Women and medicine

THE FUTURE

Summary of findings from
Royal College of Physicians research

June 2009
The Royal College of Physicians

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Foreword

Statement from Professor Ian Gilmore, President, Royal College of Physicians

The Royal College of Physicians is pleased to publish this report, Women and medicine: the future. The work was commissioned following heightened interest in the increasing number of women entering the medical profession at undergraduate level, and associated concern that the organisational implications of this trend were not well understood. The College is indebted to Professor Jane Dacre for steering the work through to a successful conclusion.

The material contained in the report is the result of two years’ painstaking collation and analysis of a comprehensive data set relating to various aspects of a medical career – entry, choice of specialty, and modes of working. The results suggest that the main area for further policy development should encompass workforce redesign to enable the rising numbers of women doctors to be incorporated into the workforce in an effective and productive manner.

The aim of the report and its recommendations is to guide the profession and policy makers towards the development of a high quality workforce – one that makes best use of the considerable talent available in today’s medical profession.

The research is presented in two forms: a ‘long’ report containing a full analysis and description of findings; and this ‘short’ version, setting out key factual findings, along with five recommendations. Both versions are available for free download from the College website.

I commend the quality and thoroughness of this work and trust that it will be a stimulus to debate in the months to come.

Further information about the research and its dissemination can be obtained either from Professor Jane Dacre [j.dacre@medsch.ucl.ac.uk] or Dr Susan Shepherd [sue.shepherd@rcplondon.ac.uk].
Supporting statement from Mr John Black, President, Royal College of Surgeons

I welcome the publication of the Royal College of Physician’s report on Women and medicine. It provides a thorough, independent, and objective analysis of the profound changes now underway in the composition of the medical workforce. It also demonstrates how much the profession has already shown an impressive capacity to adapt. The research provides compelling evidence and a wealth of insights on factors influencing the specialty preferences of doctors in training. The findings dispel a number of myths about the profession, and underscore its commitment to meritocratic working practices.

All these factors point to a new agenda: the need to understand the organisational and economic implications of the increasing share of women in the profession; how this trend will interact with technological and clinical innovations; and how these will be affected by the implementation of the European Working Time Directive. In adapting to all the changes to working practices that we may need to consider over the next few years, the guiding principle is, nevertheless, clear. It is to maintain the best possible patient-centred care. I therefore hope that the profession as a whole will unite behind the recommendations contained in this report.
Introduction

Today more than half of all new medical students are female. Compared with the early 1960s, the number of men entering medical schools each year has doubled: but for women the number has increased by a factor of ten. Further along the career path, women form a majority – sometimes substantial – of the annual training intake into most specialties. Women already make up 40% of all doctors and 28% of all consultants. As the demographic change now underway works through to consultant level, women are likely – on present trends – to become the majority of general practitioners (GPs) by 2013, and the majority of all doctors sometime after 2017.

This rapid increase in the share of women doctors has implications for the profession as a whole. These are examined in detail in our full report, Women and medicine: the future, prepared on behalf of the Royal College of Physicians (RCP) by Dr Mary Ann Elston.* This summary highlights the major findings from this research and sets out five recommendations for policy makers and the profession.

Findings

Two findings from our research are of central importance. First, the far greater preference of women doctors, compared with men, for part-time or other forms of flexible working. Second, women doctors’ comparative preference, on average, for working in specialties that offer more ‘plannable’ working hours and a relatively greater amount of patient interaction. These preferences will affect the future organisation and delivery of patient care. Preserving the highest quality of care with an increasingly part-time workforce will be challenging, and will need innovative workforce planning and financial modelling.

This points to the need for a new agenda for thinking about the impact of rising numbers of women across the profession. The main challenge ahead is no longer


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barriers to entry or delays to the career progression of women. It is to ensure that the increasing proportion of women is effectively, economically, and fairly incorporated into the workforce for the benefit of patients. The demographic shift that is mapped in detail in our full report is still in its early stages. As it proceeds, there will be a need to put in place organisational structures and employment practices that are well designed to anticipate this change. The growing proportion of women doctors is changing the nature of the delivery of medical practice and that brings with it challenges as well as advantages. The profession would be failing in its duty to patients to ignore such concerns.

The RCP full report is the result of a major research exercise over the last two years. Its coverage is comprehensive and its analytical approach is rigorous. It pulls together available data from this country and some comparable data from abroad to create a snapshot of a moving picture. It raises some awkward and difficult questions. Many of these are tackled in the report itself, through careful study of the available evidence. The main unresolved issues are set out for further investigation as part of the report’s recommendations.

1 Changing trends in entry to the profession
[see also Trends in entry to the profession, page 23 of full report]

In 2007, women made up 57% of both applicants and acceptances for medical school in the UK (Fig 1). The proportion has stabilised in recent years, falling back from 62% in 2003. On current trends, projections that women may come to make up 70% of the profession are unlikely to be fulfilled. But women are likely to become the majority of NHS GPs by 2013 and the majority of all NHS doctors sometime after 2017. That could happen more quickly if, as expected, the number of international medical graduates from outside the European Economic Area working in the NHS falls substantially in the next few years.

Applications for medicine from white males are lower than might be expected from the proportion of the population they comprise. They make up 40% of all school leavers, but in 2007 made up only 25% of applicants and 27% of medical school acceptances. Ethnic minority acceptances have risen steadily to one in four of the total, with the balance between men and women roughly equal.
Entry standards to UK medical schools have remained exceptionally high. In recent years, medicine has had the lowest acceptance rate (ie highest competition for places) of all subject groups, as measured by the Universities and Colleges Admissions Service (UCAS).

At the next career stage both the number and proportion of female medical graduates have been rising since the 1960s. The time lag between qualification from medical school and senior appointment, however, means that this increase is not yet fully reflected in the more senior ranks of the profession. Women currently make up 40% of all doctors, 42% of GPs, and 28% of consultants.

The future impact of this increasing female share of the profession is illustrated clearly in Fig 2. This compares the current proportion of female consultants by specialty with the incoming flow of female doctors embarking on specialty training. In 2007, women accounted for over 60% of specialist training (ST) acceptances into general practice, and higher shares into paediatrics, public health medicine, and obstetrics and gynaecology. It is also worth noting that women now account for more than half the inflow into emergency medicine and anaesthetics.
2 Choice of specialty

[see also Specialty preferences and choices, page 42 of full report]

Medicine is distinctive among the professions in its rich variety of career choices. Within the UK it is organised into about 60 specialties. The number of posts available in each specialty varies considerably according to developing service needs. The current pattern of service 'demand' is shown in Fig 3. A detailed analysis of trends in the relative size and growth rates of the specialties is set out in the full report.

Different specialties attract individuals with different aptitudes and abilities, demand different working practices, and offer different forms of professional fulfilment. Moreover, specialties can experience significant change in a remarkably short time due, for example, to improved technology and new service delivery requirements. As a result, career opportunities and competition may change rapidly. This makes the planning of workforce needs ten to fifteen years ahead at best an inexact science. Since moving from one specialty track to another carries penalties, this underscores the
need for trainees to make well informed decisions on their preferred choices based on a realistic appreciation of the distinctive characteristics of individual specialties.

- The framework used to describe career choice adopted in the full report divides the major specialties into four quadrants of a matrix (see Fig 4). This is designed to capture broad distinctions between specialties on two dimensions. First, on the horizontal axis, the extent to which the clinical workload is relatively ‘plannable’ or relatively ‘unpredictable’. Second, on the vertical axis, the extent to which specialties have a greater orientation towards technology as distinct from a relatively greater orientation towards interaction with people. Doctors practising across all specialties are of course equally patient oriented – that is what gives medicine its enduring vocational appeal.

- The value of the framework – developed independent of specific preferences of male and female doctors, and drawing on a substantial body of academic work – is to draw attention to the intrinsic, objective features that
Some fields of medicine fall more clearly into a particular quadrant. Pathology, for example, is a technologically oriented specialty, with comparatively controllable working hours. Psychiatry too offers a relatively plannable workload and a relatively strong emphasis on interaction with people. General practice is a more plannable specialty.

For other fields there is considerable variation within a specialty that can place specific subspecialties into different quadrants. Much gynaecological work (as distinct from obstetrics) for example, might be located in the top left quadrant. Similarly, within the medical group, rheumatology or dermatology might be located on the left of the matrix, with cardiology and renal medicine – subspecialties with the least predictable and most acute workload – located in the lower right quadrant.

Another example is surgery. General surgery as a whole might be placed in the lower right quadrant. However, those practising breast surgery are less likely to be involved in emergency work than gastrointestinal surgeons. The
The current distribution of female consultants across the different specialties shows that those specialties on the left side of the matrix have a much higher average female share than those on the right. This reflects the fact that, on average, these specialties offer relatively more plannable working arrangements. The specialties in the top left quadrant have the highest share of female consultants. These typically combine plannable workloads with a comparatively high proportion of interaction and communication with people.

Among younger consultants aged under 45, clinical genetics, dermatology, palliative care, and genitourinary medicine make up four ‘medical group’ specialties where a majority are female. All are high patient interaction, relatively plannable areas of medicine.

In the medical group specialties with the least predictable and most acute workload – gastroenterology, cardiology, and renal medicine – fewer than 25% of these younger consultants are female.

In surgery among younger consultants only just over 10% are female: for trauma and orthopaedics, the percentage is under 5.

The matrix provides valuable predictive insights. Individual specialties will shift their location if their intrinsic features change. For example, organisational changes are moving the workload in some specialties (such as parts of anaesthetics and emergency medicine) towards more predictable working patterns, although the clinical challenges may remain unpredictable and the hours are not standard ‘office hours’.

This analytical framework proves a tool for examining differences between male and female first-choice preferences at point of entry to specialist training, as illustrated in Fig 5. This shows the specialties falling into three distinct categories in terms of their respective current appeal to male and female doctors. First, there is a category that clearly appeals differentially to women. This includes general practice and paediatrics, where the difference between male and female first choice preferences is considerable. By contrast, there are two specialties, radiology and surgery, that appeal differentially to males. The third category, the
remaining specialties, appears to have similar appeal to both male and female
doctors, although not necessarily for the same reasons.

- This differential pattern of female preference for particular specialties is not
  just a UK phenomenon. These ordinal preference rankings are closely
  matched internationally across a range of diverse healthcare systems.

- Looking ahead, as the increasing share of women doctors moves through the
  tenure levels, it will be important for workforce planning purposes to
  attempt to predict how far individual specialties are likely to change their
  intrinsic working characteristics and become relatively more or less
  appealing to women.
3 Modes of working

The great majority of NHS doctors, both men and women, still work full time. Overall, only about 15% are currently on part-time contracts. Few men work part time. But in the hospital sector 8% of men and 21% of women are on part-time contracts. And at consultant level, 30% of women consultants are part time. Consultants on part-time contracts are more frequently found in those specialties on the left-hand side of the matrix where the nature of specialty work, on average, is somewhat more plannable (Fig 6). Thus in radiology, ophthalmology, psychiatry, and the medical group of specialties, 35% or more of women are part time. The proportion rises to 44% in public health. In general practice, 49% of women are already part time, but just 12% of men.

- The matrix shows the current situation. Across the NHS, 43% of all women doctors are under the age of 35, so many will not yet have started families. And the proportion of women of child-bearing age will rise sharply in the next decade as the larger cohort of women medical students graduates.
There is some evidence that compared with 20 years ago career breaks to have children are occurring later, when women have completed much or all of their specialist training. Such developments will have potentially important implications for future service capacity.

- Follow-up of past cohorts for 15 years after graduating suggests that after taking into account career breaks and less than full-time working, women on average provide 60% of a full-time equivalent doctor, against 80% for men.
- So far, however, there is no evidence to support the widely held view that women are more likely than men to leave medicine entirely, creating a pool of ‘wasted’ talent. This is an important finding. If the profession can maintain its current low attrition rate this will make a valuable ongoing contribution to future capacity within the service.

4 Leadership

[see also Advancement and leadership capacity in medical careers, page 105 of full report]

In recent years, in part thanks to a big expansion in NHS spending, the prospects of achieving a consultant post have been high for both men and women. Attempts to plan for the number of consultants judged to be needed, quotas for specialist training and more coordinated training have, despite some difficulties, produced a relatively smooth transition to consultant status. Looking ahead, on current trends this should lead to a considerable increase in the proportion of female consultants over the next decade, given that they form a majority of entrants now embarking on specialist (ST1) training in the majority of the specialty groups (Fig 7).

- Women already account for 47% of the very small number of early appointed UK-trained consultants aged between 30 and 34.
- This situation contrasts sharply with some other professions such as law or accountancy. The major commercial law and accountancy firms operate a deliberately high-attrition career model with large numbers of entrants competing intensively for a limited number of partnership positions. Working part-time while on this highly competitive career ladder is seen to be a major impediment to career progress. By contrast, working reduced hours has clearly been compatible with holding an NHS consultant post in many specialties.
Even having achieved consultant status or becoming a principal in general practice, there is still an elite peak of advancement in a medical career. Attaining such positions typically requires a single-minded commitment to professional success. By definition, only a few can succeed in gaining these positions.

Unfortunately, data on the proportion of women in such leadership positions, not least at clinical director level within NHS trusts, are scanty and hard to acquire. In some areas too there are methodological difficulties such as the significance of the proportion of women on college councils where the numbers are small and subject to chance variation.

What is more, these data reflect the legacy of male dominance in entry to medicine until the 1980s. Women account for fewer than 20% of the entire pool of consultants over the age of 55 – the group of older consultants who are most likely to occupy these senior positions currently.

Nonetheless:

- There are very few women doctors on NHS trust boards as medical directors.

Fig 7. Female share (%) of ST1 acceptances by specialty (2007). (Source: main report, p64.)
Very few women chair the professional executive committees on primary care trusts. Rather more women are directors of public health.

All the medical royal colleges had women on their councils in 2008, although in some cases the numbers were small. Four had more than a third of female council members, all in specialties with high numbers of women consultants. None of the surgical royal colleges has had a female president, but six of 18 royal college presidents were female in 2007 and ten have had at least one female president.

In 2007 only 12% of all clinical professors on university contracts were women. In 2006, six medical schools had no female professors. Just two out of 34 medical school deans were women.

Implications

These are the facts. What are the implications?

A first concern is future workforce design. The distinctive focus of this report has been to examine and understand in more depth the impact on medicine as a whole that will result from the rapidly rising proportion of female doctors across the profession. This profound change in the workforce mix will bring organisational challenges. These may interact, sometimes unpredictably, with other changes to working practices, arising from technological and managerial innovations.

There are some genuinely difficult issues that need to be faced. Unless current trends change, women doctors are likely to continue to work part time in large numbers; to focus on particular specialties; and to take more time off during a career than doctors as a whole have traditionally done in the past.

The growth in part-time work may also impose increasing organisational complexity if full-time doctors, female as well as male, begin to feel that their goodwill and availability are being overstretched by the demands of others who want to work flexibly.

These factors have implications for patients, for the organisation of NHS work, and potentially for the quality of patient care. However, the problem should not
be over-stated as most consultants who work part time appear to do the equivalent of at least three days a week for the NHS. But if current trends continue the health service will get a lower average economic return in terms of a full working life from the doctors it trains. More doctors will be needed to provide the same amount of cover.

A second concern is leadership capacity. Achieving the elite leadership positions occupied by a very small minority of the profession has traditionally required more than full-time working: a heavy out-of-hours investment in extra activities – attending meetings and conferences, preparing and making speeches and presentations – and often, particularly in the early stages of an academic career, finding time to do research on top of a clinical job. The triple requirements of research, training, and patient care are hard enough to achieve even with full-time working and still more so for those on less than full-time contracts.

Career breaks and more part-time working may therefore make it less likely that women will rise to the top in proportion to their increased entry. If proportionately fewer women pursue a full-time or more than full-time commitment, will the senior echelons of medicine be made up of the ‘best of the best’ or merely the ‘best of the rest’? If the latter becomes the case, the quality both of academic research in the UK and of medical leadership could suffer.

These concerns can be over-stated. Women may be set to become the majority of the profession within a relatively few years. However, the profession is appreciably larger than it was, fuelled in part by the rising output of medical schools. The number of male students is rising. In 2007, there were almost 1,200 more male medical students accepted than in 1996, alongside the 1,760 additional female medical students. So there is a bigger overall pool from which talent can be drawn. For these reasons our report indicates that adequate leadership capacity at clinical service level looks assured for the foreseeable future.

A third concern is the future development of the consultant role. The thrust of current healthcare policy is to create consultant-delivered healthcare in hospitals. The growth of part-time and flexible working, however, may encourage the development of a two-tier consultant structure which could put doctors on those contracts – overwhelmingly women – at a disadvantage.
For good reason the profession will want to avoid such a development. It would
have the potential to be divisive and to undermine shared professional identity. It
will be particularly important therefore for doctors to have realistic advice on the
intrinsic working requirements of individual specialties, the extent to which
these can be changed without compromising the quality of patient care, and the
resulting career implications for pursuing part-time and flexible working
options.

The facts that emerge from this research do not suggest an immediate crisis in
either recruitment to traditionally male-dominated specialties such as surgery, or
in medical leadership. They do suggest that there may be challenges ahead which
could affect patient care and that more than the addition of extra creches or
more flexible child care will be needed to respond to these challenges.

Recommendations

The following recommendations are intended to help policy-makers address
these issues.

1 Examine requirements for workforce design

Female doctors’ preferences, on average, for different types of work and different
modes of working from those of men have implications both for day-to-day
management and for long-term workforce needs. The impact should be reflected
in future organisational re-design. Our research highlights two factors of
particular significance:

- The much greater preference of female doctors, compared with their male
colleagues, for part-time or other forms of flexible working. Whether or not
in future more men also opt for part-time contracts, the potential risk of an
organisational tipping point being reached cannot be discounted. The higher
the proportion of part-time and flexible working, the more challenging it
will be to manage the resulting organisational complexity. At what level of
part-time/ flexible working patient care might be compromised is currently
an organisational unknown.
The comparative preference of female doctors, on average, for working in specialties that tend to offer more plannable working hours and a greater amount of patient interaction.

The research reveals that although the proportion of women will increase substantially across all the specialties over the next ten years, the full implications of these working preferences – which are matched internationally – have not been adequately recognised and acknowledged.

The organisational implications of changing workforce patterns and preferences with respect to working hours and specialty choices should be urgently examined so that the effective delivery and continuity of patient care is not compromised.

2 Investigate economic implications of changing workforce patterns

The funding consequences of a potentially substantial increase in part-time and other forms of flexible working require detailed analysis so that the level of possible future budgetary commitments can be better understood.

- Detailed analyses will be needed – using varying assumptions – to explore the impact of changing trends in such factors as: annual participation rates; male/female lifetime participation rates; clinical activity rates; and the organisation-wide complexity costs arising from part time/flexible working arrangements.

- In parallel, it will be essential to investigate the interaction of this demographic shift with the full application of policy initiatives such as the European Working Time Directive, the drive to introduce consultant-delivered healthcare, and the organisational proposals for a high quality workforce in Lord Darzi’s Next Stage Review.

The economic impact of changing work patterns and their interaction with policy initiatives already underway needs to be evaluated.
3 Address critical information gaps

The research has highlighted the need for far more comprehensive sequential (as distinct from episodic) information to be regularly collected as standardised metrics on many key aspects of changing workforce demographics.

- Specifically, there is a need to strengthen the adequacy and accessibility of cross-sectional and longitudinal data on the working patterns of doctors. Far more accurate data are required, by specialty, on: those working part time and on other flexible contracts; patterns and average timing of longer career breaks; and advancement and attrition by cohort and specialty.
- More information and research are also needed on entry to the profession, especially on factors influencing the level of male applicants.
- Much of this statistical analysis will require far closer coordination between the multiple agencies currently responsible for data provision.

To gain timely, rigorous and systematic insights into the implications of the new workforce trends, critical information gaps must be filled with some urgency.

4 Strengthen workforce planning and modelling

The trends identified in this research point to the need for innovative approaches to longer-term workforce planning and modelling of service capacity to reflect the changing proportion of male and female doctors.

- In particular, the implications of differential working preferences of women and men over their career lifetimes should be modelled to test sensitivities with respect to changing average participation rates, the scope for further extension of part-time options, and the core requirements for continuity of patient care.
- Analysis is needed to investigate the longer-term impact on the balance of supply and demand across individual specialties and on total service capacity. As part of this, given current differences in international medical graduates’ (IMGs) working patterns, the impact on capacity of projected
IMG inflows and exits under different policy assumptions also requires modelling.

**The scope and detailed coverage of workforce planning needs to be extended and its analytic methods upgraded to take full account of the demographic shifts now underway.**

5 Enhance career guidance and feedback

New, more revealing types of information on the differing characteristics of individual specialties – their intrinsic skill requirements, their typical working arrangements, and their likely future development – need to be set out and explained to medical students before they select their preferred specialty training paths. The inevitable uncertainties in forecasting long-term demand by specialty need to be communicated.

► More guidance should be given to help trainees achieve a sound assessment of the relative competitiveness of entry to different specialties. This will encourage realistic decision-making on preferences, especially with regard to the implications of pursuing part-time/flexible career paths.

► There is also a need to ensure that at later career stages appropriate counselling and feedback can be offered, especially for women doctors, on the development of leadership skills, and on the commitments required for attaining the highest levels within the profession.

**Individual doctors at each stage in their career – and especially at the point of selecting their preferred specialty – should be provided with far more extensive information, guidance, and feedback on their career choices and aspirations.**