WORKFORCE
Analysing trends and policy issues for the future health workforce

On the basis of advice from committees, the UK government plans the number of medical and nursing staff by controlling the number of places in education and training. Much discussion of workforce issues focus on examining this system, its consequences, and the question of its sustainability. Charlotte Dargie looks at the system and pressures for the future, such as the ageing population and the internationalisation of both health services and health workers. She also looks at changing professional roles in health, implications for future training and education, and pressures coming from outside the health service in the form of increasingly flexible career patterns and developments in information and communication technology. There is increasing recognition of negative experiences of staff within the health service, and this paper draws on other work commissioned by the Nuffield Trust in the area on taking care of the health workforce.

Charlotte Dargie is the Nuffield Fellow in Health Policy at the Judge Institute of Management Studies, Cambridge University. She is the main researcher on Policy Futures for UK Health, based at the Judge Institute and funded by the Nuffield Trust. She has a doctorate in public administration from the University of Newcastle-upon-Tyne.

POLICY FUTURES FOR UK HEALTH

Edited by Charlotte Dargie

This paper is part of a series written for the Policy Futures for UK Health Project, which examines the future environment for UK health, with a time horizon of 2015. The full series is listed below.

POLICY FUTURES FOR UK HEALTH

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NO 8 WORKFORCE
Analysing trends and policy issues for the future health workforce

Charlotte Dargie

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FOREWORD

Since its inception the Nuffield Trust has identified individuals and subjects that would impact on health and health care policy in the United Kingdom, with notable examples being *Screening in Medical Care* [1], Archie Cochrane's *Effectiveness and Efficiency: Random Reflections on Health Services* [2], Thomas McKeown's *The Role of Medicine: Dream, Mirage or Nemesis?* [3], David Weatherall's *The New Genetics and Clinical Practice* [4] and Alain Enthoven's *Reflections on the Management of the National Health Service* [5].

In keeping with tradition and reflecting the more complex issues in health and health care policy today, the Nuffield Trust established a Policy and Evaluation Advisory Group (PEAG), supported by the appointment of a Nuffield Trust Fellow at the Judge Institute of Management Studies at the University of Cambridge, to provide a research and intelligence capability for the Trust.

The Policy Futures for UK Health Project stems from the work of PEAG. It involves examining the future environment for UK health, with a time horizon of 2015. The first environmental scan has resulted in a series of 10 technical papers, which cover the following areas':

1. The Global Context
2. The Physical Environment
3. Demography
4. Science and Technology
5. Economy and Finance
6. Social Trends
7. Organisation and Management
8. Workforce
9. Ethics
10. Public Expectations

Each paper in the series is a stand-alone piece, but has also been used by the project to derive an overview report, which focuses on policy assessment in the light of the environmental scan. Entitled 'Pathfinder Report', the overview report is published separately and will be subject to external consultation[2].

The Policy Futures for UK Health Project and the work of PEAG are ongoing. Further reports and publications will appear in subsequent years. The technical papers will also be revisited and different subjects will be tackled.

The strength of the technical series is in providing a context for analysing health and health care policy for the United Kingdom. Each author has produced an independent piece of work that analyses trends and issues in their subject area, focusing on 2015. The papers enable one to read across the issues, in order to provide a general analysis of health and health care policy, which is lacking in the highly specialised debates that dominate the health world today. They have formed the basis for consultation and discussion as part of the Policy Futures for UK Health Project.

Finally, the Trust is grateful to the members of the PEAG, to Professor Sandra Dawson and Pam Garside of the Judge Institute of Management Studies and to the authors of the 10 technical papers. A particular thanks due to Dr Charlotte Dargie, Nuffield Trust Fellow at the Judge Institute of Management Studies, the author of the Pathfinder report.

John Wyn Owen CB
July 1999

ENDNOTES

1. *Screening in Medical Care: Reviewing the Evidence* A collection of essays with a preface by Lord Cohen of Birkenhead (Oxford: Oxford University Press for the Nuffield Provincial Hospitals Trust, 1968).
2. AL Cochrane *Effectiveness and Efficiency: Random Reflections on Health Services* (London: Nuffield Provisional Hospitals Trust, 1971).
3. T McKeown *The Role of Medicine: Dream, Mirage or Nemesis?* (London: Nuffield Provisional Hospitals Trust, 1976).
4. D Weatherall *The New Genetics and Clinical Practice* (London: Nuffield Provisional Hospitals Trust, 1982).
5. AC Enthoven *Reflections on the Management of the National Health Service: An American Looks at Incentives to Efficiency in Health Services Management in the UK.* (London: Nuffield Provincial Hospitals Trust, 1985).
6. S Williams, S Michie and S Pattani *Improving the Health of the NHS Workforce* (London: The Nuffield Trust, 1998).

Each of the papers in the series is available from the Nuffield Trust.

[2] C Dargie *Policy Futures for UK Health: Pathfinder* (London: The Nuffield Trust, 1999). The Pathfinder Report is for wide consultation and invited comment. You can email your comments to policyfutures@jims.cam.ac.uk. You can also send your comments to Dr Charlotte Dargie, Nuffield Fellow in Health Policy, The Judge Institute of Management Studies, Cambridge University, Cambridge, CB2 1AG. You can also find this Pathfinder Report along with other technical papers in the Policy Futures series at the Nuffield Trust website: http://www.nuffieldtrust.org.uk. Please respond with your comments by Friday 19 November 1999.

ABBREVIATIONS

BMA	British Medical Association
EU	European Union
FTSE	Financial Times Share Index
GDP	gross domestic product
GMC	General Medical Council
GP	general practitioner
HR	human resources
HSE	Health and Safety Executive
IES	Institute for Employment Studies
IT	information technology
MWSAC	Medical Workforce Standing Advisory Committee
NHS	National Health Service
OECD	Organisation for Economic Co-operation and Development
p.a.	per annum
RCN	Royal College of Nursing
REDGs	Regional Educational Development Groups
RSA	The Royal Society for the Encouragement of Arts, Manufactures and Commerce
UK	United Kingdom
US	United States (of America)

SUMMARY

Trends

- Workforce planning shows current and projected supply shortages of doctors and nurses (based on projected demand, with qualified intake as supply).
- The context of recruitment and retention of professional staff is likely to change.
- Information and communication technology will be of increasing importance to the health workforce.
- Skills patterns are likely to change, as is the skill mix across professional boundaries.
- There will be countervailing trends in specialisation and generalisation amongst professional staff.
- Societal developments will highlight the interface between staff and patients, users and the public.
- There is likely to be increasing recognition of the negative aspects to the individual experience of work in the National Health Service (NHS), such as stress and violence.

Policy issues

- The future work context raises the question: can we differentiate an 'NHS' labour market from the wider labour market in the future? How feasible is long-term workforce planning for the NHS?
- Do we have solutions to deal with professional supply shortages, recruitment and retention problems in the NHS workforce?
- What will the future role of the health care professional be?
- Training the future NHS workforce will be crucial: integrated professional education between health and social care will be needed, as will multidisciplinary training, continuous professional education, lifelong learning and funding from the state (for these and other training issues).
- Greater flexibility and choice in career patterns may have to be introduced.
- Taking care of the health care workforce will be an important issue.

INTRODUCTION

The significance of future issues concerning those who work in health cannot be overestimated. Approximately one million people work in the NHS, which accounts for roughly one in 20 of the United Kingdom's (UK) working population. They account for approximately 70 percent of the NHS budget. Almost half of the NHS salary bill is accounted for by nurses. The health workforce includes: medical and dental staff, nursing and midwifery staff, professional and technical staff, management staff, administrative staff, ambulance staff, ancillary and maintenance staff, general medical practitioners, practice staff and private sector nurses. The health workforce is undergoing significant change in the work that it does, how that work is organised, and who is doing it. These factors are explored in this paper - covering both a 'macro' perspective of the workforce, and changes in the microeconomic experience of individual health workers.

Before discussing more specific health workforce issues, it is relevant for a futures perspective to outline the main drivers and the key issues within the world of work more generally. Whilst most current debate about the health care workforce focuses on endogenous factors, it is likely that some exogenous factors will significantly affect the health workforce in the long term.

TRENDS AND ISSUES WITHIN THE WIDER WORKFORCE

A summary of the writers and commentators on the future of work is given in appendix 2. This section provides an overview of key trends and issues.

Context

Technological change is likely to be a key driver in work forward to 2015. Information and communication technology is changing the work we do, and how we do it. Technological change may influence where we work with increasing possibilities for home work, developments in travel and work possibilities whilst travelling. Some futures thinkers suggest that we will be working fewer hours each day because of improved communication [1].

A recent assessment of the information technology (IT) labour market [2] made the following points.

- The future growth of IT professionals over the period 1996 to 2002 is expected to be between 28 and 34 percent.
- By 2000, over 90 percent of the workforce is expected to interface with IT.
- Despite the increase of IT-qualified people, there is evidence of both IT skill shortages and skill gaps. One survey estimated that 90 percent of IT companies recruited in 1997, of which 83 percent experienced recruitment difficulty (cited in [2]).

There will be competition for IT professionals in the future and the NHS may not be able to hire staff.

Demographics and the ageing population will also have a major bearing on the future NHS workforce. Some issues will be raised within NHS-workforce planning issues in this paper and the issue is also considered in the population, demography and disease paper (no. 3) in this series.

Finally, political and economic developments will influence workforce issues in health. It is even more difficult in this area to predict what might happen by 2015. Some global issues include the changing world order, changing international boundaries, and the possibility of achieving global mobility of labour [1][3]. An illustration of the potential impact of international political developments on health is given by Britain's membership of the European Union (EU), whose working time directive has direct implications for health workers, possibly including the hours of junior doctors.

Industrial structure

Two established macroeconomic trends that affect the UK workforce and look set to continue are the shift from manufacturing to services, and the growth of flexible, independent, consultant-type occupations [1][4][5][6]. These trends may seem peripheral to the considerations of the NHS workforce; however, there are some possible implications. In the future the health professions will have to compete with more interesting and well-paid professions in other sectors. Some of the literature on future workforce issues highlights the rigidity of health service careers that might make medicine or nursing less attractive than other career paths. One converse trend is that, as the insecurity of work becomes an issue across the service and manufacturing sectors, health careers - such as the medical profession - that continue to have relatively secure tenure, might be considered more attractive than other, less secure careers.

Labour market

A summary of future labour market trends in Great Britain[a] is as follows:
- The labour force[b] is projected to increase slowly in the future, reaching 29.8 million by spring 201 l[c].
- Of the expected rise of 1.7 million, women account for 1.3 million. As a result, women are projected to make up 46.1 percent of the total labour force in 2011, compared with 44.2 percent in 1997.
- The labour force will be a little older on average in 2011 than in 1997. The overall activity rate for those of working age is projected to increase slightly in the future.
- Economic activity rates for women are projected to increase at all ages above 20 between 1997 and 2011. Slight falls are projected over the same period in activity rates for men at ages over 25. Activity rates projected for men remain higher than those for women at all working ages [7].

[a] Statistical trends are calculated for Great Britain, not the whole UK.
[b] The labour force includes people aged 16 or over who are either in employment or unemployed.
[c] There are no official projections beyond 2011, because of uncertainty.
[d] The activity rate represents the percentage of the population of different age/sex groups in the labour force.

Women are taking a rising share of jobs, the share of jobs occupied by full-time employees is falling, the self-employed and part-timers in the workforce are increasing, there is increasing flexibility of workers and work, and there is greater importance of the informal economy - caring, home and the community. These features characterise the UK labour market [1][4][5][8].

The changing nature of work

The changing nature of work and people's experience of work is an important topic across the literature. The changing nature of work covers a range of relevant sub-topics, which include: no jobs for life; the impact of changing technology; increasing diversity of work and work roles; workers becoming less inclined to have a secure 'place' within the workforce, because jobs are changing; less rigidity in work with teleworking, homeworking etc. Overall, increasing hours spent at work and reduced job security across the workforce are causes for anxiety, insecurity and stress. Linked to these changes is the increasing reliance on workers to plan and manage their own careers. Employers are no longer to be relied upon for planning and managing an individual's career, and developing workers' skills. Whilst skills and education are becoming more important to the workforce, responsibility for acquiring these skills and attributes lies with the worker.

Some of these trends are discussed further as part of changing social trends (no. 6 in this series). Here, an important consequence for workforce issues, and a subject raised in several sources in this area, is the growing workforce inequalities between those who are able to keep up with the pace of change, the skills required and the demands of work, and those who are increasingly left behind [4][9]. A *Time* magazine article in 1995 entitled 'A new divide between haves and have nots?' looked at the pay differentials between the computer literate and those not computer literate [10]. Other sources predict disadvantages for those who do not have the IT and communication skills required in future work [1][3][4][5][8]. In a study of today's managers, conducted jointly by the Institute of Management and the University of Manchester Institute of Science and Technology (UMIST) it was found that amongst the issues that managers were concerned about for the future was employ ability [11]. The downside of the fast pace of change and development in the world of organisations and work is that, for those people who are excluded, they become relatively disadvantaged the longer they are out of work and privy to the changes and the skills and training that organisations offer. Education, benefits, pensions and taxation are ways in which government can prevent the spread of inequalities between the technology 'haves' and the technology 'have nots'[3].

An important related social issue is the body of work that is looking at the health effects of work, through, for example, addressing the effect of unemployment on health [12], the effect of future work life on health [13], and the health and social effects of reduced job security for particular groups of workers [14][15].

The final category within people's experience of work is the psychology of work - what 'work' will mean in the future - to workers and to employers (see

[16] [17] [18] [19] [20] [21] [22] for some discussions of what work might mean in the future). On the one hand, work appears to be consuming more of our lives, with increased participation of women, shorter career breaks of women with families, and the growth of convenience food, nursing homes, and childcare. Conversely, sources predict that work is becoming less important for people, and will become less so in the future, as we are defined by factors outside the paid work that we do [4] [8]. An illustrative example of the latter comes from British Medical Association (BMA) studies, which have found that young doctors are far less likely to see medicine as a vocation than their elder counterparts, and wish to combine their career with family and leisure time [23][24].

TRENDS AND ISSUES IN THE HEALTH WORKFORCE

Demand and supply of the health workforce

A futures perspective allows us to challenge the status quo in health. Currently the health service professional workforce actually operates as a planned market. A futures perspective prompts us to think not only of the 'NHS' labour market, but of a wider labour market that includes the overseas workforce, the private health sectors, and individual labour markets for groups like professions, secretaries, and IT specialists. One question a futures perspective offers is, how long can we operate workforce planning in health? Reviewing the current health workforce literature shows a preoccupation with workforce planning for the future needs of the health service.

The medical profession

Workforce planning takes place at the aggregate level - that is, the total numbers of doctors and nurses. The UK currently operates with a shortage of doctors, with overseas trained staff meeting demand. The Medical Workforce Standing Advisory Committee recently produced its third report on *Planning the Medical Workforce,* which recommended that the annual medical student intake be increased by 1,000 by the year 2005, a 20-percent increase on present levels of 5,000 students [25]. The report based its recommendations, which were recently accepted by the government, on the long-term demand for doctors in the UK, and it recommends measures to meet the demand. Doctor numbers have been increasing in the UK at a rate of 1.8 percent per annum over the 20-year period from 1976 to 1996 (see table 1). The report projects that future demand for doctors will continue along the same path. It considers whether increases in demand can be met by other health care staff, what the effects on wastage and retirement will be, and on the relative shares of doctors who qualified within the UK and outside it. It also considers possible changes in skill mix and the productivity of the medical workforce. Most of the increases to medical school intake will be in England and Wales [26]. (See Maynard and Walker for a critique of current medical workforce planning [27].)

There has been debate about how much the UK relies on overseas trained doctors, with some commentators suggesting that we should look outside the UK for our extra doctors. In their recent review of the physician workforce, Maynard and Walker propose both the substitution of physicians by other staff

and migration as policy options to deal with physician shortage [27]. A converse ethical argument put forward states that it is wrong to draw on overseas trained doctors from developing countries to meet demand in the UK [28]. About 76 percent of doctors in the NHS are from the UK, according to the Medical Workforce Standing Advisory Committee (MWSAC), but other reports suggest that 60 percent of doctors who registered with the General Medical Council (GMC) for the first time last year had qualified outside Britain, and that overseas qualified doctors were higher among younger doctors [28].

A recent review of medical workforce issues by the BMA's Health Policy and Economic Research Unit addresses the confusion within workforce debates. It cites various studies and reports that have produced conflicting evidence on wastage rates, and concludes:

> The committee's [MWSAC] finding, that five years after qualification up to 20 percent of doctors are not working in medicine, has been widely inferred to be indication that the profession is facing an 'exodus' of young doctors. However, although stress, dissatisfaction and disillusion among junior doctors working in the United Kingdom is widely documented, there is no evidence that this has, as yet, translated into significant loss to profession. Rather research has shown that the majority of doctors who leave the workforce at this age in their career do so only temporarily, for reasons such as study and child care, and that the proportion of doctors actually 'lost' to medicine is closer to 2%. [29 p2] (See reference for several relevant citations)

The BMA study makes several contributions to the planning debate, proposing:

- distinguishing between temporary and permanent departures from the workforce
- having a broader conceptualisation of lifetime working that reflects contemporary working patterns and desired lifestyles, rather than a narrow definition of non-participation as wastage
- that we provide policy options to deal with the trends, such as modernising training structures to cope with changing values in work and lifestyle, and a modelled career structure that is more diverse and flexible than at present [29 pp8-9].

Maynard and Walker highlight increasing trends in part-time employment and early retirement as important contextual influences on future workforce policy [27p13].

Several reports on young doctors are available from the BMA's cohort study of 1995 medical graduates, including the one above [23][29][30][31]. A report on the career intentions of doctors shows relative stability in numbers attracted to the different areas of medicine [30 p2]. In 1997 most of the 506 doctors preferred a hospital career, followed by general practice preferred by 96 doctors, 11 considering a career outside medicine, and less than double figures

for public health, research and hospital and research (see table 2). Forty-four doctors said they were undecided. Interestingly, whilst interest in the various specialties was split fairly evenly between men and women, 69 percent of those who chose general practice were women.

In terms of changing professional values within the medical profession, the BMA research found in 1995 that competence was seen as the primary core value of a doctor [23]. Openness and mutual trust were highlighted. Eighty-four percent of the cohort agreed that doctors are corporately responsible for the actions of colleagues and should be prepared to report them. Sixty-nine percent of the cohort believed there was no conflict in doctors holding the dual role of manager and clinician and, in terms of changing professional roles, 89 percent of the cohort felt that leadership of a multidisciplinary team should fall to the most appropriate professional - not necessarily a doctor [23 pi]. Other reports from the BMA highlight similar values and commitment from doctors. Core values for present and future doctors are identified as: competence, caring, commitment, integrity, compassion, responsibility, confidentiality, spirit of inquiry, advocacy [24] [32].

The BMA studies reported here accept that doctors need to be prepared for the changing environment whilst at the same time maintaining a fairly constant set of professional values. For example, the medical profession appears to be addressing questions on 'what kind of doctors society wants and what type of basic and continuing education and training they should have', and the need for multiprofessional working, but, like nurses, they wish to be united as a profession in the future [32 p3].

There is some conflicting research material on doctors' morale and well being. A recent survey of doctors by Goldacre *et al.* found that, whilst doctors were critical of health reforms relating to the internal market, most viewed their own opportunities and current circumstances as favourable [33]. A further study in the BMA series that took place in 1997, and which used focus groups rather than a questionnaire to research doctors' views, found doctors more pessimistic and more critical than in other reports [34]. More hostility towards management, a loss of autonomy and sense of vocation, and a worsening of the context in which doctors work led to the report to conclude that 'there were important issues which needed to be urgently resolved if the core values of the medical profession which were still held to be of paramount importance by younger doctors are to be sustained in the 21st century' [34 pi].

The nursing profession

Recruitment, retention and pay are all issues that concern the future of nursing [35][36][37][38][39][40][41]. Several key sources present overview data for the nursing labour market, but note that with the creation of NHS trusts it has become harder to gain local data on nurses, which could be used for workforce planning [35][41]. Buchan, Hancock, and Rafferty examine employment trends in the hospital workforce within the NHS, focusing on the changing composition of the nursing workforce [35]. They find that, whilst hospital activity rates have grown, patient length of hospital stays decreased and patient activity levels increased, there has not been a linked growth in the size

of the nursing workforce [41] [42]. They identify a marked reduction in the numbers of nursing students and alterations in the skill mix between first- and second-level qualified nurses. Nursing shortages have been in evidence since before the establishment of the NHS [41] [42]. One prediction says that the NHS will need 5,000 extra nurses by 2015. A restoration of centralised planning could solve the current problems in planning the nursing workforce [42]. Currently, the government, along with its proposed increase in numbers of doctors, has promised 15,000 more nurses to meet the future demands of the health service.

Several findings about the supply and demand of nurses are raised in the 1998 survey of registered nurses by the Institute for Employment Studies (IES) [41][43]:

- a reduction in the population of registered practitioners
- an ageing of the registered population, so that by the millennium almost half the nursing workforce in the UK will be aged over 40
- a fall in the number of entries to the register form
- a small pool of registered nurses.

The overall impression is that there is not much slack in the nursing system, and that nursing is becoming an increasingly unattractive career for young women. Trends in the participation of ethnic minority nurses are also raised as an issue for concern [36]. The IES report suggests that family friendly policies are the solution to recruitment and retention problems in nursing, but points out that few nurses are benefiting from them now. These factors will have an important bearing on the future dynamics of the UK nursing labour market [41 p33]. (See figure 1 one for an illustration of the ageing nurse workforce.) Other projections by the IES illustrate the gap between an increasing demand for future nurses, and the recent downward trends in supply of nurses. An intuitive reaction to the data is that the health service will have to substitute nurses' work with other health care workers or recruit more nurses to satisfy future health demands. Additional factors associated with the ageing nursing workforce may exacerbate this gap.

Those who review the nursing labour market complain that currently only short-term trends are taken into account when decisions are made on nursing education places. Planning should take into account longer-term trends - for example, the significance of the ageing nursing workforce. The significance of an increase in the retirement age on the make-up of the nurse workforce when currently older nurses are more likely to work part time and to work shorter hours than younger nurses is raised in some accounts [41 p123].

In summary, workforce planning is likely to be an important future issue within the health care sector. 'Numbers' of the various professions, and their make-up, are the subject of several committees and reports, and numerous commentaries. It is difficult to predict the number of staff required in the future health sector, particularly when it is possible that what staff do may change in the future health service. Rudolf Klein questions the calculation of projected increases in required numbers of doctors and nurses [44], and

Maynard and Walker critique current workforce planning [27]. Current government policy has been to accept the recommendation to increase medical student intake by 1,000 students per annum, and to provide 7,000 and 15,000 'extra' doctors and nurses respectively, to meet current NHS demands. These will be paid for by injections of cash into the health service for the next three years from the Comprehensive Spending Review. Finally, the Health Committee has decided to undertake an inquiry into future NHS staffing requirements, which will start hearing evidence in November 1998.

Changing roles in health

A review of the literature produced a range of sources that consider the changing roles of health care workers [39][45][46][47][48][49][50][51][52] [53][54][55][56][57][58][59][60][61][62][63][64][65][66][67][68][69]. Useful non-UK sources were sometimes relevant, most of which were based in the United States (US) [53] [70] [71] [72] [73] [74]. Some sources are broad - contemplating what the future of general practice might be, or the future of nursing, whilst others look at more incremental and specific changes. There is a distinction between sources that comment on and contemplate the future of a profession or discipline, and those that have assessed changing roles and their effects using empirical evidence. So, at one level what a doctor will be in the next 20 years - a personal carer, a technician, a remote consultant, a genetic counsellor - is debated because it will be influenced by scientific developments and technological change. At another level there is debate about the day-to-day tasks that should be performed by medically qualified personnel.

Some documented sources focus on the consequences for the health workforce of organisational restructuring in the health sector [3 9] [47] [48] [49] [62] [63] [64] [67] [68]. The literature in this area suggests that organisational restructuring is the driver, and changing work roles are the consequence. However, policy shifts, technology change and cost might themselves be driving organisational change more than the autonomous shift in health care delivery and organisational design. Like many trends and developments in health, these factors are interrelated. Technology and cost would seem to be clear first-order drivers, but they too are the outcome and consequence of organisational and societal developments. Restructuring, shifting boundaries between primary, secondary and tertiary care, and changing professional roles are interlinked. A recent editorial in the *British Journal of General Practice* [64] contemplated the future role of the general practitioner (GP) as a personal doctor, citing the current organisational development of general practice as a movement against the small-scale, personal care offered in the traditional model.

Changing professional roles

Within professional role developments, the underlying trend appears to be for increasing roles to be transferred from doctors to nurses [75]. Reducing doctor workloads is seen as the prime motivating factor, with an emphasis on role changes in areas of health care where there is greatest overlap between the duties and responsibilities of nursing staff and doctors - acute hospital care and general practice [75 p14].

A recent review[a] of role developments for nursing staff in the NHS cites professional, managerial and policy forces behind role developments in nursing [75]. Policy forces are particularly evident. 'Role developments' are classified further into the following categories:

- discrete new roles (for example, new roles for nurse practitioners as part of the movement towards 'nurse-led care')
- 'creeping' role developments (where a new skill or task that was previously the responsibility of another profession is added to the workload of nurses in a particular area or level)
- specific interventions
- policy shifts, where they cite the example of the DoH report on changing childbirth [76].

Change has implications for:

- training and supervision
- legal safeguards, particularly over ascribing accountability and responsibility for a procedure or activity
- planning and resources.

Changing roles for ancillary staff

It is difficult to differentiate between the changing roles of professionals and support or ancillary roles, since they are interlinked. However, additional trends in roles, which include support staff, are evident. First there is a trend towards team working in health. In this model, health workers provide care that is focused around a patient. The team possesses a range of skills so there is less professional demarcation. Some professional duties are provided by support or ancillary staff and as a consequence training might be 'generic' at the initial stages for all the health professionals. Concepts like 'skill mix', 'patient focused care' and 'generic worker' are included within this trend.

Contradicting this generic role development, the professional attributes of groups like doctors and nurses are being reasserted by their representative organisations. In particular, nursing representatives feel that the trend towards generic skills, and the downgrading of distinct professional skills, will hit nurses hardest and they will lose their accumulated skills, knowledge and status.

A study undertaken by Conrane Consulting and Manchester University focuses on the future health care workforce and develops a workforce scenario that draws on the prevalent contemporary theme of role developments [45]. It is an illustration of the initial trend towards team working and generic skills outlined above. Based on a series of pressures for change, the scenario depicts a 'generic carer' who is responsible for the majority of patient care, with some carers functioning at a professional level and others as support workers. Doctors, therapists and scientists would have more focused roles specific to

[a] Commissioned for the Nursing and Midwifery Staffs Negotiating Council Staff Side.

their knowledge and skills, with some of their current functions being provided by the generic worker.

The scenario is developed for three health care settings: community mental health services, the general and acute hospital, and primary care (reproduced in appendix 1). The thrust of the scenarios towards an increased role for support workers by 2005 is clear:

> We anticipate that there will be a spectrum of roles in the future and a major expansion in the numbers of 'non-professional' staff. As an indication of the degree of change that we are confident is both desirable and achievable we envisage that, by the year 2005, support staff will account for 40 percent of the 'generic carer' workforce. In comparison, support workers account for only 28 percent of the nursing & midwifery core workforce at present. [45 p81]

Education and training

The future of education and training in health is obviously linked to the roles that health care staff will be performing in the future, and so there is considerable linkage between these two topics. Some of the external factors that might affect the future of education and training are:

- information technology (both in terms of changes in the way health care is practised, which will require new training and skills, and its direct effect on how education and training themselves are carried out in the future) [77] [78] [79]
- ethics and ethical issues - for example, providing training and guidance in the areas of genetic counselling and end of life decisions [70] [80] [81]
- European legislation - for example, on working hours for nurses
- multiprofessional working (considered in greater detail below)
- integration between health and social care (also considered below).

The final exogenous factor is broader societal changes that are affecting what health workers do, and what issues they have to deal with. There seems to be a pervasive debate about what issues should be dealt with by a doctor or nurse, particularly at primary care level, prompted by complaints that general practitioners are dealing with more social than medical or health problems. At one level there are calls for primary care practitioners to take a population view of health, rather than an individual patient view [82], which fits with a current policy shift towards public health. At another level, there are articles highlighting the range of issues general practitioners have to deal with, calling for specialist training in certain areas, for example drugs [83], alcohol [84] and mental health [85] [86] [87] [88]. These themes link back to the debate about countervailing trends in primary care. On the one hand, general practice is becoming more specialised in terms of equipment and also through the range of professionals now treating patients in local health centres. On the other hand, however, the small, personal nature of general practice is being promoted through government policy as the great strength of the current and future NHS. Countervailing trends towards generalists and specialists in health

is one of the most interesting workforce trends, and likely to develop further in the future.

Several other themes characterise the literature on future education and training in health. Quality and performance are linked to education and training [89][90][91][92][93]. Improving the communication skills of health professionals is also discussed [80] [94] [95].

Wider issues in education and training concern who will provide it, what it will involve, what qualifications different groups will have, and what they will be able to do with those qualifications. Within nursing, debate centres on higher education, a debate that stretches across from the US to the UK [96] [97][98][99][100][101]. One of the principal future issues is whether nursing registration will become a degree qualification in the UK.

On medical education and academic medicine there were many US sources (for example, [80][102][103][104][105][106][107] on medical education and [104][108][109][110][111] on academic medicine). Reviewing the literature did not produce sources that tackled the future of academic medicine in the UK, although it has been raised as an issue in this futures project. It is probably an organisation and management question as to how academic medicine will be situated in the health service of the future. The issue raises the question of what the role of the academic medic will be in the future, a topic that requires more detailed discussion and debate than is possible within this general overview of workforce issues. One factor that might influence this question is the relationship between academia and industry in the areas of biotechnology and genetic research.

More UK sources consider the future of medical education [112][113][114] [115][116][117]. McManus and Lockwood [115] are critical of the neglect of medical education and training. In 1993, the then Chief Medical Officer set out his vision for the future of medical education, which included the recommendations that:

• a list of core competencies be developed for each stage of medical education
• the length of time in training be shortened
• the content of medical education be changed, with greater emphasis on public health, nutrition, communication skills, management and ethics
• medical education be more closely related to outcomes, through audit.

The issue of interprofessional training - equalising training between sectors such as health and social care - is an important futures issue. In *Partnership in Action,* the government has announced plans for the integration of health and social care services at a local level from the year 2000 [118]. The document sets out plans for joint working at the levels of strategic planning, service commissioning and service provision for local health and social care services. There will be pooled budgets for local services, lead commissioners for some services, and integrated provision arrangements. There are plans to introduce legislation to allow the changes to statutory functions. It is envisaged that

there will be local agreement on which agencies will take 'the lead' on health and social care. There are considerable implications for training, staffing and joint working in the future.

Partnership in Action says little on the subject of education, training and development. It does state that 'the workforce will increasingly undertake joint working, particularly in areas such as mental health and learning disabilities, and will need to develop the appropriate competencies' [118 p32]. The report suggests that this will be achieved in part by 'working with employers, education providers and health and social care professions' to ensure opportunities and education for staff [118 p32]. Planning guidance will be offered to ensure workforce education and development. The report cites 'Education Consortia' and 'Regional Educational Development Groups' (PvEDGs) as having a key role in training, development and education. Finally, the report states that further work is required to produce information on the workforce and workforce needs across the boundary [118 p33].

There will be a great deal of work required to integrate the education and training of staff in health and social care, where there are at present institutional and professional boundaries.

Productivity and performance

It is not possible within a general discussion to present any kind of detailed analysis within this area. The health system covers many organisations, many forms of service delivery, and many specialisms to include in the debate. National data on productivity and performance are often used politically, and based on imperfect information. In terms of policy, waiting lists or waiting times are seen as the primary indicator of performance. The current Labour government has committed itself to reducing waiting lists through its manifesto pledge, and has set aside money for the health service in order to do so. However, the construction of waiting lists, and consequently their reported reduction, are hotly contested by national medical and political journalists.

In general the health service is criticised for measuring inputs and throughputs without focusing on outcomes. Alternative suggestions to waiting lists, and other health performance data, are discussed in the literature (for example, [119]). Current measures do not seem to identify if the treatment has finished, or whether a patient has been re-admitted. In addition, the health service does not readily provide the comparative utilisation data that exist in private health care systems. At a macroeconomic level, the health service might be seen to be comparatively efficient, operating its system at only 7.1 percent of gross domestic product (GDP). At the individual staff level, doctors and nurses report that they work longer hours, and see more patients, for similar pay. At the level of the patient, the Patient's Charter was intended to provide NHS customers with information on performance. In reality, it measures peripheral elements, rather than the core business of a hospital or centre.

It is relevant to note for the future that both 'The new NHS' [120] and the consultation document *A First-Class Service* [121] focus on quality and performance in the NHS. The National Institute for Clinical Excellence, The

Commission for Health Improvement and the system of clinical governance are likely to be important instruments of workforce quality and performance.

In their report, the authors of *The Future Healthcare Workforce* make some interesting observations and proposals about productivity, which have implications for future workforce issues [45]. First, it is widely accepted that there are variations in productivity across the health sector. Second, the National Morbidity Study found that over 30 percent of GP consultations are 'trivial' and do not need the assistance of a doctor (cited in [45 p101]). Third, management is comparatively small, and low cost, constituting 3.5 percent of total NHS staffing and 4 percent of costs, although there are variations across organisations [45 p102]. Fourth, there has been considerable growth in administrative and clerical staff in the NHS since 1984, so that this group now constitutes 20 percent of the NHS workforce. The report outlines several strategies for increasing productivity in the future, which involve largely the substitution and alteration of staff roles - for example, the development of generic roles (outlined earlier in this paper), using support staff to increase professional time in direct care, substituting other clinical or non-clinical staff for the junior medical workload, and creating enhanced roles for non-medical personnel in primary care [45 p103].

Individual experience of work

Currently, the issues and trends discussed within people's experience of work in the published literature on health tend to be negative, drawing attention to increasing factors like stress, violence, workload, and absenteeism. The incidence of violence against NHS staff is now included in performance targets, which will be part of the government's human resources strategy. Sick absence amongst NHS staff was highlighted by recent research undertaken by the Nuffield Trust. Their report, *Improving the Health of the NHS Workforce* [122], arose from a partnership of stakeholders representing the spectrum of NHS staff, who commissioned a review of published material on the issues of the health of the NHS workforce. The research found that, although most NHS staff do enjoy good health, there is a considerably higher incidence of ill health in the NHS workforce than in other occupations. Whilst the industry average is 3.7 percent sickness absence, the report says that the rate in the NHS is 5 percent, costing the NHS more than £700 million per year [122 p24]. Some of the documented sources in the Nuffield Trust report focus on psychological ill-health throughout the NHS workforce, with the finding that 27 percent of health care staff report high levels of psychological disturbance, compared with 18 percent of working people generally [122 p16].

Fatigue, stress and psychological ill-health were also found in this literature review despite the use of only general key word search terms [123][124] [125][126]. Workloads and stress are factors raised in literature about the state of the different health professions. Increases in workload and hours worked are reported across the professions. The overall picture of the experience of work in nursing is portrayed as bleak by the media and the nursing organisations. Recruitment problems in nursing are cited as a manifestation of these negative factors. Stress amongst young doctors is a common theme from corresponding medical organisations. Recent research that examined stress

amongst recent medical graduates found that the demands work places on personal life, excessive workload and long hours were primary causes [31 pii] [123][124][125]. Measures to avoid stress were focused on changing the working environment - for example, by adhering to appropriate guidelines regarding staffing levels and locum cover.

In terms of violence against staff, a review of the evidence suggests that violence is increasing, is underreported, is most likely (outside psychiatric wards) to occur in accident and emergency departments, and is most likely to be perpetrated against nurses [127][128][129][130][131][132][133][134][135] [136][137][138][139][140][141]. Many of the nursing journals had recently carried editorials, reports and research findings about violence at work [127] [130][131][133][134][135][136][139][140]. Both a survey published by the Royal College of Nursing and the *Nursing Times* recently highlighted the extent of verbal abuse and personal insults suffered by nurses from patients (cited in [142]), and in the same week a study by the public service union UNISON found that 70 percent of health workers had been attacked or threatened in the last three years. Much of the published literature concerns violence involving psychiatric patients, but there are recent studies that focus on violence in accident and emergency departments [128] [134] and there are studies from the US that have looked at violence elsewhere in health care settings [132].

Published studies have not focused on the increasing incidence of violence over time, but point out that underreporting is a problem. As with other workforce data, compiling aggregate statistics was hindered by the devolved structures of NHS trusts. As well as violence against nurses, one recent study investigated the incidence of violence against GPs in Ireland [137]. Finally, studies do not rule out violence that is perpetrated by *colleagues* rather than *patients* [139]. For the future, increasing patient expectations, pressures on the health service, and greater nursing involvement with first point contact with patients in a primary care setting through NHS Direct suggest that violence against health care staff may be an important future workforce issue. In terms of government policy, the Health and Safety Commission published a document in 1997 entitled *Violence and Aggression to Staff in Health Services* [141]. At the end of October 1998, Health Secretary Frank Dobson launched a joint RCN/NHS campaign to stamp out violence, which includes guidelines and collaboration with the Home Office to ensure prosecution of offenders.

The final factor that was raised in a consideration of future individual experience of work in health was the effect of technology on the work of health professionals [143][144]. (Technological developments are considered in more depth in paper no. 4 in this series on science and technology.) The government recently launched its IT strategy for the health service. The implications of technology on the health workforce are too numerous to consider here. They range from developments in surgical techniques, which have implications for what surgeons and the surgical team can do, to telemedicine or telehealth, which allow consultation and procedures to be carried out away from the patient, to the impact of IT on how patient information is recorded and utilised, on evidence-based medicine, and on

managing data systems across hospitals, primary care and community health settings.

CURRENT AND FUTURE POLICY

Current government policy

Changing professional boundaries, interagency working and flexibility are key policy terms for the current and future health workforce. In September 1998, the NHS announced its human resources strategy for achieving the modernisation of the health service with a consultation document, *Working Together: Securing a Quality Workforce for the NHS* [145]. Flexibility, diversity, skills, planning, recruitment and retention are subjects for consultation. The document outlines the values of NHS staff as fairness and equality, flexibility, efficiency and partnership. As we discuss later in this paper, greater collaboration between health and social care are planned [118]. Policy will have to address the education and training implications of the new arrangements. A national 'HR [human resources] in the NHS' conference took place in early 1999.

The Scottish Office also released its first ever human resources strategy in April 1998, *Towards a New Way of Working: The Plan for Managing People in the NHS in Scotland* [146]. Scotland, like Wales and Northern Ireland, is responsible for organising and managing its own health services. It is interesting to compare the English and the Scottish human resource strategies as policy documents because they tackle what will be quite similar future environments in different ways.

There are some common features in the English and Scottish policy documents. Values and flexibility feature in both. However, in both substance and approach, there are useful comparisons. *Working Together* presents a strategy for human resources. It is written from the viewpoint of the centre of the NHS; it is a 'top down' approach to policy. It presents human resources as a capability that the NHS must have in order to achieve the targets that were presented in 'The new NHS' [120]. So, measures of quality and performance are emphasised; they are 'expectations' that staff in the NHS will have to deliver on. Similarly, values of fairness, equality, flexibility, and efficiency are identified, which organisations within the NHS must adhere to. Skills development, equality of opportunity, positive and sensitive management are examples of good practice within the new strategy. Overall, *Working Together* is a policy framework; 'it must be addressed by all NHS organisations' - 'it' is something for organisations and staff to follow [120 p5].

The Scottish paper takes a different approach. In its Forward, the paper emphasises modernisation and service delivery [146]. It suggests that human resources is about a system and consequent processes, rather than an objective; terms like 'the workplace', 'employers', 'staff and 'the workforce' are used to identify the different groups involved in the system. These terms recognise people's different positions within the NHS system. Above all, the policy document is written from the viewpoint of the workforce, from the 'bottom up'. *Towards a New Way of Working* begins by outlining the 'rights and

responsibilities' of the workforce. In contrast to the conceptualisation of a framework in which the NHS will work, it presents an implicit 'contract' between the workforce and the NHS. Within that contract, the paper talks about education, training and development. The Scottish paper discusses the issue of workforce planning, which has been described in this futures review of workforce issues. Its Integrated Workforce Planning Group will consider:

- the long-term view of health care needs and workforce demands
- overlap with other organisations providing health and social care and the impact on the workforce
- changes in relationships between and within the professions providing healthcare [146 p17].

Finally, the issue of pay is considered as an issue in the Scottish paper, but is devolved to the Pay Review Bodies in the English paper.

Policy implications

There are several implications for future workforce policy that stem from this review of trends and issues. First, there is a current overemphasis on workforce planning in terms of numbers of doctors and nurses that are required in the future health service. Several sources have highlighted deficiencies with this approach. Overall it seems to be a fairly blunt tool to deal with the complexities of staffing the future health service. In addition to specific changes to planning in terms of flexible working, increasing part-time workers and female doctors, a review of sources questions the feasibility of delimiting a future 'NHS labour market', and the consequent limits on aggregate workforce planning. There may be alternatives: changing what health care workers do, what qualifications they have, how they interact with other professionals and how the NHS employs them. The issue of how training is funded is relevant, particularly the relationship between state funding of training to the limited numbers being trained.

The review has thrown up many policy questions in the area of workforce issues. Do we have solutions to deal with problems of retention and low morale within some workforce professions? One possibility is to introduce greater flexibility in the careers of health professionals. The implications for policy are that future training will need to be integrated within the health and social sectors, and there will need to be discussions about the role of the professional, and what work professionals will be doing in the future health service, in order to decide their training needs. Some options might be multidisciplinary training in health, continuous professional education, and implementing lifelong learning in health.

CONCLUSION

The paper has outlined some of the main themes that will characterise the health workforce forward to 2015. The commentary has covered a broad range of topics - from workforce planning and analysing the health labour market to human resource issues and anticipating what the future role of professionals might be. One of the most topical issues to be raised is that of the individual experience of health staff within the NHS. Unfortunately, judging from

published sources and topical debates, the experience is often negative, with attention being drawn to levels of stress and anxiety experienced by the health workforce and the increasing incidence of violence against staff. Broader developments in society and societal problems will impact on what the health service will be and can do for people in the future. They will also affect what the role of staff will be, and their relation to the population they serve. As with other topics within this futures analysis, thinking forward means taking a broader view of health and the factors that will impact on health and health services.

APPENDIX 1

The Future Healthcare Workforce, developed by practitioners and representatives from Manchester University and Conrane Consulting, presents some future workforce scenarios. They are detailed below, beginning with the pressures for change identified by the group.

Pressures for change

- Role demarcations have implications for staff deployment and the provision of cover.
- Narrow roles can have major implications for the continuity of service delivery.
- Different disciplines in community mental health teams tend to gravitate towards a similar workload.
- The employment of staff from a range of professions results in narrower roles and in staff losing confidence in the use of the full range of their knowledge and skills.
- Multidisciplinary teams have a tendency to spend too much time in meetings and co-ordination at the expense of time for direct care. [45 p83]

The scenario for future roles in mental health (community services)

Role outline: New professional role

This role was designed to encompass the work of the community mental health team except where specialist input is appropriate.

Role content

- Co-ordination of services for patients and carers
- Current workload of the community psychiatric nurse
- Occupational therapy
- Patient counselling
- Prescribing and dispensing
- Nutritional advice
- Decision to admit (in line with treatment guidelines)
- Guidance on social service issues such as housing and benefits
- Recording of patients' case histories. [45 p83]

The scenario for roles in the general and acute hospital

Role outline: New professional role

This role was designed to: co-ordinate the service, including the service input of other staff; undertake the majority of the clinical and technical workload; achieve a significant reduction in the workload of doctors, therapists and scientists.

Role content

- Co-ordination of service and of the service input of specialist staff
- Current nursing workload

- Prescribing and dispensing in line with treatment guidelines. Responsibility for stocking and monitoring of drug supplies for patient area
- Majority of current physiotherapy workload
- Majority of current occupational therapy workload
- Majority of speech and language therapy workload
- Electro cardiograms (ECGs)
- Phlebotomy and pathology tests
- X-rays (probably confined to type A)
- Nutritional advice
- Recording of patients' case histories
- Decision to admit and discharge in line with treatment guidelines
- Discharge and transfer letters. [45 p84]

The scenario for future roles in primary care

Role outline: New professional role

This role was developed to provide clinical assistance to the GP but also to carry responsibility for an independent caseload.

Role content
- Independent caseload for specific procedures
- Screening and filtering of patients
- Telephone advice to patients and relatives
- Prescribing in line with treatment guidelines
- Monitoring and care of the chronically ill (e.g. asthma or diabetes)
- Diagnostic tests (ECGs, x-ray and pathology)
- Assistance with minor surgical procedures
- Nutritional advice
- Monitoring of in-patient care for quality and cost-effectiveness
- Main contact and source of guidance for carers
- Health promotion and education. [45 p85]

APPENDIX 2

Several futures reports tackle workforce issues, and some summaries of those reports are presented below.

Occupations in the future

A report from Business Strategies about the future of jobs [5]. Their main finding is that established trends look set to continue. Those trends are:

- A shift from manufacturing to services (new jobs in retailing, finance, catering and health care, and a further loss of traditional manufacturing jobs)
- A rise in the share of jobs taken by women
- A fall in the share of jobs occupied by full-time employees (and a net creation among self-employed and part-timers).

The trend analysis and forecasting by Business Strategies also looks at occupational type and the characteristics of future occupations. They have found that there has been a shift away from traditional manual work - skilled and unskilled - towards office work, especially for managers, professionals and associate professionals. They also note that there are more people than ever providing services directly to the public, like shop assistants, bar staff, waiters and hairdressers. As in other documented sources, the research identifies 'winners and losers' in the recent and future occupational changes, with the 'winners' most likely to be those with transferable skills, including knowledge and intelligence. There is little growth in clerical and secretarial workers, there are losses in skilled craft workers and semi-skilled manual workers, and a growth of women in the labour market.

2020 vision

A report by The Henley Centre for Barclays Life describes work in 2020 [1]. Some features represent the continuation of current trends, such as the growth in self-employed, temporary and also home workers. Other items represent a stylised picture of what work in 2020 looks like.

- Technology-inspired productivity gains mean that most people won't work more than five hours a day.
- People may concentrate their working hours into a three- or four-day week, and spend the extra time at leisure or doing community work.
- Travel will take place in solar-powered, eco-friendly, self-driving cars, along privatised roads employing automated highway systems that control the speed and direction of the car. The wealthy will be able to use the space shuttle for commutes across the globe. Trains will travel at 350 mph connecting the major commuter cities.
- People will begin communicating whilst commuting - personal computers will evolve into personal networks, and virtual glasses receiving wireless digital video will enable individuals to talk to and see people from anywhere, whilst they are travelling.

- A quarter of all workers will operate from home, employed by the hundreds of thousands of virtual corporations. Ten percent of FTSE 100 companies will be virtual corporations in 2020.
- Significant numbers of workers will be temporary or project-based consultants. However, the situation will be consistent throughout the workforce so that people will automatically save for periods when they are out of work. An average employee may experience one month per year without work or pay.
- The labour market, through the Internet, will be more global.
- Many more people will be self-employed in 2020.

21st-century realities

David Mercer discusses the following possible future scenarios that relate to workforce issues [4]:

- Network communication at work results in flatter organisations as people have more information, including those further down the hierarchy. As a consequence, much of the information-transfer role of middle management becomes obsolete. The result is described as 'empowering' for individuals. There is an increase in team working in organisations, with a manager operating as a team leader.
- People are the prime investment of an organisation.
- A reduction in manufacturing employment to the levels of agricultural employment today (Spyros Makridakis, cited in [4]).
- Everyone is IT literate (Pearson and Cochrane, cited in [4]).
- There is a demand for skilled and educated workers, with consequent unemployment for the unskilled and semi-skilled.
- Self-management increases, with new knowledge and flexibility required of individual workers. Organisational structure will change to reflect this, with a movement towards peer-to-peer collegiate relationships at work.
- Changes in skills, education, and employment are a threat to a male under-class.
- Stress results from fear of individuals moving to unemployed and unskilled groups.
- Flexibility results in a lack of job security.
- Changes like increasing job security mean that work is no longer the prime focus of most individuals' lives.
- Increasing individualism and self-awareness. People are able to shift their allegiances because nothing is secure, or to be relied upon.
- Education plays a significant role for.
- There is a change in the nature of work. There are shifting work patterns for people, changing jobs over people's lifetime - for example, what retirement means, and when it occurs.
- Teleworking increases.

The future of work

Charles Handy, writing about the future of work in the mid-1980s, made the following predictions [8]:

- Shorter jobs (he envisaged a reduction from the 100,000-hour job (47 hours times 47 weeks times 47 years) to something like the 50,000-hour job)
- Fewer jobs
- People earning less from their jobs, over their lifetimes
- More people not working for an organisation; increased numbers of self-employed
- Shorter working lives
- More requirements for specialists and professionals
- More importance to the informal, uncounted economy of home and the community
- Different types of organisation; more small businesses, and fewer large bureaucracies
- Smaller earning population; larger dependent population
- Increased demand for education
- New forms of social organisation to complement the employment organisation
- People less defined by their job
- Life is good for the professional, middle classes
- Smaller manufacturing sector in terms of people, but larger in terms of output.

Education, unemployment and the nature of work

Tony Watts presents four future scenarios that relate to work and employment [148]:

- Society accepts that unemployment is inevitable and necessary.
- Machines do our work, and our time is taken up with alternative pursuits.
- We create more jobs in society, using, for example, subsidies. Everyone has the right to work.
- The nature of work changes so that it encompasses more than paid employment.

Redefining work

The Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA) has produced a vision of work in 20 years' time [3]. In its report, *Redefining Work,* it suggests that work in 2018 will contain the following:

- There will be few fixed boundaries between sectors (public, private and voluntary)
- More people will work for themselves, with less distinction between employed and self-employed.
- Boundaries over retirement will shift.
- More work will be centred on knowledge.
- Work locations become more flexible, including more 'virtual' organisations.
- Mobility in jobs will increase - for example, technology will make the skilled globally mobile.

The RSA also points to the policy implications of this future world. In some ways, the emphasis is that of Tony Watt's 'work' scenario above: government needs to create employment, and it needs to recognise that work comes from different sources. It also advocates education and lifelong learning. Other policy proposals from the project include: employment services for what are described as 'complementary workers' (the increasing number of consultants, specialists, and contractors who carry out organisational work); career management services for individuals; changes to tax, insurance and pensions to reflect the flexibility in people's working lives; recognition for unpaid work; changes to education to reflect future competencies; individual accountability and responsibility; and new relationships between individuals and employers, with a change from the current employment contract.

Overall, the future world of work is likely to be fragmented, flexible, varied, and unpredictable. Work is increasingly part of the enhanced life choices that individuals make in life. The world of work is full of opportunities. It also means increased responsibilities for individuals - to plan, to take responsibility for their training, to manage their careers, to enhance their skills. With change come pressures, and the consequence of some people being excluded from the new model. Like many other forward views of the world of work, technology - information and communication technology - is the key driver in the RSA's vision of the future of work. Its consequences require action by government now to anticipate the future. Education, benefits, pensions and taxation are ways in which government can prevent the spread of inequalities between the technology 'haves' and the technology 'have nots'.

APPENDIX 3

METHODS

Future Trends database A search was conducted using the 'Future Trends' database from the Organisation for Economic Co-operation and Development (OECD). The search strategy used 'workforce' as a search term. The database produced 166 hits, of which 57 were highlighted and saved in a word document. They cover the UK and some international and global perspectives as well. Few of the sources are specifically about the health workforce (only one US publication); however, they provide the context of work in general, which will affect the health sector like any other. The sources were all futures specific. They were incorporated into this paper.

Futures literature A search was conducted of the futures literature, the health literature, and the workforce literature, including keyword searches and relevant journals - for example, *Futures, The Futurist* and *Futures Research Quarterly.*

BIDS database A search was conducted of the BIDS database using its social science and science citation indexes. The search strategy used relevant keyword searches on entries from 1996-8. Keywords were (searches consisted of individual searches, and various combinations of the following keywords): performance, culture, organisation, work, skill, doctor, medical, nurs*, recruit*, training, education, productivity, pay, labour market, NHS, workforce, resource*, human, health, future. A similar search strategy was applied to Medline, 1996-9, using keyword searches.

Future-orientated references A search was conducted of Dawson, Sutherland and Dex (1996) *Review of Workforce Issues in Health Care in Britain 1992-1995* (for further details see [147]), searching specifically for future-orientated references. Forty-six relevant references were pulled out from a total of 911 in the database.

Regard database A search was conducted of the Economic and Social Research Council's Regard database to see what workforce issues are currently being researched.

Journals Specific journals searched included: *labour Market Trends* (incorporating *Employment Gazette); Fiscal Studies; Work, Employment and Society; Evaluation and the Health Professions; Nursing Research; Nursing Times.*

FIGURES AND TABLES

Figure 1 The ageing nursing workforce (Great Britain)
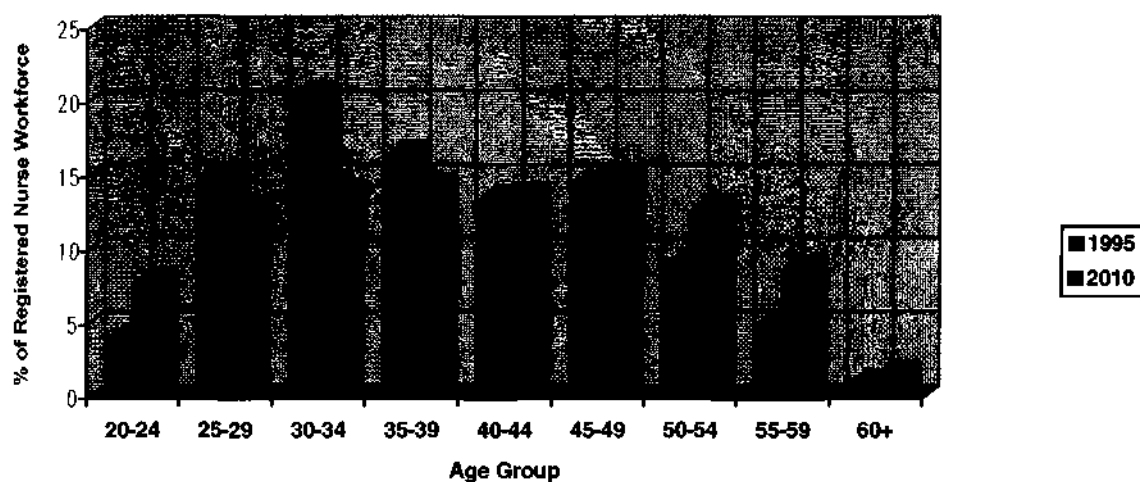
Source: Adapted from J Buchan, I Seccombe and G Smith *Nurses Work: An Analysis of the UK Nursing Labour Market* (Aldershot: Ashgate, 1998) [40 p115]

Table 1 Trends in doctor numbers in the UK

	1976	1986	1996	Growth rate p.a. 1976-96
Total number of doctors in the NHS	71,220	85,160	102,610	1.8%

Source: Medical Workforce Standing Advisory Committee 'Planning the medical workforce', third report, London, Department of Health, 1997 [25]

Table 2 Doctors' career preferences in 1997

	Total	% Men	% Women
Hospital	341	57	43
General practice	96	31	69
Public health	1	-	100
Research	7	43	57
Hospital and research	6	50	50
Undecided	44	45	55
Career outside medicine	11	55	45
Total	506		

Source: BMA Health Policy and Economic Research Unit 'The workforce dynamics of recent medical graduates', a report from the BMA cohort study of 1995 medical graduates, London, (1998) [29]

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