Some firms offer very good salaries to trainees, predominantly those undertaking corporate/commercial work, often in the City of London or other major business centres. These firms also tend to offer generous sponsorship packages to students recruited to work as trainees. The most lucrative end of the scale is city work, where starting salaries can be very generous. The Law Society's report on Private Practice Solicitors' Salaries 2004 showed median salaries for solicitors by sector. These are: Assistant/Associate Solicitor £37,803; Equity Partner £70,000; Salaried Partner £58,763; Others in Private Practice £50,000; All Grades £50,000. Work carried out by Frontier Economics in 2003 looked at the hourly rates for private and legal aid work which suggested that the gap between private and legal aid solicitors may not be as great as is generally assumed.

### **Destinations**

After qualifying, solicitors may work in private practice, a business or organisation, local or national government, or the court services. In 2003, 78.2% of solicitors worked in private practice (78.2%), 7.1% in commerce and industry, and 3.5% in local government.

The Law Society's Survey of Career Choices in Law (2004) indicated that the most important factor in choosing a career in law for both trainees and students was an intrinsic interest in the work, closely followed by long-term salary prospects and security of employment. Amongst law students, women were significantly more likely to rate the following factors as very or fairly important in choosing a career: the value of the work to the community; the financial cost of completing the necessary training; plenty of jobs likely to be available; an intrinsic interest in the work; security of employment and long term salary prospects. Men were significantly more likely than women to rate long term salary prospects; the status of the profession; impact of the job and work on social life; or a comparatively high starting salary as the most important factor in choosing career.

Almost 51% of trainees wanted to work in business and commercial affairs, and civil litigation was the second most popular; 19% were interested in human rights or family problems; and 12% in criminal law; but less than 8% were interested in social welfare law. Around 50% of trainees and law students identified career prospects as the main reason for not pursuing a career in legal aid work. Other concerns were size of student debt and working conditions.

## 6.7 Medicine

### Key issues facing the profession

- > Students (particularly from lower socio-economic groups) may be deterred from studying medicine by the length of study and the worry of student debt
- > Successive reports have emphasised the need to attract medical students from a broader range of social backgrounds
- > There is significant variation among the minority ethnic groups studying medicine. In 2003, over two thirds were from Asian backgrounds
- > Although there has been an expansion of medical school places, the feminisation of the medical workforce is likely to have implications for medical workforce planning

Medicine is a rewarding career, but being a doctor involves a lifetime of learning. Postgraduate training usually takes 5 to 12 years, but this may be streamlined by the Modernising Medical Careers (MMC) initiative. The General Medical Council (GMC) is currently implementing the most comprehensive and wide-ranging reforms ever.

### Education

Doctors start training by doing a five or six year course at medical school, but the MMC initiative will radically change the way we train doctors. From August 2005, after medical school, doctors will undertake a two year Foundation Programme in different specialties, followed by specialist or general practice training. The MMC reforms will bring better focused and more streamlined training based on competency rather than time spent in a grade. Doctors then keep themselves up to date through continuous professional development.

Medicine remains an attractive career attracting high-quality candidates. There were 18.7% more UK applicants to medical schools in 2004 than in 2003, and 77.5% more than in 2000. The number of UK applicants is rising more rapidly than the number of places. The intake in autumn 2004 was 7,932, 56.7% more than autumn 1997, and 4.4% more than autumn 2003. It should be noted however that a further 2,145 places were allocated between 1999 and 2001.

### Entry requirements

All medical students in the UK first take an undergraduate course leading to a Bachelor of Medicine and Surgery. Individual medical schools set their own requirements, which vary. All accept a combination of GCSEs, 'AS' levels and 'A' levels, and most require 'A' level chemistry. A small number accept vocational 'A' levels in a limited number of subjects. Candidates without science 'A' levels can undertake a pre-medical year at some universities. Apart from Oxbridge, very few medical schools now split their courses into pre-clinical and clinical segments. Courses integrate these stages to provide a seamless course.

Medicine is an increasingly popular choice for graduates of other disciplines. In 2003, there were 3,346 UK applicants with a UK degree compared with 879 applicants in 1994.



### **Diversity within education**

Medical schools have developed a variety of initiatives to widen the social background of future doctors. The Department of Health (DH), jointly with the DfES, is also taking action to widen the diversity of students in the healthcare professions through the Aimhigher healthcare strand. The healthcare strand will provide £9 million over five years for nine schemes around England which will look at ways of encouraging a wider range of young people to train in the healthcare professions.

The female proportion of UK applicants to medical schools has increased from 51.2% in 1994, to 59.4% in 2003. However, women are still not reaching the top of the profession in equal numbers to men.

Also, most medical students are still from professional and managerial backgrounds: 59% of UK applicants in 2003. The proportion of accepted applicants was 64% in 2003. The likelihood of an applicant being accepted to medical school generally declines with socio-economic background. Of the minority ethnic groups represented, over two thirds were Asian.

In recent years there has been a persistent annual decline in the proportion of applicants and accepted applicants to medical school represented by students under 21 years old. In 1996, students aged 20 and under constituted 91% of acceptances. This group now makes up 78% of acceptances. It is estimated that graduates, mostly with science degrees, make up 10-15% of recent intakes to the five and six year Bachelor of Medicine courses in the UK. The General Medical Council has also approved a number of four year courses for graduates.

### **Debt**

The British Medical Association (BMA) is concerned that introducing variable fees in 2006 will lead to larger debts, and create financial barriers to a career in medicine. In January 2005, average debt for students from all years was £13,301 (up 18% from 2004). Its annual student finance survey (published January 2005) indicated that almost all (98.3%) of the 1,314 UK medical students who completed the survey were in debt with the average fifth year medical student in debt by £19,248.

In 2004, the DH announced it would meet the full cost of variable tuition fees for medical students in years five and six of undergraduate courses, and years two, three and four of four year graduate entry courses, from September 2006.

## Employment

NHS Employers (launched in November 2004) is taking over large parts of the workforce agenda from the DH. The 'Recruitment, Retention and Return Team' will be able to provide advice on a wide range of issues including international recruitment, improving working lives, childcare, and doctors' recruitment, retention and return initiatives.

### Recruitment and retention

In England, between September 2003 and September 2004, the number of General Practitioners (GPs) increased by 1,165 (3.8%), and the number of consultants by 1,884 (6.7%). At 2,562 (September 2004), the numbers of GP Registrars (doctors training to be GPs) is the highest ever recorded. Initiatives for doctors include a returners' scheme for GPs, the NHS Golden Hello Scheme for new or returning GPs, and the Flexible Careers Scheme (FCS), allowing more flexible working arrangements. By the end of March 2005, 1,863 doctors and GPs had taken part in the Flexible Careers Scheme, and 551 in the returners' scheme to refresh their skills. The BMA have concerns that feminisation of the workforce (with 59% of current students being female) is likely to have an impact on workforce planning, with the possibility that a significant proportion are likely to undertake flexible training to be consultants or GPs.

### Diversity within employment

Women and most minority ethnic groups are strongly represented in medical schools. But the proportion from the three least wealthy social classes remained broadly the same (15% between 1994 and 2001), compared with 38.5% in the general population.

### Remuneration

Pre-Registration House Officers (PRHOs) in training get a basic starting salary of £20,295 plus a banding supplement bringing it up to at least £30,443. A Senior House Officer (SHO) would get a basic salary of £25,324 to £35,511, plus a similar banding supplement. In the third year as an SHO, a doctor would be earning £43,080. Foundation Programmes will not change the pay structures for PRHOs and SHOs. Typically, a GP Registrar with three years' experience in a hospital post would earn £47,388. Other salaries are: GPs (average £83,562), Consultant (£69,298 to £93,768, plus out-of-hours supplements and Clinical Excellence Awards worth £2,789 to £71,495 on top of their basic salary); Non-consultant Career Grade Doctor (£30,808 to £75,233).

### Destinations

There are more than 60 specialties in medicine. Some require particular skills, many require an interest in teaching or research, and some require particular manual dexterity. Specialties broadly fall into the following categories: anaesthetics, general practice, medicine, obstetrics and gynaecology, ophthalmology, paediatrics, pathology, psychiatry, radiology and surgery. In September 2004 there were 113,184 qualified doctors working in the NHS in England. 79,099 work in the Hospital and Community Health Services (29,918 were consultants). 34,085 worked in general practice (31,523 were GPs and 2,562 were GP Registrars).

## 6.8 Nursing and Midwifery

### Key issues facing the profession

- > The disparity between academic salaries and the salaries which professionals can earn outside the Universities is making it difficult to find adequate teachers
- > Diploma students in receipt of bursaries are not entitled to other student loans or grants
- > There is insufficient resource to staff recruitment drives and more work needs to be done to raise the profile of nursing/midwifery as a career.
- > Teaching staff ratios need to be improved to cope with the different needs of students from more diverse backgrounds

### Education

To qualify as a nurse, students can take either a diploma or degree course. Education is provided by universities and other higher education institutions, with placements in local hospital and community settings. The course is 50% theory and 50% practical. The first year is a Common Foundation Programme, which introduces the student to the basic principles of nursing and the four specialisms of adult, children's, mental health or learning disability nursing. In their second and third years, students focus on their chosen specialism. Midwifery education is also at diploma or degree level but although within the nursing family, midwifery is regarded as a separate profession. Full time diploma courses last three years, degree courses last three or four years. The minimum age to start training is 17.5 years. A shorter postgraduate course, lasting about 24 months is also offered for those who already have a degree. The degree must normally be in a subject relevant to nursing such as biology or behavioural science.

Nursing and midwifery students who are accepted on an NHS-funded diploma course have their tuition fees paid and may be eligible to receive a non-means tested bursary. They may also be entitled to other allowances in addition to the basic bursary. This also applies to students on shortened diploma courses for graduates. However, students receiving the NHS non-means tested bursary are not entitled to student loans.

Students on NHS funded degree courses have their tuition fee contribution paid for them by the NHS and may be eligible to receive a means-tested NHS bursary to help towards costs. Students on NHS funded degree courses may also be entitled to apply for a student loan through their local education authority.

### **Entry requirements**

There are no national minimum requirements for entry into nursing, entry criteria is set by the individual higher education institution. Normally, they expect five GCSEs or equivalent grade C or above in English language or English literature and a science subject for a diploma programme, and five GCSEs plus two 'A' levels or equivalent for a degree programme. Applications may also be accepted from people with a wide range of academic and vocational qualifications broadly equivalent to GCSEs and/or 'A' level qualifications. All applicants must be able to demonstrate evidence of literacy, numeracy and good character. Midwifery applicants must usually have either English language or English literature and a science/maths subject at GCSE (grade A-C) or equivalent.

### **Diversity within education**

There is a drive to recruit more staff into the NHS from underprivileged backgrounds. There are nine schemes around the country which aim to help people from disadvantaged backgrounds become nurses, doctors and allied health professionals and to enter other careers within the NHS.

The schemes, which have been given £9 million funding by the DH and the HEFCE over five years, will look at ways of encouraging a wider range of young people to train in the healthcare professions. The project is part of AimHigher which is a joint initiative involving the DfES, HEFCE and the Learning and Skills Council, to widen participation in higher education and increase the number of people who have the ability and aspirations to benefit from it.

The scheme in London will specifically target African-Caribbean students and disadvantaged young people who have traditionally been excluded from career progression. It will work with teachers and parents to provide an understanding of the qualities, skills and qualifications that students will need to train in healthcare.

### **Debt**

Nursing and midwifery diploma students in receipt of NHS non-means tested higher rate NHS bursaries are not entitled to student loans and concerns have been expressed about the financial difficulties this can cause.

### **Employment**

The Nursing and Midwifery Council was set up by Parliament to ensure nurses and midwives provide high standards of care to their patients and clients. The Nursing and Midwifery Council is responsible for maintaining a live register of nurses, midwives and specialist community public health nurses. They have the power to remove or caution any practitioner who is found guilty of professional misconduct. In rare cases (for example practitioners charged with serious crimes) it can also suspend a registrant whilst the case is under investigation.

### **Recruitment and retention**

The DH launched 'Improving Working Lives' in 2000 across NHS Trusts. The initiative requires that all NHS organisations meet the Improving Working Lives standard. The standard ensures that each NHS organisation is committed to implementing flexible and supportive work/life approaches. It makes it clear that staff in the NHS are entitled to work in an organisation which is investing in more flexible, supportive and family friendly working arrangements that will improve diversity, tackle discrimination and harassment, and develop the skills of its staff to improve services.

There has been significant investment in childcare provision within the NHS, through the implementation of the NHS Childcare Strategy. The provision of good quality, accessible and affordable childcare is central and the Strategy has enabled all NHS staff to have access to childcare co-ordinators, and support through a variety of options such as childcare vouchers, subsidies, emergency places and care at home.

The NHS makes positive efforts to recruit staff from the many diverse sections of society to reflect the communities it serves. They are committed to offering development and learning opportunities to all staff - full-time and part-time - to extend their range of skills and knowledge, and enable people to realise their full potential.

The national return to practice initiative for nurses and midwives commenced in 1999. In 2001 the initiative was extended to allied health professionals and healthcare scientists. There are separate schemes for GPs, medical consultants and dentists. Between February 1999 and March 2004 over 18,500 former nurses and midwives had returned to work in the NHS as a result of the initiative. From 1 April 2004, responsibility for the provision and funding of return to practice programmes was devolved to local NHS organisations. Many NHS employers continue to offer a returner's package.

### **Diversity within employment**

Traditionally nursing was seen as a career for women, but more and more men are entering the profession. According to the Nursing and Midwifery Council, over 10% of nurses in the UK are men, and this figure is likely to increase, as 15% of student nurses currently training are male. Data from the Health and Social Care Information Centre showed that at September 2004 approximately 17.8% of the NHS workforce was from black and minority ethnic backgrounds.

### **Remuneration**

The NHS is in the process of implementing a new pay and reward system for all non-medical staff, except the most senior managers, called Agenda for Change (AFC). Under AFC, staff will be placed in one of nine pay bands on the basis of their knowledge, responsibility, skills and effort needed for the job rather than on the basis of current job title. They will all receive annual appraisal and development reviews and a personal development plan. Their pay will increase in annual steps from minimum to maximum in their pay band as now, except that there will be two "gateways" where development is recognised as they demonstrate the applied knowledge and skills needed for that job. In future they will also have the same basic conditions of service (working hours, leave etc) as everyone else in their pay band. There is to be a single new system to allow extra pay to be given to specific groups, where this is necessary, to recruit and retain them and a new high cost area allowance, backed by additional funding, to replace the current London weighting arrangements.

The job evaluation scheme aims to provide a structured method of comparing job demands in order to allocate jobs within the new pay structure. It covers the diverse demands present in NHS posts and is supported by equal pay principles to ensure that all job holders are treated fairly. In addition, through the Knowledge and Skills Framework staff will be rewarded for developing their roles and taking on greater responsibility, providing opportunities for career progression and to move through the new pay band.

Under AFC a newly qualified nurse can expect a starting salary of £18,698 (band 5 minimum). Nurse consultants can expect to receive a salary between £34,372 (band 8A minimum) and £59,395 (8C maximum).

### **Destinations**

There is a wide range of career choices open to nurses and midwives. Nurses may be employed in hospitals, within the community, at GP practices, walk-in centres or health centres. Some nurses support and care for patients in their own homes. There are also opportunities for nurses in schools and colleges, in large organisations like factories and offices, in the armed forces, the prison service and in private healthcare. The opportunities for promotion are good, and as they progress, nurses can choose to develop their clinical skills or concentrate on management, teaching or research.

## **6.9 Social care**

### **Key issues facing the profession**

- > Research has shown that a key obstacle to recruiting social workers is a lack of public understanding about what they do
- > There is a continuing difficulty in recruiting students who represent the diversity of the local workforce, and support for students with diverse learning needs is lacking in some programmes
- > There are shortages of good quality social workers working with children, families and adults, with regional variations in severity

There are many forms of social care, such as care in people's own homes, residential and nursing homes, day care, hospitals, and in the wider community. The term also covers services such as meals on wheels, domiciliary care for people with disabilities and fostering services. Social workers provide support for many kinds of people who need help and protection - including adults, children, young people and families. This is one of the major public service areas, with up to 1.5 million people relying on care services. The Children's Workforce Strategy, published by the DfES on 1 April 2005, demonstrates the Government's determination to improve recruitment and retention of social workers within the workforce. The key challenges which the strategy seeks to address in relation to the social care workforce are the need to improve supply and stability; improve training and development; promote new ways of working; and ensure effective leadership, management and supervision underpinned by dissemination and embedding of good practice.

## Education

The General Social Care Council (GSCC) was established in 2001 to regulate education and the workforce in social work. A new, three year professional honours degree for social work was introduced in 2003, aiming to improve the training and qualifications required by social workers as part of a wider strategy to raise standards in social care in England. The course normally involves three years of full-time study, including at least 200 days in practice settings. There are also part-time and work-based routes. Once qualified, graduates must register with the GSCC and can study for awards in the post-qualifying (PQ) framework. After a review by the GSCC, a new framework was published in March 2005. The first courses under the new framework will start in 2007. In total, the Government invested an extra £21 million in 2003/04 in social work education and training and in financial support for students - this will rise to £81.45m by 2005/06. Statistics for 2003/04 show a steady rise in the number of students enrolling on social work courses, rising to 5,282 in 2003/04 - a 12% increase on 2002/03.

### Entry requirements

Normally, universities and other higher education institutions expect two 'A' levels, plus evidence of an interest in social work, although they may accept mature students with work experience. School leavers at 16 or 17 can start a preliminary course in Social Care or a Modern Apprenticeship in Health and Social Care, after which they may be eligible to enter the degree course. Some universities and other higher education institutions offer shorter postgraduate courses in social work.

### Diversity within education

The social work education and training statistics data for 2003/04 showed that 81% of registrations to the Diploma in Social Work (DipSW) in England were women and 19% men. The data also showed that 20% were from minority ethnic backgrounds (of these 10% were black) and 9% had some form of disability. Figures for the Social Work degree were 83% women and 17% men; 28% were from minority ethnic backgrounds (although 11% declined to provide data) and 10% had some form of disability.

### Debt

Social work students can apply for a non-means tested bursary worth on average £3,000 a year. At present the bursary includes the payment of tuition fees. Universities and other higher education institutions have expressed concerns that variable fees may affect the take-up of social work training, particularly if bursaries are not extended to cover this.

### Further development

In 2003/04, the GSCC highlighted five areas for further development: employer participation; diversity and workforce planning, progression rates for black and ethnic and disabled candidates; service user involvement; and practice teaching and assessment. Work on these is already in progress and improvement has already been achieved in some areas.

## Employment

Over one million people - or 5% of the workforce - work in social care in England, with more than 25,000 employers. About 70,000 of this workforce are qualified social workers, about two thirds work in the statutory sector. The other 900,000 are social care workers in a wide range of different roles and settings, in the private, public and voluntary sectors. Skills for Care, as the strategic workforce development body for adult social care, aims to support employers in improving standards of care provision. Jointly with the Children's Workforce Development Council and other UK partners, it is developing the new Sector Skills Council for social care: Skills for Care & Development. Following extensive consultation, in September 2002, the GSCC issued the first ever codes of practice for social care workers and employers: critical to improving professionalism and public protection. This is the only sector with a code of practice for employers. From 2003 the GSCC launched the Social Care Register. Since 1 April 2005, the protection of the title 'social worker' has made it a criminal offence for anyone to describe themselves as a social worker (with intent to deceive) if they are not registered. There are plans to extend the register to everyone who works in social care. Registered social workers have to renew their registration every three years, which means completing post-registration training.

### Recruitment and retention

Research has shown that a key obstacle to recruiting social care workers is a lack of public understanding about what they do. The DH currently funds two national recruitment campaigns: October 2001 saw the launch of a £1.5 million campaign to increase the number of applications to study for the social work degree course. In 2004, funding was identified for a television campaign to attract people into social care work. In January 2005 the second phase was launched of a national drive to recruit more people: 50,000 social care workers are required each year. The last campaign in 2004 attracted over 80,000 enquiries and a poll found that people who had seen the advertising were more likely to make enquiries about a career in social care. There is an increasing trend to recruit social workers from overseas. Employers have been actively recruiting across Europe and countries such as Australia, USA and South Africa.

### Remuneration

Typical starting salaries for qualified social workers are around £17,000, rising to £28,000 as they gain experience and specialist skills. Advanced social workers can move into management, or into specialist consultancy, training, planning and strategic roles.

### Destinations

The large and growing social work sector offers a wide range of career opportunities. About half are involved with supporting children, families and young people, mainly for local government social services departments. Other options include working for Sure Start, hospital trusts, or children's charities. After further training, specialist opportunities are also available.

Social work with adults can involve care management, residential care work, working with offenders, old people and people with disabilities.



## 6.10 Teaching (Schools)

### Key issues facing the profession

- > Increasing the proportion of new entrants from minority ethnic groups and addressing major issues related to promotion in this group
- > Remodelling of the school workforce through the National Agreement
- > Recruitment and retention in challenging schools and in subject area shortages
- > The disproportionate number of men in senior posts and disproportionately fewer men teaching in primary schools
- > Resolving regional imbalances in Initial Teacher Training (ITT) supply and teacher demand

### Education

Teaching is a graduate entry profession. To teach in a maintained or special school, teachers must have qualified teacher status (QTS), achieved by successfully completing ITT. There are a range of routes into teaching: undergraduate and postgraduate courses at universities and other higher education institutions, and for graduates - school based courses, employment-based, and specialist routes such as Fast Track<sup>31</sup> and Teach First. Over 40,000 people started teaching in 2004/05, more than at any time since the 1980s.

Figures published on 1 June 2005 show that applications to Postgraduate Certification in Education (PGCE) courses for 2005/06 are currently 3% higher than at the same point in last year's applications cycle.

### Entry requirements and recruitment

All candidates must pass skills tests in numeracy, literacy and information and communications technology (ICT). They also need GCSEs grade C in English and mathematics (or equivalent), to be physically and mentally fit to teach, and must not have anything (such as a criminal background) which prevents them from working with children.

Demand for places to train for primary teaching, and some secondary subjects, such as history, art and English is strong. Recruitment to secondary school shortage subjects - such as design and technology, ICT, mathematics, modern foreign languages, music, religious education and science - is more challenging, although the introduction of employment based routes has made a major impact on the achievement of recruitment targets.

### Diversity within education

Over 10% of teachers come through new flexible and employment-based routes. In 2004 the Teacher Training Agency (TTA) met its target of over 9% of entrants to ITT being from minority ethnic backgrounds, and now aims to improve on that percentage year on year.

<sup>31</sup> From September 2006, Fast Track is being refocused as a programme for qualified teachers only and will no longer recruit teacher trainees

### **Incentives/support**

Tuition fees are not currently charged for PGCE courses, and students receive a £6,000 bursary (£7,000 for maths and science from September 2005). Graduate Teacher Programme trainees receive a salary, with a TTA subsidy of £12,000 towards the costs. The DfES asked the TTA to carry out a full review of incentives to train and become a teacher, in the light of the introduction of variable fees. The results of this review are outlined under Future Plans for Student Support below.

## **Employment**

### **Recruitment and retention**

Full-time regular teacher numbers are up by 4,000 since January 2004, and by 21,500 since January 2001. The teacher vacancy rate in maintained schools is 0.7%, down from 0.9% in January 2003.

Various incentives are currently offered to improve recruitment and retention. In addition to PGCE bursaries, new teachers of shortage subjects are offered golden hellos of £4,000 (£5,000 for maths and science teachers training from September 2005). There is also support, such as additional bursaries and help with childcare, for people who wish to return to teaching. The Education & Skills Committee report on Recruitment and Retention of Teachers in Secondary Education refers to the School Teachers' Review Body suggestion that schools facing persistent labour market difficulties should be able to offer higher pay to attract teachers. Financial incentives have worked well in encouraging more people to train as secondary teachers.

Given the need to continue to recruit around 40,000 trainees a year into ITT, a wide range of routes into teaching have been designed to allow recruitment from the widest possible pool - mature entrants, minority ethnic groups, and those seeking part-time work or returning to the profession.

### **Regional skills shortages**

There are shortages of teachers in London, the South East and some large cities. These shortages are becoming increasingly important because the population has grown in the South East, and the mobility of teachers has reduced. Financial assistance is available for house purchase under the Keyworker Living Scheme for teachers in London, the South East and the East of England. The growth of employment-based training has significantly helped the TTA meet more closely the regional and local demand for teachers.

### **Diversity within employment**

Despite the recent success in recruiting people from diverse backgrounds, there are particular concerns about the low proportion of teachers from minority ethnic groups: in England there are around 9,100 - 2.4% of the teaching force, compared to 9.1% of the working-age population and 12.9% of the school population.

Currently, of teachers who have between 15 and 25 years' teaching experience, 16.9% of white teachers are head teachers or deputy heads. Only 11.1% of black teachers with equivalent experience, and 9.6% of Asian teachers, are in similar positions. There are significantly more women than men teaching in secondary schools (53.7% women, 45.3% men), but more than 60% of heads and deputy heads are men.

### **Remuneration**

Newly Qualified Teachers start on a scale ranging from £19,023 to £27,801 (£22,611 to £31,518 in London). Each year, their salary rises to the next point on the scale. Experienced classroom teachers move onto the upper pay scale worth a maximum of £32,391 (£38,634 in inner London). Classroom teachers may also receive one of five management allowances ranging from £1,638 to £10,572. Advanced Skills Teachers are paid £31,263 to £49,872 (£37,509 to £56,115 in inner London). Fast Track teachers start on at least £20,526.

### **Destinations**

A total of 431,700 full-time equivalent teachers were employed in maintained schools in England in January 2005, a rise of 4,000 since 2004. Teachers can become a subject co-ordinator, head of department, head of year, deputy or head teacher, or an Advanced Skills Teacher (AST), or lead an area such as special needs.

### **Future plans for student support**

From September 2006 all PGCE students will have to pay variable fees. They will all receive a non-means tested grant of £1,200 (£600 part-time) and will be eligible to apply for a means-tested grant. In June 2005, the Minister of State for Schools and 14-19 Learners announced a new package of financial incentives, particularly focused on trainee teachers of shortage subjects, to assist them in meeting the costs of the new fees. From September 2006:

- > maths and science PGCE students will receive a £9,000 training bursary, followed by a £5,000 golden hello on completing their induction working in schools;
- > other shortage subject PGCE students will get a £9,000 training bursary, followed by a £2,500 golden hello (shortage subjects include English (with drama), modern foreign languages, ICT, design and technology, music and religious education);
- > primary PGCE students and other secondary PGCE students will continue to receive a £6,000 training bursary.

## 6.11 Teaching (Learning and Skills Sector workforce)

### Key issues facing the profession

- > The remuneration package - pay is less than in schools and industry, hours are increasing and holidays decreasing
- > Shortages in construction, engineering, basic skills and ICT
- > High percentage of part time and agency staff
- > Professionalisation – getting all teachers qualified, and keeping teachers up to date in their own trade or profession
- > Securing reliable data on the size and nature of the workforce, and of trends, to enable interventions to be correctly targeted

The learning and skills sector includes general further education colleges, sixth form colleges, work-based learning and adult and community learning. There are about six million learners, studying for a variety of qualifications, from pre-entry basic skills to degrees, with a large volume of vocational training for industry. There is reasonable data on the size and nature of the college workforce, but a lack of data on the rest of the sector. In total there are an estimated 250,000 teachers in the sector, of whom 135,000 work in colleges. The majority are part-time. Most are recruited because of their skill or experience in a profession or occupation, such as catering or construction, and train to teach when they have a job. It is estimated that 20,000 train part-time annually, about half on university PGCE or Cert Ed courses, and half on awarding body courses. About 2,000 train full-time pre-service each year on PGCE courses with bursaries.

In November 2003 Ofsted reported serious weaknesses in Further Education teacher training. Following consultation, the Government published in November 2004 "Equipping our Teachers for the Future", setting out steps to reform initial teacher training for the learning and skills sector by 2007.

### Entry requirements and recruitment

Employers in the sector set their own terms and conditions, and carry out their own recruitment. There is no accurate data on turnover within the sector or wastage from the sector, but the age profile is high – 48% of college teachers are aged 45 or more. Statutory regulation applies only to college teachers; since September 2001, new college teachers must qualify as teachers within two years if they are full time, or four years if they are part time. There are no entry requirements, but each course contains a core of personal skills and teaching skills in literacy and numeracy.

### **Diversity**

About 6.3% of college teachers are from black or other minority ethnic groups, with much higher proportions in London than elsewhere. The aim is to increase recruitment from under-represented groups, so that the workforce better reflects the learner population. The Black Leadership Initiative aims to increase the current 3% of college managers from minority ethnic groups.

### **Recruitment and retention incentives**

A total of 2,000 full time pre-service trainees each receive a bursary of £6,000 (£7,000 for science and maths teachers in 2005/06). Golden hellos of £4,000 (pro rata for part timers) are available for teachers recruited into shortage areas, such as basic skills, construction and engineering. This is being increased by £1,000 for science and maths teachers in 2005/06. Financial assistance is available for house purchase under the Keyworker Living Scheme for teachers in London and the South East and the East of England.

These schemes are being reviewed over the Summer of 2005 in order to see how the available resource can be used to best effect in tackling shortage areas. A report is expected in the Autumn.

### **Remuneration**

The employer associations and trade unions negotiate pay scales for college teachers. The scale for unqualified teachers begins at £15,534, and for qualified teachers at £19,692, rising to £28,938. The scale for advanced teachers, leading curriculum areas, goes up to £31,629. But colleges are free to pay what they choose, according to their resources and the local labour market. On average in 2002 college teacher pay was 6% below school teacher pay. There is no information available on pay outside colleges.

## **6.12 Teaching (Universities and other higher education institutions)**

### **Key issues facing the profession**

- > Whilst the sector is managing, overall, to meet its recruitment needs, there are a number of concerns on recruitment and retention, including shortages in specific subject areas (eg business, IT, health care, and teacher education); and the future supply of staff from both PhD entry routes and from overseas
- > Despite some progress on ensuring diversity within the teaching workforce, particularly at senior levels, more needs to be done to ensure appropriate representation of women and minority ethnic groups
- > The new Framework Agreement for Pay Modernisation presents both opportunities and challenges for universities and other higher education institutions - in terms of further strengthening their recruitment and retention policies, and addressing issues such as low pay and equal pay for work of equal value

### **Size of the academic workforce**

In 2003/04, there were over 275,000 people employed in over 130 universities and other higher education institutions in England, representing more than one per cent of the total workforce in England. Of these, about 122,000 (45%) had an academic role, and over 59,000 constitute the 'core' academic workforce – ie those on permanent contracts, lecturer or above, working at least 40% of a full-time contract. There has been an increase of 16% in the core academic workforce since 1995/96. In addition to the core academic staff, there is a large group of academic staff on fixed-term contracts (about 36% of the total), who are mainly linked to specific research programmes.

### **Recruitment and retention**

There are three main entry routes into higher education academic jobs:

- > Newly qualified PhD students - about a third of entrants from the UK and overseas
- > Staff joining from the private sector and other parts of the public sector in the UK - especially in the sciences, engineering, IT, law, health, education and business related studies - this accounts for about 40% of recruits
- > Staff from overseas - from academia and other sectors. The proportion of non-UK nationals has grown from 8% to 13% since 1995/96

Universities and other higher education institutions are not reporting widespread recruitment and retention problems across the higher education sector, and most do not expect this to change in the future. However, a few report difficulties in retaining younger academic staff. The proportion of academic staff aged over 50 has risen from 24% to 41% in the period since 1995/96, with a corresponding fall in the proportion aged under 35.

There are also particular recruitment and retention problems in those professional areas where there is strong competition from the non-higher education labour market - for example, business, IT, economics, electronics, law, health care and teacher education.

Concerns for the future include a possible decline in the supply of PhD students if debt concerns deter graduates from continuing their studies; and whether the supply of staff from overseas can be sustained.

### **Remuneration**

Pay for higher education staff is determined by higher education institutions, as the employers. Academic staff pay levels are seen as a barrier to recruitment and retention in shortage areas, and some institutions have introduced market pay supplements and/or retention payments or upgrading of posts to help address these problems. Other incentives include the Golden Hello Scheme, totalling £20 million over the 3 years, 2003/04 to 2005/06 - worth £9,000 for an individual and targeted on shortage areas.

The Framework Agreement for Pay Modernisation agreed between employers and unions, for implementation by August 2006, provides a common national framework for the modernisation of pay arrangements, within which institutions can adopt appropriate strategies to meet their individual recruitment and retention problems.

Surveys suggest, however, that pay is only one factor in affecting career and job choice, and other characteristics of academia are seen to be positively influential in attracting recruits.

### **Diversity within employment**

There have been tangible improvements in the representation of women and people from minority ethnic groups within the higher education academic workforce. The proportion of women has risen from 27% in 1995/96 to 35% in 2003/04. Over the same time period, the proportion of staff from minority ethnic backgrounds has risen from 6% to 8% since 1995/6. However, these improvements are against a relatively low base.

## **6.13 Officers in the UK Armed Forces**

### **Key Issues Facing the Profession**

- > The recruitment of sufficient numbers of high calibre young people as officer entrants is critical to the maintenance of the UK Armed Forces operational capability. Whilst the majority of officer entrants are graduates, recruiting efforts are targeted at a wide range of people with diverse skills and backgrounds.
- > Although the sector is managing its recruitment needs satisfactorily, offering attractive career opportunities, there are some shortfalls amongst specialist groups such as graduate engineer entrants to the Royal Navy.
- > Despite much progress on diversity, there is a continuing need to recruit and retain more UK ethnic minority officers in all the Services.

### **Employment**

There are about 33,700 officers in the UK Armed Forces, including those under training. The trained officer requirement is in the region of 30,700, comprising 6,900 in the Naval Service, 13,800 in the Army and 10,000 in the Royal Air Force (RAF). In order to sustain these numbers, approximately 1,700 new officers are recruited each year, the majority of whom are graduates. There are relatively few shortages, generally confined to specialisations.

### **Entry requirements**

Officers are primarily employed to lead and motivate others, so applicants need to demonstrate leadership potential, confidence, maturity and intellectual stamina. Applicants also need to be healthy and physically fit. In the specialist and technical areas, a degree in the appropriate discipline is preferred. There are a number of ways to enter the UK Armed Forces as an officer:

- > Direct entrants, including both graduates and non-graduates, for mainstream officer training. Graduates are given a seniority antedate on completion of their respective commissioning course
- > Specialists, including chaplains, doctors, dentists, vets, physiotherapists and lawyers, who undergo abbreviated training and also get seniority antedates
- > University Bursaries and Cadetships

In order to be accepted for the UK Armed Forces an applicant must be a British or Commonwealth citizen, or a Republic of Ireland national. Under the residency criteria, applicants need to spend sufficient time in the UK to enable suitable and appropriate security checks to be carried out. With the exception of specialists, direct entrants should generally be aged under 29 (although the maximum age for RAF pilot entry is 26 years): but the Royal Navy will accept direct entry graduates up to age 34. The Services do not normally target mature entrants or those seeking part-time work, but will consider those returning to the profession from career breaks.

### **Recruiting incentives**

All three of the Services offer incentives to improve recruiting, in the form of university cadetships, bursaries, golden hellos and the Defence Technical Undergraduate scheme:

- > **Defence Technical Undergraduate scheme** – sponsorship of up to £4,000 per year for specific degree courses at participating universities and other higher education institutions, in return for individuals joining the Services once they have graduated
- > **Medical University Cadetships** – sponsorship offered for up to the last three years of medical training, again in return for individuals joining the Services once they have graduated
- > **Bursaries** – sponsorship ranges from £1,000 per year from the Army for undergraduates who have passed officer selection, up to £4,000 per year from the RAF, again with a return of service after graduation
- > **Golden Hellos** – currently offered to fully qualified accredited GPs or consultants (£50,000 taxable) and nurses with three years post qualifying experience (£8,000 taxable); but these are not permanent incentives

### **Retention**

The UK Armed Forces offer excellent career development opportunities and promotion prospects for officers across a very wide spectrum of generalist and specialist employment areas, with considerable emphasis on continuing training and development. Officer retention across the Services is generally good with intake and outflow generally in balance. The average annual officer outflow is 2,000 or 6.6%.

### **Remuneration**

Rates of pay are very competitive, with graduates (with effect from 1 April 2005) starting on £21,301 per annum; rising to £26,280 per annum for Sub-Lieutenant, Lieutenant, Pilot Officer; to £32,810 per annum for Lieutenant RN, Captain and Flight Lieutenant; to £58,006 per annum for Commander, Lieutenant Colonel and Wing Commander and £80,574 per annum for Commodore, Brigadier and Air Commodore.

Each year, salaries rise to the next point on the scale for that rank. Surveys suggest satisfaction with pay and allowances, but that is only one factor in affecting job choice; other characteristics of military service are positively influential in attracting new officer entrants.



### **Diversity in employment**

Just over 5% of the UK Armed Forces are people from minority ethnic groups and this improves year by year, as does the proportion of women who constitute 10.5% of officers. But they are not yet well represented at the highest ranks; less than 1% of Brigadiers (and equivalent) are women. This is offset by almost 18% of Lieutenants (and equivalent) being women, with numbers increasing each year.

### **Destinations**

Officers in the UK Armed Forces are employed worldwide in a wide variety of roles, ranging from war-fighting to peace support. They have very wide professional employment and career opportunities, ranging from combat, engineering, logistics, communications, to pilots, doctors, dentists and lawyers. Whilst the majority are UK-based, officers routinely serve in mainland Europe, the Mediterranean, Middle East, Far East, Sub-Saharan Africa and the South Atlantic.

## **6.14 Veterinary science**

### **Key issues facing the profession**

- > There are no grants for UK students taking a second 'first degree'
- > The effects of far more women than men training to become vets
- > The effect of increased tuition fees on applications for veterinary degrees, and of high levels of debt on the numbers going into less well paid areas such as farm animal practice and veterinary research
- > The movement of many young vets into small animal practice, leading to a loss of large and farm animal veterinary skills

### **Education**

Training to be a veterinary surgeon (vet) involves taking a veterinary degree at one of the six universities in the UK which offer approved degrees. The numbers of high quality applications far exceed the number of places available. In 2004, there were a total of 729 admissions: 658 from home applications, and 71 from elsewhere in the EU and overseas.

Many vets choose to further their knowledge by studying for additional qualifications, such as the certificates and diplomas offered by the Royal College of Veterinary Surgeons (RCVS). There are no recognised sources of grants for UK students taking a second "first" degree in veterinary science or any other subject and the RCVS does not have any funds which it can offer to undergraduate veterinary students.

### **Entry requirements**

Normally, students need 'A' level chemistry and one or two subjects from biology, physics or mathematics. The grades generally accepted are two 'A's and a 'B', although many have three grade 'A's. All applicants must show evidence of working in a veterinary practice. Mature students without a degree need good 'A' levels in subjects like chemistry, biology, physics and mathematics, or equivalent qualifications. Graduates need at least a 2:1 honours degree in a related subject.

### **Diversity within education**

Approximately 73% of veterinary students are women. The first year intake to the Royal Veterinary College in October 2004 included only 28 men out of 217 students. Year of entry figures for 2003 show that out of 4,172 applicants, 35 were Asian, 20 were black, 32 were mixed and 3,897 were white. There is a bias towards the higher socio-economic groups.

### **Debt**

Veterinary degrees are very expensive courses to fund, and the level of debt amongst veterinary students is already a cause for concern. If universities and other higher education institutions charge increased fees from 2006, graduates could face a debt of £15,000 for fees alone. In addition some students may build up further debt to cover five or six years living costs. It is possible that students not receiving state or parental support could build up debts of up to £30,000. This may put young people off applying to study veterinary medicine. It may also deter graduates from entering careers in areas of greatest public interest where salaries are lowest, such as veterinary research and farm and livestock animal practice.

There are concerns that high levels of debt may mean that some young vets aspiring to open their own practice may find it more difficult to do so. This could work against government objectives of widening access to the profession for less well represented socio-economic groups.

Veterinary training includes 38 weeks of unpaid work experience, usually done in vacations, which leaves students little time for part-time work to reduce their debts. Also, the profession is mainly made up of very small, private practices, ill placed to offer financial support through student bursaries, or to increase salaries to new graduates.

## **Employment**

### **Recruitment and retention**

The vast majority of practising vets work in small private practices, with no equivalent to the NHS to provide infrastructure support. Around 20,000 vets are registered to work in the UK, and in 2004 there was a net increase of 142 registered vets. Each year, more vets are registered from overseas than from the UK. 12,000 work in private practice: many specialise in treating animals such as dogs, cats and horses, while others deal with food production animals, zoo animals, or specialise in areas such as pathology. Veterinary time spent on small animals has continued to climb, to 73.5%, compared to that on cattle, sheep and pigs.

Ensuring an adequate future supply of vets working with large animals is a serious issue. Most students and new graduates would like to work in mixed or farm animal practice, but often move to small animal work, due to various factors. With the continuing decline in British agriculture, the financial viability of many smaller mixed and farm animal veterinary practices is in question. This is a worrying trend for the safety of food of animal origin and for public health.

There is a developing knowledge gap in veterinary research in Britain, increasing vulnerability to major outbreaks of animal diseases like the 2001 foot and mouth epidemic. The Veterinary Training Research Initiative aims to fill this knowledge gap, and five-year funding of £21.5 million has been set aside to achieve this.

The Chief Veterinary Officer, as Veterinary Head of Profession in the Department for Environment, Food and Rural Affairs (Defra) is reviewing how best to encourage vets and would-be vets into the profession and in to government service and to offer them strong development opportunities. The Government's Veterinary Surgeons Steering Group will shortly be discussing Defra's interaction with Veterinary Schools.

The average number of hours worked per week by vets is decreasing. In a 2002 survey, 59% of respondents felt their job satisfaction would be improved by shorter working hours and a reduction in on-call requirements.

### **Diversity within employment**

Currently, around 45% of veterinary surgeons are women; 63% of qualified vets are 30 and under; and 51% of those aged 31 to 40 are women, compared with only 14% of those over 60. This has implications for demand as women are more likely to take career breaks and work part-time. However, men remain more likely to become practice partners - the number of women doing so dropped again in the last two years.

### **Remuneration**

The average starting salary is around £20,000. After five years, the median total salary is around £30,000, rising to around £32,000 after being qualified for up to 10 years. The total remuneration package may be higher when allowances for accommodation and a car are taken into account.

### **Destinations**

There are career opportunities in a number of areas including general practice, veterinary teaching and research, and government service. There are also opportunities in commerce and industry such as in pharmaceutical companies, international and overseas organisations, and consultancies and charities such as the RSPCA and PDSA. Some vets work overseas for a while.

### **The smaller professions**

Key issues relating to a number of smaller but significant professions are set out below.

## 6.15 Actuaries

### Key Points

- > Students entering the profession need to have a good mathematics base and the profession is working with universities and other higher education institutions to offer mathematical science degrees which include relevant modules to help students gain exemptions from professional examinations
- > The length of time taken to qualify as an actuary is five to seven years post degree. This could be reduced if students were able to gain module exemptions
- > Training is traditionally distance learning based, expensive and usually paid for by employers
- > The profession is relatively small in size and recruitment is largely dependent on employer demand. There are a limited number of actuaries working in universities. Placing more actuarial science training in universities, as in Australia, could increase demand for actuaries
- > The profession is concerned about the decrease in maths 'A' level students in the UK and is working with mathematics bodies to promote careers in maths. UK maths courses are becoming increasingly attractive to overseas students, with fewer UK students on these courses

## 6.16 Children and Young People's Sectors

### Key Points

- > The Government has expanded provision and reformed the Early Years, Childcare and Playwork sector since 1997
- > Workforce strategy aims to widen diversity, raise quality and ensure there is an increasing pool of practitioners qualified at higher and professional levels to lead and implement change in the sector
- > The Early Years Sector Endorsed Foundation Degree was piloted in 2001, with first full intake in 2002. There are now over 7,000 students in over 50 universities and 100 partner colleges. On graduation, students gain "Senior-Practitioner" professional status. Drop out rates have been low
- > A bespoke student support package has been made available as practitioners tend to be low income, low skilled and have few computer skills. For full-time and part-time students between 2002/03 to 2005/06, a laptop and printer, mentoring costs for the students (including training for the mentors), and support for supply cover costs for the employer was made available. For part-time students up until 2003/04, a fee waiver, a bursary and childcare support was also available

- > It is felt the support package did help attract students to this degree. When the bespoke package for part-time students was withdrawn (after 2003/04 when the national support for part-time students was improved) there was a reduction in the student numbers in some parts of the country – the new national support for part-time students was not considered as generous. The dropping of the fee waiver seems to have hurt students most. Students on low income (and if married, low joint income) find the current threshold for income too low. Some local authorities are offering some support for fees
- > A pilot is underway for a group of graduates for the Early Years Foundation Degree (EYFD) courses to train to have Qualified Teacher Status (QTS). Surveys of EYFD students show that “teacher training” is overwhelmingly their aspiration
- > Other higher education qualifications include the BA (Hons) Early Childhood Studies Degree. There are no bespoke student support arrangements for these courses. Foundation Degrees are also being developed based on national occupational standards for working with young people and young people’s services. The first courses started at Lancaster University in January 2005

## **6.17 Construction Industry**

### **Key Points**

- > Recent studies have highlighted that the construction and built environment sector faces major problems in the recruitment of qualified people
- > The profession has a poor image and is trying to establish links with schools and young people to promote a more positive image. Careers material is aimed at 14 year olds and shows the range of careers available in construction
- > Work is being done to encourage all stakeholders to collaborate in their efforts to recruit. More on the job training may be an effective way of improving recruitment and retention
- > At the higher, professional levels there is no coherent pattern for individual progression. Clearer careers progression and the availability of wider routes to qualifications are needed
- > It is felt that emerging industry practices are inadequately incorporated in education courses and that academic staff are not fully up to date with industry developments. It is thought that this is due to the reduced involvement of practitioners in teaching
- > There is general support for Continuing Professional Development although its value is not fully recognised and it is felt it is not effective in addressing the changing demands of the profession and industry

## 6.18 Linguistics

### Key Points

- > Lack of protection of the title 'linguist' is the biggest single barrier to entry into the profession which can include translators, interpreters, bilingual practitioners of other professions, and trainers and teachers of modern foreign languages
- > University degrees do not necessarily ensure fitness to practice. There is a professional translation qualification which exempts students from certain modules of some higher education programmes but more links with universities and other higher education institutions and professional bodies would be beneficial
- > Non-traditional learners and distance learning programmes are commonplace in the profession
- > Closure of language departments in universities and other higher education institutions due to lack of finance will mean even fewer linguists in future
- > There is competition with graduates from EU and non-EU countries who can offer not only their own language and English but also a mainstream skill such as law or accountancy
- > Government funding for students on courses would help widen participation
- > Language learning should start much earlier and be more intensive
- > Minimum skills standards should be established for linguists working in the public sector

## 6.19 Quarrying

### Key Points

- > Mining and quarry engineering have a poor image and are seen as environmentally unfriendly. More needs to be done to educate the public on the importance of basic construction materials and minerals and on the range of job opportunities available
- > Historically the industry has relied on recruitment from local families. This together with its image as a manual, dirty, male dominated industry has led to a lack of diversity in the profession
- > Several higher education institutions have had to close courses due to lack of interest, including a new degree course developed by the Institute with Nottingham University. There is a real threat that provision at higher education level may cease altogether - only two higher education institutions now offer degrees in mining
- > Distance learning courses are available but short conversion courses from disciplines related to mining and minerals would help widen participation
- > The profession is regarded as low waged and it is difficult to attract people into teaching due to low salaries on offer. Sponsorship of students and lecturers by companies may help. Student bursaries, paid work experience during vacation and national advertising would also help
- > Existing careers guidance in schools is poor and outdated. Companies are trying to establish links with local schools and the profession supplies careers advice when the opportunity arises

## 6.20 Spatial Planning

### Key Points

- > Traditionally seen as a profession dominated by white middle class males the situation is now improving with work continuing to ensure a more diverse membership
- > The Royal Town Planning Institute (RTPI) is developing its Assessment of Professional Competence (APC) to provide structured learning experience for new graduates. The route to the APC aims to raise standards in the profession, whilst also offering an extra level of support for planners at the earliest stage of their career
- > A new Associate membership has been proposed, which will serve to strengthen links with other professions by providing a means for members of cognate professional bodies to become affiliated to the RTPI and the Planning profession. It will also act as a significant stage in the route to full corporate membership for individuals seeking corporate membership who do not have an RTPI accredited qualification
- > The widely reported decline in uptake of geography courses at GCSE and 'A'-level could have a significant impact on the supply of students taking planning courses as this is a widely recognised route into spatial planning
- > The RTPI through its partner, Planning Aid, is promoting the profession in schools to raise students' awareness of spatial planning as a profession and a career opportunity
- > More work is being undertaken to support and promote NVQ level qualifications for planning support staff and technical workers to improve career opportunities
- > In 2004, a number of new Masters courses comprising one year of intensive study were introduced, supported by 139 bursaries offered by the Office of the Deputy Prime Minister (ODPM). This will continue into 2005/2006, with 136 bursaries being offered, and a further five Planning Schools introducing the courses

## 6.21 Transport Planning

### Key Points

- > Transport planning does not have a strong professional identity and there is little awareness of the profession among school and higher education careers officers
- > Transport planners tend to be drawn from a wide range of degree subject areas and as a consequence of this many do not satisfy the professional entry requirements for chartered membership of the Institution of Civil Engineers, the Royal Town Planning Institute or the CEng of the Institution of Highways and Transportation
- > Transport planning is too small a profession to support its own qualifying body. The Transport Planning Society is therefore working with professional institutions and GoSkills, the passenger transport Sector Skills Council, to establish a core set of experience based professional competences for those with recognised academic qualifications

- > There are five professional bodies which offer recognition to transport planners: Institution of Civil Engineers, Royal Town Planning Institute, Chartered Institute of Logistics and Transport, Institute of Highways and Transportation and the Institute of Highways Incorporated Engineers
- > There is a lack of training at NVQ level 3 and consequently a shortage of technicians and technical support staff who might relieve the pressures on 'professional' staff
- > The preferred route into transport planning for many is through a Masters degree, but the introduction of variable fees may reduce the number of students studying full-time
- > A high number of students studying for a Masters in transport study part-time with support from their employers; distance learning is also an option
- > The Transport Planning Skills Initiative launched by the Transport Planning Society in 2001 brought together employers, universities and other higher education institutions, professional institutes and government to help improve recruitment, training and professional recognition

## 6.22 Support for STEM subjects

It is apparent from the profiles that those professions requiring high standards in the physical sciences and engineering are facing particular difficulties in attracting students. HEFCE is already working with four professional societies to develop proposals to help stimulate student demand. Examples of some of the projects which are underway are set out below.

### **Royal Academy of Engineering**

£2.8m has been awarded by HEFCE to run phase 1 of a pilot study: the London Engineering project. If successful it will be rolled out on a regional/national basis. The aim is to work in selected neighbourhoods around the country that have low participation rates in higher education, using engineering to widen and increase participation

### **The Institute of Physics**

Pump priming funding of £40,000 is being used to support research, literature reviews and discussions with key stakeholders aimed at developing a set of priority actions appropriate for physics

### **The British Computer Society**

Approximately £18,000 has been awarded to the Society to fund a scoping project, initial research and regional workshops

### **The Institute of Mathematics and its Application**

Funding of £30,000 has been provided for a project officer and to support four regional workshops



In addition there are two national Aimhigher projects devoted to science :

**Chemistry, the next generation**

The Royal Society of Chemists is working with 12 higher education institutions, three multinational pharmaceutical companies and two Sector Skills Councils. A sum of £942,000 is being invested in a two year pilot to promote to students from disadvantaged backgrounds and under-represented schools and colleges, the excitement of studying chemical sciences and the good career opportunities that are available

**Raising Aspirations into Science and Engineering (RAISE)**

An Aimhigher partnership between the University of Teeside, SETNET (Science, Engineering, Technology and Mathematics network) and the British Association for the Advancement of Science. The project, which is costing £500,000 aims to raise aspirations into science and engineering through activities such as summer schools, discovery days and awards events. Demand-side problems will also be addressed and there will be an increase in the portfolio of Foundation Degrees

## Chapter 7: Recommendations

**7.1** The action required to sustain and improve recruitment opportunities into the professions, especially for those who will not qualify for the full £3,000 support cannot be crystallised at this time. This issue will have to be re-examined in light of the experience of introducing variable fees and any resulting changes in the attitudes of people who are considering the possibility of professional careers.

**7.2** However, this work suggests a number of steps that should be taken to address some of the likely effects of the new arrangements. The recommendations which follow are framed by the four stages that people normally experience when entering the professions and by a brief analysis based on the views and insights of the people we have consulted:

Stage 1: Initial decision making prior to entry to higher education

Stage 2: Application to higher education

Stage 3: Period of study

Stage 4: Entry to and retention in employment

### Stage 1: Initial decision making prior to entry to higher education

*"Universities cite many examples of effective work by local partnerships to widen access to HE, through collaboration with schools and colleges and by introducing the idea of university education to children whose families may have no previous experience of it. They suggest that these strategies should be extended by involving professional bodies and employers in raising awareness of the role of the professions in society as part of a programme of careers education..."*

*Universities UK*

*"Access to engineering degree studies at university has been adversely affected in recent years by the decline in the number of pupils taking both Mathematics and Physics 'A' level..."*

*University of Newcastle*

*"Quite a few AGR members are concerned with the trend among school pupils to opt out of science subjects at GCSE and 'A' level thereby limiting their career options..."*

*Association of Graduate Recruiters*

*"...Poor image of some professions based on media coverage and government "attacks" - particularly in the public sector - where people dealing with society's problems often get the blame for them too..."*

*The Association of Graduate Careers Advisory Services*

*"It is accepted that teaching is not the profession for everybody but there is a clear gender imbalance. Not only is teaching viewed as a profession for the middle classes, there is also a perception that it is a 'good' career for a white middle class female. This may be off-putting for some males and people from some minority ethnic groups"*

*Nottingham Trent University*

*"There has been a tendency over the years for parents to wish that their children enter a profession as if it had some special form of security for long term employment. I think this has, on the whole, been due to the fact that the public, at large, has always had a significant amount of respect for the professions. The increasing litigiousness of society and the rise of consumerism however has tended to erode some of that respect. ...."*

*Thorntons Solicitors*

*"The reasons for the skewed social distribution of medical students are varied and complex. Able students may not apply to medicine because they come from families or schools where progression to further or higher education is uncommon. Students from less advantaged backgrounds are also more likely to attend a secondary school with a poor record of academic achievement, resulting in pupils failing to reach their potential in exams. Even where students show an interest in studying medicine, they may lack support and advice in applying. ... applicants from a lower socio-economic background may face barriers to entry due to relatively few opportunities for relevant work experience"*

*British Medical Association*

### **The importance of careers information, advice and guidance**

**7.3** A number of people have referred to the need to improve information, advice and guidance to young people about routes into the professions and the range of courses that are available. Access to high quality information, advice and guidance, beginning early on in schools is important for entry to some professions and to inform choices about the most relevant GCSE, 'A' level and degree subjects. Professions relying on science, mathematics and technology have also commented on the decline in the numbers of students studying to the necessary level to cope with the demands of key professions. Some have also suggested that there is scope for the DfES to clarify and streamline the information on financial support available to students entering the professions.

**7.4** There is some support available to young people. For example Connexions produces a number of careers information products to help young people make decisions regarding their future learning and careers. The information produced centrally in printed publications (for example "The Working In ...." series and "Jobs4U") and increasingly available in web-based format, support local level activity by Connexions personal advisers, other careers co-ordinators and advisers in schools and colleges. In developing these materials attention is paid to challenging unhelpful stereotypes and ensuring a balanced representation by gender, ethnicity, disability and geography. The Association of Graduate Careers Advisory Services is also involved in a wide range of activities aimed at improving students' understanding of the professions. However, some are concerned about what they perceive as a decline in access to independent, impartial careers advice, resulting from the introduction of more targeted services for young people at risk.

**7.5** From our literature review we know that career decisions are complex, comprising of a number of factors, personality traits, preferences, interests and abilities. The decisions pupils make during Year 11 are likely to be the culmination of complex processes which have taken place over an extended period of time<sup>32</sup>. The social influence of families and experiences throughout an individual's formative years appears to be the common thread running through most of the research undertaken in this field. The vast majority of studies relating to career choice however focus on processes that occur during primary and secondary education and stress the fact that by the time a student reaches university, key decisions have been made. The greater the specificity of the profession, for example medicine, the more important these early influences and choices are likely to be. Older workers may be able to retrain as teachers, but this is not usually an option for someone who wants to become a doctor.

### **The need to attract older workers in addition to young people**

**7.6** There is an assumption that entry to the professions is largely about encouraging younger people to think about undertaking appropriate courses leading to employment in the professions. This has generally been the case, but in some professions, for example teaching, where there has been a need to increase the number of recruits, older workers and people looking for a career change have also been encouraged to apply. There are also examples where some employers, because of skill shortages (for example in engineering and health) have looked at developing staff to take on new roles at the associate professional/higher technician level with the potential to progress beyond this level. Over the next few years there will be a steady flow of young people eligible to enter higher education and employers may find that they will be able to meet most of their recruitment needs from this pool. However, in the long term, the number of young people is reducing and it may make sense for employers faced with skills shortages to consider recruitment and training strategies aimed at older workers, career changers or the development of existing staff.

### **Perception and image of the professions**

**7.7** There have been a number of comments made about the perception and image of some professions. Social work for example is a profession which suffers from a poor public image fostered by the media. Other professions are perceived as excluding some people with a number being seen as reserved for the professional classes. A number of people have suggested that co-operative action is needed by employers, professional bodies and universities and other higher education institutions to change the public perception of the professions.

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<sup>32</sup> N H Foskett and A Hesketh. Student decision making and the Post 16 Market Place : May 1996

**7.8** One practical example drawn to our attention is a project under the Yorkshire & Humber Aimhigher Healthcare strand which involves pupils from Year 9 to Year 11. The project is nearing completion of its first year and a full evaluation is underway and initial indicators are extremely positive. This year has been very successful with targets being reached. The careers project involves a structured three year programme with identified cohorts of young people from Year 9 to Year 11 followed by work experience opportunities and a comprehensive careers advice service focussing on career opportunities in healthcare. A total of 714 students from Year 9 to Years 11 and 12 have taken part in the NHS Careers Programme. These students come from the whole of the Yorkshire and Humber Region.

Six NHS Trusts in Barnsley, Bradford, Scarborough, Wakefield, Hull and Airedale have been recruited to take part in the project and four regional schools have also taken part. Regional Co-ordinators have been recruited in Barnsley, Bradford and Scarborough who report to the Education Liaison Team in Leeds and a number of activities have taken place.

- > Young people in Year 9 from Bradford, Scarborough, Bridlington and Leeds have had a visit to the Thackray Medical Museum and a careers information session at Leeds Teaching Hospitals. The Barnsley school will have this visit in July
- > Young people in Year 10 from Bradford, Barnsley, Scarborough, Bridlington and Leeds have attended workshop based careers days at their local NHS Trusts focussing on professions allied to medicine, nursing and midwifery and medicine
- > Young people in Year 11 from the regional schools and Leeds have been on Higher Education Focus days at local universities concentrating on courses in healthcare
- > An audit of work experience opportunities has taken place in the regional NHS Trusts with a view to identifying possible areas of expansion for next year
- > Students in schools in Bradford, Barnsley, Scarborough and Leeds have been taking part in the Leeds NHS Health, Well Being and Citizenship Programme and are expected to gain level 1 or level 2 Open College Network accreditation which is equivalent to a GCSE level qualification. This programme has involved the active participation of NHS staff to help deliver the course content. It is estimated that approximately 250 young people will gain accreditation by September 2005

### Widening access

**7.9** Given what is known about career decision making and the socio-economic mix of the graduate population and the professions, it would seem that more action needs to be taken to encourage people from lower socio-economic groups to consider entering the professions. There are a wide range of initiatives in place including the Connexions Service, Aimhigher, HEFCE's Widening Participation Fund and more targeted initiatives led by employers and professional bodies. The nature of this work with young people means that it can take a number of years before the impact can be properly assessed. More work is required in this area and resources are being made available; HEFCE for example is allocating £281.8 million for widening participation in 2005/06.

**7.10** Current measures may have an impact over the longer term but are unlikely to lead to a step change in the short term. The single most significant factor in the social mix participating in higher education is GCSE and 'A' level attainment. It therefore makes sense for the Government to continue with its efforts to raise educational standards, particularly in the poorer performing areas of the country. Alongside this longer term work there are additional measures that might be taken to improve the diversity of those entering the professions.

### Recommendations

- > The Department for Education and Skills (DfES), working with the Sector Skills Councils, Regional Development Agencies and those responsible for careers information, advice and guidance should provide development funding to support employers, professional bodies and universities and other higher education institutions to take forward collaborative projects aimed at:
  - changing unhelpful stereotypical images about the professions
  - ensuring that young people and those who advise them, including parents and carers, have access to resources about the career opportunities that exist in each profession, the different routes available, and the qualifications and experience required for entry
  - developing flexible recruitment and training strategies for older workers and people who wish to change careers
- > Relevant government departments should also review the effectiveness of current measures to encourage young people from lower socio-economic groups to consider careers in the public sector and the professions. There is a lot of activity in this area and it makes sense to identify which interventions work and then to target resources at those interventions
- > The DfES should consider the scope for clarifying and streamlining the information on financial support available to students entering the professions

### Stage 2: Applications to higher education

*"The level of debt has an impact on dental graduates' career choices – in 2004, 25% of those surveyed said that the level of debt would influence their career choice (BDA Student Debt Survey, 2004)"*

*British Dental Association*

*"The introduction of variable fees is seen by universities generally as an opportunity to offer targeted and effective financial and practical support to very able disadvantaged students and/or to the wider student cohort. The success of the TTA in improving the status of and recruitment to school teaching is widely cited... Universities wish to see a more comprehensive and inclusive approach to such financial incentive schemes, drawing on best practice, for example, in teacher training, nursing and medicine. For example, law students wishing to undertake postgraduate professional training outside the London and South Eastern areas, where commercial sponsorship opportunities are much more limited are seen as particularly disadvantaged"*

*Universities UK*

**7.11** For most degree courses leading to a professional career there is not a problem in generating applications to universities and other higher education institutions. There is no evidence that the introduction of fees and the reduction in maintenance grants has deterred people from applying for degree courses in this country. The international experience suggests that where variable fees are at their highest, students choose degrees which lead to careers with a high rate of economic return. This has led to an increase in popularity of courses in business and management and degrees linked to the health and education professions. The arts, humanities and theoretical sciences have tended to suffer most. Whilst degrees such as engineering have reasonably high rates of return, it seems that a lack of interest in science in schools is the reason for the low uptake of study in this subject. Against this background there are a number of issues that have been raised during our consultation.

### Ensuring the international currency of professional qualifications

**7.12** The potential impact of the Bologna Process on recruitment, both of UK students and international students, to courses leading to a professional career cannot be overlooked and may become increasingly relevant as more and more countries introduce reforms to their higher education systems. UK universities and other higher education institutions will need to ensure that they are positioned to maintain the demand for their courses and that graduates from their courses are able to compete with their EU peers. Given that one of the main priorities of the Bologna Process is to improve mobility and the transparency and comparability of qualifications, the courses on offer will need to provide opportunities for entry to the professions that are attractive and meaningful on an international basis. The current work of the higher education sector in implementing the Diploma Supplement will also be important here<sup>33</sup>.

### Responding to concerns about the impact of debt

**7.13** A key concern is whether the introduction of variable fees and the prospect of increased debt will deter people from applying to courses which lead to professional careers. There is no doubt that many people, including those representing the professions, believe that the cost of a degree, professional training and debt will lead some people to decide not to apply. The literature review undertaken on our behalf by CRG Research Ltd includes a lot of information from professional bodies about the impact of debt. The evidence presented to us suggests that financial barriers to entry into higher education are particularly marked among those undecided about higher education entry. It has also been suggested that debt is a deterrent to potential students, and that unlike their more affluent contemporaries, low income entrants restrict their choice of university and course according to cost. But, the extent to which this happens will depend on the extent to which the Government's income contingent student loan repayment regime, as a payroll deduction through tax, is properly understood by prospective students before they make their career choices.

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<sup>33</sup> A Diploma Supplement is a document attached to a higher education diploma which aims to describe a higher education qualification in a way which can be understood across Europe with a view to improving international transparency and recognition of qualifications

**7.14** The new student support arrangements are set out in Chapter 1. This is complex territory with a mix of grants, bursaries, and loans available. In addition, for some professions such as teaching and medicine, there are support packages available including full tuition fee remission, bursaries, golden hellos, and, in certain parts of the country, support to buy houses. In other professions such as law, some firms offer generous financial packages to final year undergraduate students, including payment of fees and contributions towards maintenance costs. The Diversity Access Scheme also awards scholarships to very able students who have overcome particular barriers to enable them to complete the Legal Practice Course. It is very difficult to predict what impact the new measures in the Higher Education Act 2004 will have on the decisions that students make in the future. For students from lower income families there is a significant amount of support and the underlying assumption of the policy is that the levels of support should mitigate the effect of introducing variable fees. However, there are concerns for people who do not qualify for the full £3,000 support. The international experience suggests that a key effect of variable fees has been to deter students from taking on the higher living costs of studying away from home. There are also concerns about the impact that the longer study periods linked to some of the professions will have. It is felt that more could be done to provide specific bursaries to support those entering the professions.

**7.15** We are entering new territory and it may be that people will take a harder nosed view about the potential economic returns before deciding to enter a particular profession. For students that cannot rely on either parental or state support, the economic return for undertaking a long period of study, accumulating a high level of debt, and the prospect of a low starting salary, may result in them deciding to undertake a career with a better return. This may have an impact on entry to professions such as architecture or for entry into courses that lead to jobs such as legal aid work. There is emerging evidence that the rates of return overall may be falling but it is too soon to say whether this will have an impact on the number of applications to universities and other higher education institutions.

**7.16** The literature review refers to the concept of the 'Regulative Bargain'<sup>34</sup> which argues that in return for money and status individuals will invest in learning and training and consent to be regulated. The results of increased costs to the individual and increased regulation might reduce the attractiveness of the professions, especially if more market led occupations are available. Young people do have to think about starting to save for pensions, and most will want to buy their own home. Again, our literature review refers to the cost to an individual in delaying their entry to the housing market. This "foregone income" may become a consideration when young people consider their career choices in the future.

**7.17** It is of course possible to influence the uptake of courses. If starting salaries are attractive with good progression then this can have a pull through effect. The packages on offer in teaching provide models for state intervention. In the future, if society is serious about ensuring that there is a more diverse cadre of judges, architects and vets then there may be a case for a more targeted approach to the development of bursaries to provide a level playing field for those with the potential to succeed irrespective of their background.

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<sup>34</sup> Cooper, D Puxty, T Robson K Willmot, # Regulating the UK Accountancy Profession ESRC Research Conference, Policy Studies Institute London 1988



## Reviewing admissions

**7.18** Work has already been done to look at higher education admissions, such as the independent review by the Admissions to Higher Education Steering Group, led by Professor Steven Schwartz. The group's 2004 report made a number of recommendations aimed at improving admissions processes, including the establishment of a centre of expertise in admissions. It also recommended a system of Post Qualification Applications (PQA) which the DfES is currently considering. If this is followed through, it may lead to wider access to courses leading to the professions.

### Recommendations

- > Universities and other higher education institutions and professional bodies should ensure that entry requirements to undergraduate and postgraduate courses do not discriminate against students who have the potential to be successful in their chosen profession solely on the basis of school examination results
- > Universities and other higher education institutions, need to design courses that are increasingly relevant in an international and European context and make use of the Diploma Supplement to ensure the transparency and international comparability of the qualifications gained
- > Universities and other higher education institutions, working with employers and professional bodies, should look at the potential for offering bursaries to support students undertaking courses leading to the professions. In particular they should consider offering bursaries to students that are not eligible for the full grant of £2,700 plus bursary of at least £300 and who may be deterred because of the cost from entering the professions. They should also ensure that bursaries are available for longer periods than three years where entry to a profession requires longer periods of study
- > Relevant government departments, working with universities and other higher education institutions, should continue to look specifically at measures to promote wider and fairer access to courses leading to the professions

### Stage 3: Period of Study

*"Potential students should be given a clear warning about the financial implications of their chosen career path. Examples should be prepared to show just how much a legal career will cost without help from law firms, or parents if they cannot help their child pay. Students without good financial backing should be advised of the potential savings involved in staying at home to complete their law courses, rather than moving into expensive halls."*

*Barnetts Solicitors*

*"The most significant barrier is the absence, or potential absence of course provision at the local level. ... A number of universities have discontinued provision following individual decisions driven by national funding policies. Closures have been in spite of evident demand from applicants for places. With a few notable exceptions, chemistry as an undergraduate subject is now only offered by research intensive universities and the courses reflect that mission. .... For there to be access to the profession for all, chemical science needs to be provided in local institutions. ...."*

*Royal Society of Chemistry*

*"There has been some success in developing Foundation Degrees for associate professionals (such as classroom assistants and para-professionals in health). Again, these offer greater flexibility and many are available via part-time or work-based learning routes"*

*Standing Conference of Principals (SCOP)*

*"High quality engagement between professional bodies, higher education, employers and other key organisations is vital and there is already much good practice in these areas to build upon. The key to effective links is a sustained, strategic commitment at the highest levels and a willingness to work with a wide range of partners"*

*Standing Conference of Principals (SCOP)*

*"Academic Infrastructure is potentially a huge problem in Pharmacy. The academic workforce (of registered pharmacists) has a high mean age and there is likely to be a significant shortage when many retire in the next few years"*

*Dr Mike Sackville, Head of Pharmacy School, University of Sunderland*

### **The need for a partnership approach to course design**

**7.19** A number of people have referred to the lack of flexible provision which is restricting access to the professions, for example the lack of part-time routes or accelerated postgraduate routes for mature entrants.

**7.20** Different views have emerged during the consultation. Some universities and other higher education institutions suggest that they should be left to determine the content of courses. Some say that removing barriers can only be achieved by reducing the role of professional bodies in relation to entrance standards to degrees, and also by making the selection process into the professions more transparent. Some professions are regarded as demanding higher standards or longer periods of study than are really necessary. Some universities and other higher education institutions advocate separating the undergraduate general education from the post-graduate professional training, quoting the American model as a way forward. Some also suggest that the demand for skills and knowledge made by employers may be out of date.

**7.21** This view put forward by universities and other higher education institutions contrasts with the views put forward by some employers and professional bodies who see these institutions as being out of touch with the realities of key professions and failing to provide the training that is needed. The closure of chemistry departments is considered to be short-sighted and the reduction in funding of, for example engineering departments, is considered to be unhelpful. Some professions say that more action is needed to enable helpers, assistants and support staff who express an interest in progressing to become fully trained professionals.

**7.22** A number of those responding to our consultation stressed the importance of partnership working between universities and other higher education institutions, professional bodies and employers. Effective partnership working would ensure that graduates were fit for purpose, the curriculum was kept up to date, students had access to work practice, and academic tutors were able to keep up to date through continuous professional development. Partnership working also provides the opportunity to develop more flexible routes into the professions which are more likely to be successful in attracting non-traditional students. Foundation Degrees were offered as an example of how this had been achieved.

**7.23** Some respondents referred to inadequate funding, leading to limitations on course materials. The disparity between 'professional' and academic remuneration was cited as creating a problem in recruiting and retaining academic staff to teach in the professional disciplines.

**7.24** There is no doubt that there are strong and productive working relationships between professional bodies, employers, schools and universities and other higher education institutions. However, there may be opportunities to strengthen relationships further. Recent initiatives such as the launch of the Higher Education Academy may provide a new impetus with its role in supporting institutions to develop strategies for improving the student learning experience, improve professional staff development and promote good practice. The emergence of Sector Skills Councils with remits to work with employers and professional bodies in identifying existing and future skill needs and to work with education and training providers to meet those needs should also enable progress.

### **Helping students to manage their finances and avoid unnecessary debt**

**7.25** During the past year many of the people consulted, including students, employers and professional bodies, have expressed anxiety about the levels of debt likely to be incurred by those entering the professions. Their concern is not just about the repayment of loans linked to a period of study, but the potential impact graduate debt will have on an individual's ability to buy a home, contribute towards pensions and raise a family. The media has also given this issue coverage with stories about graduate debt, allied to other types of credit debt, leading to some graduates having to return to live at home and find ways of paying off the debt. This issue was discussed with our Reference Groups and it was suggested that universities and other higher education institutions, working with financial institutions and the National Union of Students (NUS) should be encouraged to provide students with information and advice about managing their finances and avoiding unnecessary debt.

## Previous study rules and part-time routes

**7.26** The DfES has recently consulted about changes to the 'previous study rules' for 2006/07. These rules restrict the support that is available to students who have previously attended a full-time higher education course. The revised rules will be more flexible, providing better support for those undertaking less traditional routes through higher education. There will also be important exemptions for some professions, which should enable students to apply for loans for living costs regardless of their previous study. The impact that these rules can have on some students was highlighted through the consultation process.

**7.27** In Chapter 1 we also referred to the changes being introduced to support part-time study. During our consultation, a number of respondents expressed the view that the development of more flexible part-time routes could help widen entry to the professions.

## Academics providing professional education

**7.28** HEFCE is preparing a report which looks at the higher education workforce in England. Although, higher education institutions are not reporting widespread recruitment and retention problems, a few report difficulties in retaining younger academic staff. The proportion of academic staff aged over 50 has risen from 24% to 41% in the period since 1995/96, with a corresponding fall in the proportion aged under 35. There are also particular recruitment and retention problems in some professional areas where there is strong competition from the wider labour market - for example in business, IT, economics, electronics, law, health care and teacher education. Other concerns for the future include the possible decline in the supply of PhD students if debt concerns deter graduates from continuing their studies, and whether the supply of staff from overseas can be sustained. Universities and other higher education institutions as autonomous employers have a responsibility for putting in place appropriate recruitment and retention strategies. However HEFCE, working with universities and other higher education institutions, can play a role in reviewing the supply and demand for academics providing professional education and give advice to DfES Ministers on action required by government to ensure adequate recruitment and retention of high quality staff.

### Recommendations

- > The DfES should provide development funding to enable employers to work with professional bodies and universities and other higher education institutions to design flexible entry routes into the professions, including fast track and part-time routes. The Higher Education Academy and Sector Skills Councils may be able to play a role in supporting this work
- > Universities and other higher education institutions, working with financial institutions and the NUS, should provide students with information and advice about managing their finances and how to avoid unnecessary debt
- > The DfES should provide modest support to professional bodies to enable an effective dialogue with schools and universities and other higher education institutions
- > The DfES should monitor the impact of the new flexibilities being introduced from 2006/07 in the application of previous study rules relating to those entering the professions
- > The Higher Education Funding Council for England (HEFCE) should work with universities and other higher education institutions to review the supply and demand for academics providing professional education and give advice to DfES Ministers on action required by government to ensure adequate recruitment and retention of high quality staff
- > HEFCE should also monitor the number of graduates who continue to higher degrees and, with the research councils, consider the levels of support required by home and EU postgraduate students

### Stage 4: Entry and retention in employment

*"There is concern in the information management professions as a whole that the best graduates are not attracted to the profession because of the relatively low salaries which are common particularly in the early years of professional work. Government libraries pay better than many other sectors and we do not particularly seem to have a problem recruiting good candidates."*

*Committee of Departmental Librarians*

*"As the professional body for consultancy we are aware of the profession and its staffing requirements. Consultancy is very volatile with people joining and leaving at all points along the career spectrum. We can monitor this. . . . The large practices give large inducements to high flying graduates and post graduates. . . ."*

*Institute of Management Consultancy*

*"ARB is currently undertaking research to determine whether any of its processes or procedures create barriers to registration or entry to the architectural profession. This has been prompted by an awareness that women, in particular, are under-represented on the Register of Architects"*

*Architects Registration Board*

## Recruitment and retention practice

**7.29** The literature review includes detailed information about recruitment and retention with reference to the professions. It suggests that there are many factors that influence the duration and success of a graduate's relationship with their employer. Healthy levels of employer demand, raised graduate expectations of what they can expect from their employment, and an inclination towards greater professional mobility (to gain experience, prove their worth, take advantage of professional opportunities) are likely to make graduates harder to recruit, satisfy and retain than non-graduates.

**7.30** Recruitment and retention strategies vary greatly between the professions, but, broadly speaking, reflect the level of supply and demand within each sector. Whilst there is some data on general recruitment and retention issues, there is relatively little data about how recruitment and retention strategies impact on specific professions.

**7.31** It appears that recruiting the "best" candidates for the job has become progressively more complex over recent years as the number of applicants has increased, reflecting the growing number of higher education participants. Not surprisingly, the greater the demand for high calibre individuals, the more sophisticated and aggressive the recruitment campaign tends to be, particularly within the private sector<sup>35</sup>. Or, if recruiting to 'hard to fill' vacancies the more creative the incentive package.

**7.32** In order to recruit effectively, and to maintain diversity amongst potential employees, many organisations allocate considerable resources and time to graduate recruitment.

**7.33** Some people consulted felt that some of the practices adopted by employers have a detrimental impact on recruitment to the professions. It may also be the case that students from families with social or professional contacts with those working in the professions are more able to secure work experience, work placements and even employment than those students from families who do not have these contacts. For example, law is widely regarded to be attractive to and dominated by those with middle class backgrounds. Others, such as those representing accountants, argue that with open access at 18 years, the mix of students no longer supports the stereotypical view of accounting as a middle class profession.

## Sharing good practice

**7.34** The CRG Research Ltd literature review includes a useful summary of good practice relating to effective recruitment and retention strategies. It also provides an insight into what motivates professional staff at different stages in their careers. Profession-specific issues are set out in more detail in the profiles included in Chapter 6. There is also a clear need for employers, professional bodies, government departments, and other key agencies to share good practice in recruitment and retention with an emphasis on measures that are successful in widening the social mix of entrants to the professions.

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<sup>35</sup> Your graduates and you : effective strategies for recruitment and development. Conon, H; Hirsh, W; Barber, L (2003)

## Pay Review Bodies

**7.35** The literature review includes a summary of the work of the Pay Review Bodies which have responsibility for recommending pay levels for a number of professional groups in the public sector. The Pay Review Bodies generally take the view that establishing fair levels of pay for professionals as they progress through their careers is the most potent action they can take to ensure the profession is and remains attractive to new entrants and existing personnel.

**7.36** The Pay Review Bodies may of course experience upward pressure on starting salaries as a consequence of increased student debt. Dealing with this issue would be entirely consistent with their terms of reference. In addition, there may be a case for the Pay Review Bodies to play a more active role in determining whether or not measures such as golden hellos, bursaries and other recruitment and retention measures aimed at graduates entering the public sector professions are effective in attracting a wide cross section of recruits. The Government might consider asking each Pay Review Body to look specifically at this issue following the introduction of variable fees from 2006, and at the adequacy of recruitment and retention measures aimed at graduates, in particular those who do not receive the full £3,000 support.

### Recommendations

- > Employers should review their recruitment and retention strategies to ensure that they provide equal access to professional job opportunities and avoid discriminatory employment practices
- > Employers, relevant government departments, professional bodies and public sector agencies responsible for entry into the public sector professions should share good practice, research and evaluation about the impact and effectiveness of recruitment and retention measures. Particular emphasis should be given to measures that are successful in widening the social mix of entrants to the professions
- > The Government should ask the Pay Review Bodies to monitor the impact of the introduction of variable fees and the new student support measures on recruitment and retention and whether additional forms of support (for example bursaries and golden hellos) should be considered, particularly for those who do not receive the full grant of £2,700 plus a bursary of at least £300. Pay Review Bodies should also be asked to identify instances where the effect of student debt is to strengthen the case for higher starting salaries in key professions.

## Final Comment

*"The impact of the changes in student finance arrangements following the introduction of differential top-up fees in 2006/07 was modelled. The outcome from this exercise suggests that, despite the likely increases in repayments that will have to be made by students in the medium to longer term, the additional financial assistance from the state in the short term has the effect of increasing the benefit to the individual by approximately £2,650 over a lifetime, whilst reducing the return to the state by an equivalent amount. This analysis therefore suggests that, in economic terms at least, undertaking higher education in the future will be even more financially worthwhile to the individual"*

*PriceWaterhouseCoopers LLP report to The Royal Society of Chemistry and Institute of Physics,  
January 2005*

**7.37** It has been difficult to comment on the new funding arrangements before they have been introduced and before a proper assessment can be made of their impact. The final recommendations therefore relate to the need for further work. The Government is establishing an Independent Commission to review the impact of the first three years of variable fees. It therefore makes sense for the Commission to revisit this report to consider if the legitimate concerns that people have expressed about the impact of fees on recruitment to the professions were right and whether or not the recommendations that have been made are likely to be effective. If the Independent Commission is to do this successfully then steps will need to be taken to improve management information, research and evaluation evidence. The literature reviews highlight the inadequacy of much of the data and if the Commission is to do its job properly then this needs to be addressed.

### Recommendations

- > The Government should ask the Independent Commission which will be set up to review the impact of the first three years of variable fees to look again at the gateways to the professions and comment on whether the concerns raised at this stage about entry to the professions are justified by experience, particularly in relation to those that do not receive the full grant of £2,700 plus a bursary of at least £300
- > Specifically, the Independent Commission should focus on the 'rate of return' (and therefore the **total** benefits and costs) of higher education leading to professional careers and make recommendations on earnings thresholds, the level of variable tuition fees, grants, bursaries and interest rates on student loans
- > The DfES should work with employers, professional bodies and universities and other higher education institutions to monitor trends in the profile of recruitment into the professions and consider if further research is required



## Annex A: Written statement

This section contains the Written Statement which was made to the House of Commons on 12 February 2004.

### Department for Education and Skills

#### Higher Education Reform

**The Secretary of State for Education and Skills (Mr. Charles Clarke):** I stated in the House on the 27th January that I was commissioning a report to examine the gateways into the professions. I am pleased to announce the appointment of Sir Alan Langlands, VC of the University of Dundee, to lead this work.

Sir Alan will act as an independent person to oversee the report which will examine how the public sector and the professions can sustain and improve recruitment opportunities for graduates, especially those who do not qualify for the full £3000 support, and, to make recommendations to Ministers on action that can be taken by the employing organisations to provide clear accessible gateways for all graduates who want to pursue such careers and which will benefit the recruitment needs of these sectors.

The report will cover mainly the public sector but will also look at good practice in the private sector and will include those who work in a professional capacity in the voluntary sector. Additionally there will be reference groups established, one for each sector and with voluntary sector representation on each group.

On the public sector, the report will analyse support that is currently available, (through bursaries, golden hellos, fee payment and loan write-offs) its effectiveness and future plans for post autumn 2006. Furthermore it will assess whether these (plus any changes) are likely to continue to work after autumn 2006; and whether there are any gaps in what is available which are likely to create recruitment and retention problems.

On the private sector, it will research current and possibly international practice on incentives for graduates, and assess how employers might respond in a variable fees environment;

I am asking Sir Alan to start this work after Royal Assent this year with the aim of reporting to me by mid-2005.

## Annex B: Membership of reference groups

This section lists the membership of the Gateways to the Professions Public and Private Sector Reference Groups.

### Public sector group

Paul Cottrell	Association of University Teachers
Dr Sam Everington	British Medical Association
Sue Martin	British Dental Association
Karl Demian	Legal Services Commission
Rob Pinkham	Local Government Association
Liz Allen	NATFHE
Elizabeth Eddy	NHS Employers
Safron Rose	NSPCC
Dr Arthur Naylor	Standing Conference of Principals (SCOP)
Michael Day	Teacher Training Agency
Heather Wakefield	UNISON (representing the TUC)
Prof Geoff White	Universities & Colleges Employers Association
Vivienne Ravis	Universities UK
Brandon Ashworth	Sector Skills Development Agency
Steve Hynes	Law Centres Federation
Dr Shirley Bach	Institute of Nursing and Midwifery (representing the Royal College of Nursing)

### Private sector group

Mike Robinson	AMICUS (representing the TUC)
Richard Shearman	Engineering Council UK
Janet Berkman	Engineering Employers' Federation
Anne Farquharson	Institute of Chartered Accountants of Scotland (representing the Association of Graduate Recruiters)
Julie Swan	The Law Society
Janet Fleming	National Council for Voluntary Organisations (NCVO)
Freda Andrews	Royal College of Veterinary Surgeons
Simon Allford	Royal Institute of British Architects
John Baxter	Royal Academy of Engineering
Carolyn Smith	IIP UK
Katherine Heron	Standing Conference of Heads of Schools of Architecture (SCHOSA)

## **Annex C: Gateways to the professions consultation: supplementary meetings**

This section lists the organisations who participated in discussions supplementary to the main consultation exercise.

All Party Group of MPs

Association of University Teachers

British Dental Association

British Medical Association

BMA Students' Executive Group

Confederation of British Industry

Council of Heads of Medical Schools

Engineering Council UK

Higher Education Funding Council for England

Legal Services Commission

Law Society

Local Government Association

Member of Parliament for Newcastle Upon Tyne, East and Wallsend,

National Council of Voluntary Organisations

Office for Fair Access (OFFA)

Royal Academy of Engineering

Royal College of Veterinary Surgeons

Royal Institute of British Architects

Teacher Training Agency

Trade Union Congress

## Annex D: Glossary

This section offers a guide to the acronyms used in this document.

AAT	Association of Accounting Technicians
ACCA	Association of Chartered Certified Accountants
ALF	Access to Learning Fund
AST	Advanced Skills Teacher
BDA	British Dental Association
BMA	British Medical Association
CBI	Confederation of British Industry
CDLs	Career Development Loans scheme
CIMA	Chartered Institute of Management Accountants
CIPD	Chartered Institute of Personnel and Development
CIPFA	Chartered Institute of Public Finance Accountants
CPD	Continuing Professional Development
DfES	Department for Education and Skills
Dip HE	Diploma of Higher Education
DH	Department of Health
DSA	Disabled Student Allowance
ESRC	Economic & Social Research Council
EYFD	Early Years Foundation Degree
GCSE	General Certificate of Secondary Education
GDS	General Dental Services
GMC	General Medical Council
GSCC	General Social Care Council
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEIs	Higher Education Institutions (universities and higher education institutions)
HESA	Higher Education Statistics Agency
ICAEW	Institute of Chartered Accountants in England and Wales
ICAI	Institute of Chartered Accountants of Ireland
ICAS	Institute of Chartered Accountants of Scotland
IER	Institute for Employment Research
IoP	Institute of Physics
ITT	Initial Teacher Training
LEFM	Local Economy Forecasting Model
LPC	Legal Practice Course
LSC	Learning and Skills Council
MMC	Modernising Medical Careers
NESS	National Employer Skill Survey
NHS	National Health Service
NVQ	National Vocational Qualification
NUS	National Union of Students
OFFA	Office for Fair Access
PGCE	Post Graduate Certificate of Education
PQA	Post Qualification Applications

PwC	Pricewaterhouse Coopers
QCA	Qualifications and Curriculum Authority
QTS	Qualified Teacher Status
RCVS	Royal College of Veterinary Surgeons
RIBA	Royal Institute of British Architects
RSC	Royal Society of Chemistry
RTPI	Royal Town Planning Institute
SLC	Student Loans Company
SOC	Standard Occupational Classification
SSVs	Skill Shortage Vacancies
TTA	Teacher Training Agency
UCAS	University and Colleges Admission Service
UUK	Universities UK

Notes

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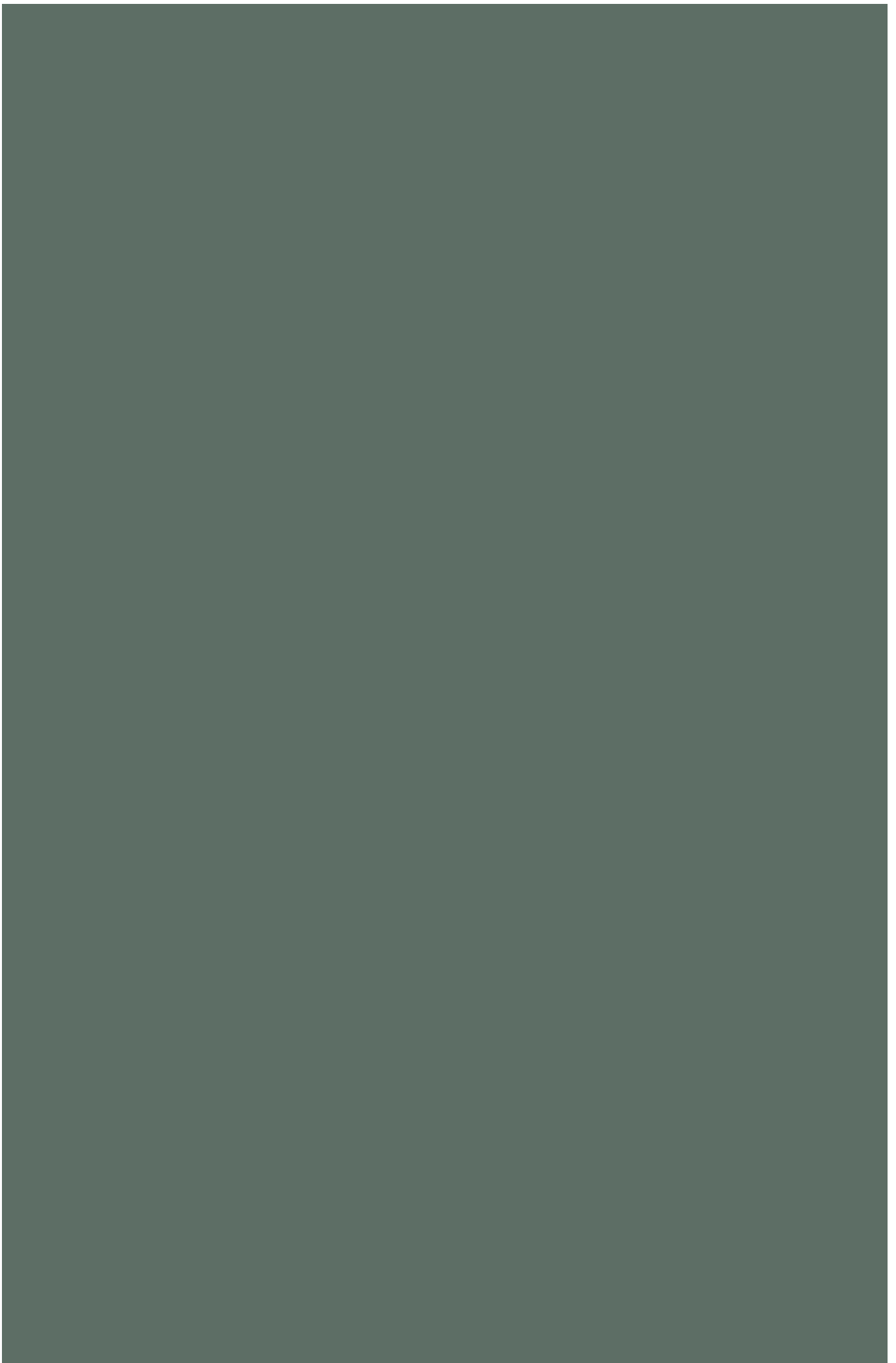
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quoting reference GPR1

The Government response to this report is available from the same contact, reference GPR2.

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