A decisive decade

The 2011 UK nursing labour market review

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Acknowledgements

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1. Introduction

This report is the 2011 review of the UK nursing labour market (LMR) commissioned by the Royal College of Nursing. In the twelve months since the last LMR was published the post-recession impact on public sector funding has become clearer, but its full effect has yet to be felt. There are increased concerns about constraints on NHS funding streams and the knock-on effect on the UK nursing labour market, with increasing reports locally about job freezes, increased workload and reduced staffing, as well as reductions in the inflow of nursing students entering pre-registration nurse education.

In the 2010 LMR we noted that “There is growing consensus that the NHS is moving into its most difficult funding period for many years, and that this will have significant effects on nurses and on nursing labour markets”. In this year’s LMR we endorse that view, and provide an update of the significant challenges faced by nursing and the nursing workforce across the UK in 2011, which we believe are the greatest for a generation.

Given the critical nature of these changes, it is highly unfortunate that an informed policy analysis and response to the funding challenge is constrained by incomplete and out of date nursing workforce data. In England this shortcoming has been compounded by delays and uncertainty regarding the shape of NHS workforce planning after the proposed changes in the NHS.

It is of growing concern that policy makers and planners are currently faced by incomplete and indistinct evidence at a time when policy choices have to be made which will have major implications for the size, shape and sustainability of the nursing workforce, for patient care, and for individual nurses themselves. In order to shed more light on the current and future state of NHS nursing, in this LMR we push the analysis further by examining different possible scenarios of the supply of NHS
nurses over the next ten years, assessing the impact of different numbers of new nurses being trained, and of retirement patterns from an ageing profession.

In this context we give particular attention to one of the critical factors that will determine the profile and dynamics of the UK nursing workforce over the next ten years - the ageing of the workforce. Currently about one in three UK based nurses is aged 50 or older. Many will soon reach possible retirement age. While the pattern of retirement behaviour may be affected by changes in pension provision and retirement age, at best this will only delay the withdrawal of these individual nurses from the labour market. Policy makers need to develop a better understanding of the likely impact of retirement in order to plan how to deal with it (see Pike G et al (2011) for further discussion on these issues1).

**Tightening NHS budgets**

Health care is labour intensive. NHS funding constraints have significant implications for current staffing levels, and for the future size of the workforce and the extent to which there is continuing investment in maintaining their skills base through in service training and continuous professional development. One critical factor in determining future NHS policy on staffing and training will be decisions on how NHS funding is allocated. Recent reports highlight that governments in all four UK countries are facing a difficult period, suggesting real-terms spending cuts from 2010/11.

- **Northern Ireland** spending cut by around 2.6 per cent in real terms by 2014/15 – but it is widely acknowledged that NI faces a significant funding gap.2
- **Scotland** spending cut in real terms by around 3.3 per cent by 2011/12 (no plans yet for subsequent years).3

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2 Queens University, Belfast. Northern Ireland Research Team. Poverty and Social Exclusion in the UK Project. www.drdni.gov.uk/poverty___social_exclusion_in_the_uk_project_-_queens_university_belfast___economic___social_research_council.pdf
• **Wales** cumulative spending cut by 8.3 per cent by 2012/13

• **England** spending cut by 0.9 per cent by 2015, with 4 per cent productivity savings every year until 2015. The 2010 Spending Review also provided an additional £1 billion a year by 2014/15 to be set aside from the NHS budget for partnership working between the NHS and social care.

The reform programme set out by the coalition Government in Westminster is to be managed alongside the imperative of securing efficiency gains across the NHS in all four countries and reduce administrative costs including senior management posts. The target to find efficiency savings in England, of up to £20 billion by the end of the financial year 2014-15, is the most onerous. These projected savings are meant to be reinvested in the NHS to offset cost increases driven mainly by increasing demand.

The demand for NHS services is expected to continue to increase, above the rate of budget increases, due to demographic changes such as an ageing population, rising public expectations and medical advances. The growth rate in NHS activity has been assessed at about 2.7 per cent a year.

These financial constraints, the UK governments’ overall objective of balancing the cyclically adjusted current budget and the NHS reform programme in England must be assessed against a backdrop of the significant economic and social challenges. This may cause difficulties in reaching the target, particularly the slow rate of growth in the UK economy, which is estimated by the IMF to grow by around 1.5 per cent in 2011 and 2.2 per cent in 2012. Consumer confidence is predicted to remain low,

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5 Appleby J (2011)

6 http://cdn.hm-treasury.gov.uk/sr2010_completereport.pdf


with consumer spending growth expected to lag behind GDP growth. Household income is being increasingly squeezed by a combination of slow wage growth, rising prices and tax and benefit changes and this comes on top of concerns about job security. The Office for Budget Responsibility (OBR) expects receipts from income tax and national insurance contributions in 2012 to rise by around 8 per cent, compared to total earnings growth of just 3 per cent.9

Slow economic growth is likely to have ramifications for NHS spending after 2015, when the current spending round ends. Prior to the recession, the NHS benefited from a long-run real annual growth of around 3-4 per cent, yet could continue facing a constraint in budget even after 2015, as reported recently by the Kings Fund.10

Impact on the NHS workforce

The NHS funding constraints, and broader public sector cuts, have impacted on the NHS workforce both directly and indirectly:

• there has been a two year pay freeze for staff earning more than £21,000; £250 uplift for those earning less than £21,000
• the government plans to increase public sector pension contribution rates, switch from final salary to career average pensions and increase the pension age
• latest reports highlight a 10 per cent reduction in intakes to pre-registration nurse education, and reductions in funding for post basic specialist education11
• cuts in higher education budgets could also impact on the number of lecturers, courses and pre-registration places in nursing and midwifery, and future capacity for post basic training and education provision.


10 Appleby J. An NHS ice age has only just begun. Health Service Journal, 1 June 2011 www.hsj.co.uk/comment/opinion/an-nhs-ice-age-may-have-only-just-begun/5030202.article

11 Santry C. Post registration training cuts revealed. Nursing Times. 5 July 2011 www.nursingtimes.net/5032014.article?referrer=e1
Overall it is evident that there is a strong likelihood of reduced new supply to the workforce from pre-registration education as a result of cuts in the size of planned intakes, but this is coupled with a short-term increase in supply of those already in work, as nurses increase the hours they work, which is masking the impact of reduced new intake.

In the longer term there is uncertainty about the predictability and security of supply as more nurses enter retirement age, changes in pensions provision impact on labour market behaviour, and the possible effects of any improvements in the broader economy are factored into assessment of nurses’ labour market behaviour. The actual and likely impact of these changes on nursing workforce behaviour and labour market dynamics are examined in more detail later in this report.

The remainder of this report is in four sections:

Section 2 provides an overview of the current UK nursing workforce
Section 3 analyses trends in intakes to pre-registration nurse education
Section 4 presents the findings of scenario modelling the likely size of the NHS nursing workforce over the next ten years
Section 5 provides a concluding overview.
2. The current UK nursing workforce

In this section we provide an overview of the current UK nursing workforce, with a main focus on NHS employment.

How many nurses?

In March 2010, 659,763 qualified nurses, midwives and health visitors were registered with the Nursing and Midwifery Council (NMC). This is the total ‘pool’ of potential nurses and midwives available for employment. The overall fall in the number of nurses on the register in 2009-10 came after other annual reductions since 2007, so there is a trend of recent small annual declines in the UK registered population of nurses and midwives (see Figure 1 below).

**Figure 1: Number of nurses and midwives on the UK effective register, 2000-2010**

![Graph showing the number of nurses and midwives on the UK effective register from 2000 to 2010.](image)

*Source: UKCC/NMC*

This decline is in part accounted for by a reduction in the overall number of new initial registrations (as a result of a marked drop in international nurses, and reductions in numbers entering from UK training, as discussed later in this chapter) but also because of an increase in the numbers leaving the register, choosing not to
practice, or retiring. These supply/demand dynamics will be examined in more detail in this report.

The NHS is the main employer of nurses in the UK, but nurses also work in a range of other jobs and sectors. Data on nurses employed in the private sector, in nursing homes and other sectors is limited and has reduced in coverage, quality and completeness in recent years, at a time when there is growing recognition of the need to capture non-NHS employment trends and to involve non-NHS employers in workforce planning.

In addition, NHS data on the nursing workforce cannot easily be aggregated up to UK level because of differences in definitions and collection methods in the four UK countries. Using the most recently published comparable NHS workforce data from the four UK countries it is evident that significant but variable levels of overall nurse staffing growth had been achieved over the period 2000-2010 (Table 1; some caution is required in interpreting data as definitions vary in the four countries and across time).

### Table 1: Whole time equivalent and per cent change in the NHS qualified nursing and midwifery workforce, 2000 to 2010, four UK countries (September)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2009</th>
<th>2010</th>
<th>% Change 2000 - 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>256,276</td>
<td>322,425</td>
<td>322,190</td>
<td>26</td>
</tr>
<tr>
<td>Scotland</td>
<td>35,730</td>
<td>42,670</td>
<td>42,513</td>
<td>19</td>
</tr>
<tr>
<td>Wales</td>
<td>17,672</td>
<td>21,790</td>
<td>21,823</td>
<td>23</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>11,381</td>
<td>13,876</td>
<td>13,899</td>
<td>22</td>
</tr>
</tbody>
</table>

Sources: England: non-medical workforce census, excludes bank and agency. The NHS Information Centre. Northern Ireland – DHSSPSNI; data is for March; Scotland data - ISD Workforce Statistics; Wales –StatsWales. Note: per cent figures are rounded.

NOTE: Scotland data for 2009-10 is not directly comparable with that from 2000 as data collection was re-calibrated using Agenda for Change bands. Data for 2009-10 is for bands 5-9.
The UK countries all reported significant staffing growth over the period 2000 to 2010, with the whole time equivalent increase averaging across the period at 2 per cent per annum or more. This headline percentage increase across the period reflects staffing growth in the earlier part of last decade, driven by government investment in funding more nurse education places; implementation of policies to improve retention and return, and (mainly in England) a commitment to a policy of active international recruitment up to 2006. These policy led interventions and funding support had in turn been a response to recognised NHS nursing shortages in the late 1990s.

However in more recent years there has been a tailing-off of staffing growth. In 2009-2010 both England and Scotland reported a marginal drop in overall numbers, and the growth in Wales and Northern Ireland was negligible. More up to date figures are available for the nursing workforce in Scotland and show a clear downward trend. The number of nursing and midwifery staff in post as at 30 June 2011 was 56,681.2 (WTE), compared to 57,166.9 (WTE) as at 31 March 2011, a decrease 0.8 per cent (485.7 WTE). The corresponding headcount also showed a decrease of 0.9 per cent (569 headcount) from 66,425 as at 31 March 2011 to 65,856 as at 30 June 2011.

A detailed examination of NHS staffing trends in England across the last ten years (Fig 2, below) shows that the growth in qualified nurses, midwives and health visitors tailed off after 2005, that the number of nursing auxiliaries peaked in 2004 and has reduced year on year since, and there has been continued constant growth in the number of health care assistants (HCA). The other likely area for staffing growth has been in the deployment of assistant practitioners, but there is currently no reliable data on the numbers in NHS employment. This omission may be rectified with new data coding being introduced in 2011.12

Fig 2: NHS Staffing, England, 2000-2010, qualified nursing staff, nursing auxiliaries and health care assistants (HCA). (Whole time equivalent)

Source: NHS Information Centre, non-medical workforce census

It should also be noted that the available comparable national data for the UK countries is at least several months old by the time it is published and as such it may not be an accurate representation of the current situation. Whilst there have been some improvements in the timeliness of data provision by the Information Centre in England and the Information and Statistics Division (ISD) of NHS Scotland, overall there can be a time delay of up to one year to collate national level NHS workforce data across the four UK countries, meaning that policy makers at national level cannot rely on this data to give an up-to-the minute picture of staffing change.
In addition, as noted earlier, there has been a long-term deterioration in the data collated on non-NHS nursing numbers, to a point where it is not possible to make an accurate assessment using publically available data. This means that any attempt to plan effectively at local, regional or national level is constrained by the lack of understanding about numbers employed and future demand for nurses from a range of other employers that rely on nurses including NGOs, private sector independent hospitals, nursing homes, occupational health, etc. In earlier years when more data was available, the LMR estimates were that up to one in four nurses in UK employment was working in non-NHS sectors.

Finally, it should be noted that overall headline NHS nurse staffing data also masks significant variations in trends in different staff groups - for example in NHS England, there have been marked year on year reductions in the numbers of health visitors and district nurses in recent years. In 2010 there were 19 per cent less health visitors employed than in 2000, and 33 per cent less district nurses (headcount).

**Why has staffing growth ended?**

The supply of new nurses to the NHS and to other employers in the UK comes mainly from pre-registration nurse education in the UK, and, in some time periods, from international sources. Supply from UK training has been the major source in recent years. Pre-registration education is funded by UK governments, and in the early part of the last decade all four UK countries invested in increasing numbers as part of the overall approach to scaling up the nursing workforce in response to recognised staff shortages.

In essence, UK governments and policy makers determine how many nurses are being trained in the UK through the allocation of funding. Every year there are more applicants for nurse education in the UK than there are funded training places. Therefore the numbers of nursing students entering UK pre-registration education in the UK and subsequently entering the UK register when they qualify is not a random
or uncontrolled event, it is the direct result of funding decisions and subsequent career choice by individuals.

There is also an inevitable time lag of four years between people entering pre-registration nurse education, and these newly qualified nurses entering the labour market. This emphasises the need to have a clear sense of future supply and demand, locally and nationally, in order to ensure that the commissioning process is cost effective, responsive and flexible in responding to changing trends. It also highlights that if this process is based only on a short-term or restricted focus, there is an increased risk of creating future over- or under-supply.

The NHS England White Paper has not been implemented at the time of this report, but points to a greater role for local employers and commissioners in determining future numbers of nurses and other health professionals to be trained, compared to the current approach which has placed greater reliance on strategic health authorities.\(^\text{13}\) While no detail on this new workforce planning and commissioning process is available at the time of completing this LMR, it should be noted that experience in the 1990s with locally driven NHS workforce planning highlighted that there is a considerable risk of creating under-supply with a locally led approach to planning, which would have to be mitigated by a well developed process of oversight (see Buchan, Seccombe and Smith (1998) for a discussion of NHS workforce planning failures in the 1990s\(^\text{14}\)).

Where there is cost containment pressure in the NHS, local employers often take a narrow, local view of their future requirements. In addition, the staffing needs of non-NHS employers can be overlooked, as highlighted above. If all these local, narrow views are aggregated up to regional and national level without sufficient checks and balances made to consider wider labour market dynamics, then the end result can be a significant underestimate of future requirements.


This is precisely what happened in the NHS in the early 1990s. In 1990/91 there were 18,980 new nurses entering the UK register from education and training in the UK (see Fig 3). The annual number of entrants fell year on year to a low of just over 12,000 in 1997/98. This was the direct result of funding decisions to reduce the number of pre-registration places on offer, despite clear evidence from scenario planning that this number was too low to meet future demand.\(^\text{15}\) The consequent drop in UK entrants was predictable, given decisions to reduce funding for pre-registration places, and was a major factor contributing to acknowledged nursing shortages later in the decade.

\(\text{Figure 3: Number of new entrants to the UK nursing register from UK sources, 1990/1 to 2009/10}\)

\(\text{Source: NMC}\)

This led to the self imposed nursing shortage that the UK experienced in the mid/late 1990s, which then had to be addressed by a combination of increased UK training and high volume active international recruitment.

Increased funding meant that there was a significant upward trend in intakes after 1997/98. The increase in pre-registration places led subsequently to more new

nurses coming out of pre-registration education in the UK, as can be seen in Figure 3. The new intake from UK education reached 22,000 in 2008/9, but has subsequently dropped to less than 20,000 in 2009/10, the first sign that recent reductions in funding for intakes is beginning to have a knock on effect on new UK nurses entering the register.

As there is a lag of several years between decisions on funding levels for pre-registration nurse education and these new nurses entering the register, any funding related decisions to reduce commissioning in the next few years will subsequently play through to training output declines, as happened in the mid-1990s. The scenario modelling section of this report will give more detailed consideration to current patterns of intakes to pre-registration nurse education in the UK, and to the effects of any further reductions in funded intakes to UK nursing.

**Closing the door on international nurses**

The second main source of new nurses to end the self induced staffing shortages of the mid 1990s was nurses trained in other countries. The attraction of international recruitment is obvious – it is a quick and cheap fix. The nurses have already been trained, so are available in weeks rather than years, and their training costs have been met by another government, or by the nurses themselves.

International recruitment became an explicit policy solution for the NHS in England. In the early part of the last decade, between 10,000 and 16,000 international nurses were added annually to the UK register. This figure has now fallen to only 2,500 in 2010. International recruitment of nurses to the UK from non-EU countries has collapsed, in part because of reduced UK demand, and in part because entry to the UK for non-EU nurses has become much more challenging and costly.

Increases in registration requirements from the NMC and a shift to a points-based work permit system has reinforced the government policy of making international recruitment a more difficult option for employers. The last full report from the Migration Advisory Committee in March 2011 recommended retaining only a small
number of nursing specialties on the shortage occupation list, such as operating theatre nurses and nurses in neonatal intensive care.\textsuperscript{16}

The collapse in international recruitment of nurses is starkly obvious in Figure 4. NMC data gives some sense of the massive pendulum swing in the number of international nurses registering to practice in the UK. In the ten years between 1999/2000 and 2009/10 the UK shifted from low level international recruitment activity in the late 1990s to very high levels of recruitment in the early part of this decade, then back down to low activity in recent years. (There are limitations in using NMC data to monitor the inflow of nurses to the UK, because it registers intent to work in the UK, rather than the actuality of working).

\textbf{Figure 4 : Admissions to the UK nursing register from EU countries and other (non EU) countries 1993/94 - 2009/10}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure4.png}
\caption{Admissions to the UK nursing register from EU countries and other (non EU) countries 1993/94 - 2009/10}
\end{figure}

Source: UKCC/NMC

\textsuperscript{16} Migration Advisory Committee (2011) \textit{Analysis of the Points Based System Migration Advisory Committee Report} March 2011. 
As noted, in 2009/10, just 2,500 international nurses were registered in the UK, compared with more than 16,000 in 2001/2. The majority came from countries of the European Union, notably Ireland, Poland, Portugal and Romania. Registered nurses from the EU have free movement to the UK, while non-EU nurses have to obtain migration approval, which is currently extremely difficult to secure.

As highlighted in Figure 4 there have been two salient features in the pattern of inflow in recent years, a significant overall reduction, and a marked switch to EU entrants. In 2009/10, 78 per cent of international registrants were from the EU, compared with less than 7 per cent in 2001/2.

The significant drop in international recruitment of nurses to the UK in recent years is placed in context in Figure 5, which shows the relative contribution of UK and of international sources to new nurse registrations since 1989/90. In the early 1990s, international nurses were the source of about one in ten entrants to the UK register. The international contribution rose rapidly in the late 1990s, both in terms of numbers and as a percentage of total new entrants, peaking in 2001/02 when more than half the new registrants were from non-UK sources. The subsequent decline in reliance on new international nurses since that year has been steep and continuous, and has now dropped back to the level being reported in the early 1990s.
Self imposed changes to regulatory and general migration policy have contributed to a situation where UK employers are now severely constrained in non-EU recruitment of nurses, and where the UK is moving from being an active recruiter of nurses to becoming a passive source of nurses for other countries. In 2009/10, 6,357 UK registered nurses requested their UK registration to be verified, as part of the process of applying for a job in another country\textsuperscript{17}. Some will be UK trained nurses looking to move abroad, whilst others may be returners (nurses trained in other countries who came to the UK and who are now leaving voluntarily, or who have to leave the UK when their work permits expire and are not renewed). Figure 6 shows the trend in annual numbers of nurses applying for verification to nurse abroad (outflow) alongside the numbers from other countries registering to practise in the UK (inflow).

This gives an overall picture of the trends in flows to and from the UK. It is clear that the UK has shifted rapidly from being a net beneficiary of international flows in the earlier part of the last decade to the situation in recent years where there has been a marked net outflow of nurses.

\textsuperscript{17} This NMC data indicates an intention to nurse in other countries; it does not necessarily record an actual geographical move
In 2009/10, 87 per cent of all the verification requests from UK based nurses considering an international move were for just four destination countries: Australia, Canada, New Zealand and the USA – the main countries of the English speaking developed world.

The implications of this drop in reliance on international nurses since 2005, the result of policy decisions in the UK, and a move to net outflow of nurses from the UK, will be examined further in the section of this report that considers future scenarios.

**Turnover and age profile**

Against this background of changed supply of nurses there are other indicators that need to be considered in assessing the dynamics of the UK nursing labour market.
One issue is the turnover of nurses – the extent to which individual nurses change jobs, or leave the profession or the country. Given the situation described earlier in this report, with fewer new job opportunities, it is not surprising that there appears to have been a marked reduction on overall job moves by nurses in the NHS. At the time of preparing this LMR, the most recent published turnover data from the NHS in England is from 2009 and therefore predates much of the impact of recession and NHS funding changes. Data from NHS Scotland is more recent and does suggest that job moves have been reducing. Gross nursing turnover in NHS Scotland (staff on permanent contracts) reduced from 9.2 per cent in 2007/8 to 8.1 per cent in 2008/9, and fell further to 6.9 per cent in 2009/10.18

Another major factor in the dynamics of the nursing labour market is the ageing of the nursing workforce. This has been highlighted as a major policy concern for two main reasons. Firstly, older nurses may exhibit different employment preferences and priorities than younger nurses. For example, they may wish to reduce the hours they work, or avoid work that is too physically demanding, or may look to phase periods of work with other commitments. Secondly, as larger cohorts of nurses move toward retirement age there are growing implications for replacement strategies. In short, the policy challenge is to decide how the NHS will replace the skills and experience that it loses, as the large cohorts of nurses that came into NHS employment in the 1970s and early 1980s retire from employment.

As noted earlier, about one in three UK based nurse registrants on the NMC register are aged 50 or older. The profession has been ageing consistently in recent years and this is reflected in ageing profiles of NHS nurses. The ageing of the NHS nursing workforce in England is shown in Figure 7 below. In 2001, about 19 per cent of NHS England nurses were aged 50 or older; by 2010 this had increased to 26 per cent. Similar patterns of ageing have been evident in the other three UK countries. This overall age profile also masks big differences in different specialities and roles. For

18 Information Services Division, NHS Scotland Workforce. www.isdscotland.org
example, 36 per cent of qualified nursing staff working in NHS England community services are aged 50 or older.

**Fig 7: Age profile, qualified nurses, NHS England, 2001 and 2010**

![Age profile chart]

**Source: NHS Information Centre**

The ageing of the workforce represents a major challenge to policy makers and planners, as there will be a significant gap created when the nurses in older age cohorts retire from employment. This gap will become evident in the first instance in sectors that have older than average nursing workforce profile, such as community nursing and nursing homes.

**Summary**

This section has summarised the profile of the NHS nursing workforce in the UK. Growth in staffing over the period until 2005/6 was followed by a period of relative stability in overall numbers, but the latest data points to possible reductions in the overall size of the NHS nursing workforce, against a backdrop of an ageing workforce. In the next section recent trends in inflow from pre-registration nurse education are examined in greater detail.
3. Trends in the uptake of nursing education

Future supply from training and education
This chapter describes flows into and out of nursing education. We assess data on the overall trends in numbers of students starting nursing education, the numbers of course places being commissioned and the numbers who drop out of nursing education.

Starting nursing education
Overall, more applicants are applying to study for nursing qualifications. UK-wide statistics on the number of choices made by applicants to enter higher education in 2011 show a substantial rise in applications (each individual can make up to five choices) for nursing degree courses (up 48.6 per cent to 156,719) and foundation degree courses (up 25.8 per cent to 6,770). As a result, despite a 36.2 per cent drop in the number of applications for diploma courses (down from 80,684 to 49,234), overall numbers of applications (choices) for all types of pre-registration nursing programmes are 9.5 per cent higher in 2011 at 212,723. The number of applications for entry to nursing degree courses exceeds those of all other higher education courses.¹⁹

Figure 8 shows the numbers of applicants by country from 2000 to 2010 (note that in its final year the Nursing and Midwifery Admissions Service (NMAS), processed just under 24,000 applications for diploma course places in England).

Figure 8: Number of applicants for entry to nursing education at higher education institutions, 2000 to 2010

Source: UCAS

Some of the increase in the number of applicants is because the 2010 figures include applications for Scottish nursing and midwifery courses which were not previously reported through UCAS. Other factors may be that there is a perception of nursing providing secure employment in the current job market, and uncertainty about how changes to higher education funding arrangements will affect financial support for future health care students.

These factors may, in part, help to account for the changing age profile of those entering nursing education. The 2010 labour market review noted a change in the age profile of applicants from 2008 to 2009; this trend continued in 2010 when there were almost as many applicants aged over 30 as there were aged under 20 (16,301 and 16,339 respectively).\(^\text{20}\) Figure 9 illustrates this shift in age profile with those

aged 30 or over accounting for 31 per cent of the increase in applicant numbers, compared with 24 per cent by those under 20.

Figure 9: Age profile of UK domiciled applicants for entry to nursing degree and diploma courses, 2008, 2009 and 2010

Source: UCAS

The following paragraphs briefly set out the recent trends for each of the four countries.

England: UCAS figures for 2010 show a substantial (25 per cent) rise in applications for nursing degree and diploma courses, with 48,076 students applying for entry. However, the number of places available has not kept pace with the increased demand. In 2009, UCAS figures show that 60 per cent (22,755) of applicants for diploma and degree course places were successful. The 2010 data shows a drop of 5 per cent in the number accepted onto nursing courses (21,679). In 2010 almost 35 per cent of the successful applicants were for degree course places compared with just 30 per cent in 2009.
Scotland: prior to 2010 most applications were not processed via UCAS. The UCAS data for 2010 show 5,486 applicants for intakes to pre-registration courses in Scotland of whom 59 per cent (3,250) were successful. More than two-thirds (69 per cent) of these successful applicants were for degree course places. Trend data from ISD statistics show that the intakes to pre-registration courses in Scotland increased from 3,260 in 2008/09 to 3,467 in 2009/10 (Figure 10). As a consequence the number of pre-registration nursing students in Scotland is at a new high (9,936).

Figure 10: Scotland: numbers of students starting 3-year nursing and midwifery programmes, 2000/01 to 2009/10

Source: compiled from ISD statistics

Wales: figures from UCAS show that the number of applicants for entry to degree level courses has continued to rise in Wales, increasing by 19 per cent from 2,093 in 2009 to 2,585 in 2010. However, as in England, acceptances have declined (2.6 per cent), from 1,125 in 2009 to 1,096 in 2010 (Figure 11) with the proportion of applicants accepted dropping from 54 per cent to 42 per cent.
Northern Ireland: figures from UCAS show that the number of applicants rose by 35 per cent, from 898 in 2009 to 1,215 in 2010. Here acceptances also rose (by 8 per cent), from 467 to 506, of which 90 per cent were for degree courses.

Places available
The numbers of places being commissioned for pre-registration nursing and midwifery is the key determinant to future intakes to education and subsequent labour market supply. In 2010 there were approximately 27,490 places available (including 2,690 for midwifery) across the four countries of the UK. Available figures suggest this number will reduce by about 9.7 per cent, more than 2,650 fewer places, in 2011 to a total of around 25,020 (including 2,500 for midwifery). Historically the number of places actually commissioned has tended to run below the planned level.
**England** – the NHS Workforce Review Team (WRT) last forecast pre-registration commissioning levels (to 2020) in May 2009. These forecasts were based on assumptions about growth in the nursing workforce, attrition from training and participation rates of newly qualified nurses. They showed a constant commissioning level for England of 20,270 per annum from 2009 to 2020. The Centre for Workforce Intelligence will update the reports produced by the WRT in due course. In the meantime it is apparent that actual commissioning numbers have been significantly lower than the modelled assumption. In 2009/10 the number of places was cut by 1,628 (7.5 per cent) and recently published figures show that all ten SHAs in England plan further reductions in commissioned places this year. Provisional figures reveal that the number of commissioned course places is expected to drop by 1,894 to 18,224 in England, a fall of 9.4 per cent in 2011/12.\(^\text{21}\)

The scale of these reductions varies widely, from 18.8 per cent in the West Midlands to 4.3 per cent in the North East (see figure 12).

**Figure 12: Commissioned places on nursing education courses 2009/10, 2010/11 and 2011/12 by Strategic Health Authority, England**

![Graph showing commissioned places on nursing education courses by Strategic Health Authority](image)

**Source:** SHA commissioning plans

\(^{21}\) Nursing Standard, February 9 2011, vol.25, no.23, p5 *Savage cuts to student numbers leave lecturers facing job losses*
**Scotland** - in December 2010 the Scottish Health Secretary confirmed the numbers of nursing students and midwives that will enter degree programmes in 2011/12.\(^{22}\) This year’s overall student intake will be down by nearly 12 per cent at 2,700, and follows three years when the numbers had been kept constant at 3,060 (see figure 13). The reduction is based on NHS health boards’ workforce projections and a response to changing patterns of care and service delivery. The allocation of places by branch within nursing is yet to be determined, although the number of midwifery places is to be reduced from 184 to 100.

**Figure 13: Planned intake to pre-registration nursing and midwifery in Scotland, 2000/01 to 2011/12**

![Graph showing planned intakes](image)

*Source: NHS Scotland*

**Wales** - the then Health Minister Edwina Hart announced the number of university places for nursing and midwifery funded by the Welsh Assembly Government for 2010/11 in February. In 2010 there were 1,150 places for pre-registration nursing

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(and 123 for midwifery). This will reduce in 2011 to 1,035 (and 102 midwifery places), an overall drop of 10.7 per cent in the number of places available. Almost all the reduction is in the number of places available for adult nursing, which fall from 873 to 686 (a drop of 21 per cent) while the child branch remains unchanged (at 98) and the number of mental health nursing places rises by nearly 15 per cent to 226.

**Northern Ireland** - the Department of Health, Social Services and Public Safety commissioned a review of the nursing and midwifery workforce (2009) that concluded that proposed commissioning levels for pre-registration nursing education of 748 in 2010 and 814 in 2011. Actual commissions were 660 in 2010/11 and are to be held constant in 2011/12.

**Leaving nursing education**

The number of students who leave pre-registration education without completing their course is one of the key determinants of the future supply of qualified staff. However, no new data has emerged since the last labour market review. This reported that across England, Scotland and Wales the so-called ‘attrition rate’ was high and rising. From 21,338 students who began courses in 2005, 5,885 left before completion – an attrition rate of 27.6 per cent compared with 26.3 per cent in 2008 and 24.8 per cent in 2006. The overall level and trend are similar to figures produced by the ISD for NHS Scotland which show attrition rates for pre-registration diploma students of 27.2 per cent, 27.7 per cent and 28.5 per cent for each of the three most recent cohorts.

The 2010 Labour Market Review highlighted the difference between the reported attrition rate for England (28 per cent) and the consensus figure used by the Workforce Review Team (20 per cent) in its modelling of nurse supply to 2020. If the...

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23 Nursing Standard, 2 June 2010, vol24, no.39, page 9 *Cuts to training numbers prompt fears of long-term nurse shortage*
27 ISD Scotland. Nursing and Midwifery Workforce. [www.isdscotland.org/isd/5352.html#students](http://www.isdscotland.org/isd/5352.html#students) updated 14 December 2010
reported rate of 28 per cent is accurate, this has meant that the modelling has been undertaken with an estimate of attrition that is too low – which could lead to an underestimate of the actual intakes required to meet a defined target of outflow from pre-registration training.

Another factor which may impact on attrition of nursing students, and on applications rates, is that the current bursary system is to change from September 2012 to a combination of a non-means tested bursary, a means-tested bursary, plus a loan.

**Summary**

In this chapter we have seen that historically large numbers of students are choosing to apply for nursing programmes with proportionately more applications coming from older cohorts. But, the latest available figures show that the numbers starting courses are reducing as the number of funded places falls. Looking forward, it is not yet clear whether the effects of moving to an all degree level education, with its higher academic entry requirements, may reduce the number of applicants that come forward. Equally, the numbers willing or able to undertake a nursing degree may be reduced because, on average, means tested bursaries for nursing degree students are lower than the non-means tested bursaries for diploma students. While there is uncertainty over these factors, what is clear is that the overall numbers of newly qualified nurses entering the labour market will fall as reductions in the number of places being commissioned feeds through into the numbers graduating.

We have also seen that the percentage of students who fail to complete their studies appears to be significantly higher than planners have anticipated with serious consequences for the validity of other supply models. This suggests that decisions on the number of places being commissioned may be relying on an information base that is inadequate. In the next section we look at the implications for the future supply of NHS nurses.
4. Nursing workforce scenarios for England

In order to shed some light on the current and future status of NHS nursing, this section examines different possible scenarios for the supply of NHS nurses in England over the next ten years. This scenario analysis enables us to examine a number of ‘what if’ situations and model their effects on the NHS nursing workforce in England. It also allows the examination of the effect of potential future changes such as those to retirement decisions or the numbers of new nurses being trained. The scenarios and results are discussed, and detail of the evidence behind the assumptions is provided.

Nursing workforce scenarios

As part of this exercise, eight scenarios have been selected and modelled. These are:

A. “No change” - current inflow and outflow
B. “Redundancies” - current inflow with higher outflow
C. “Improved retention” - current inflow with lower outflow
D. “Reduced training intakes A” - lower inflow with lower outflow
E. “Reduced training intakes B” - lower inflow with higher outflow
F. “Pension time-bomb” - current inflow with a higher rate of retirement
G. “Pension delayed” - current inflow with a lower rate of retirement
H. “Worst case” - lower inflow and higher outflow including higher retirement.

The starting stock

The starting stock for all the scenarios is the NHS nursing workforce in England, as recorded by the NHS Workforce Census 30 September 2010. We have used the headcount figure of 352,104 for qualified (i.e. registered) nurses, midwives and health visitors excluding bank nurses and practice nurses. The model uses headcount figures. Although part-time working is significant in nursing, data on full time equivalent numbers for flows (from education into the workforce and leaving the workforce) are not available.

28 NHS Information Centre, NHS Workforce Census. www.ic.nhs.uk
The main sources of **inflow or additions to the workforce** are new qualifiers, re-entrants to the workforce after a period of absence and net in-migration.

The main destinations of **outflow or losses from the workforce** include retirements, resignations, redundancies, and out-migration.

**Model outputs**

Projections for each of the eight modelled scenarios are presented graphically below.

**Fig 14: Projected NHS qualified ‘nursing’ workforce in England 2011/12 to 2021/22**

**Scenario A** represents a steady state model. It projects forward staff numbers using the best available recent intake and outflow estimates. Using these estimates the model shows that the NHS nursing workforce would shrink by just over **1 per cent** a
year. By 2021/22, the model predicts an NHS nursing workforce of about 309,300. This is a projected decline of **12 per cent** (42,800) over the next ten years.

**Scenario B** assumes higher rates of outflow (leavers, other than retirements, increase to 6.5 per cent). The effect is a fall of roughly **16 per cent** in the NHS nursing workforce over the period. By 2021/22, the model projects an NHS nursing workforce of **296,000**, some 56,000 lower than at the start of the projection.

**Scenario C** assumes lower rates of outflows (leavers, other than retirements, falls to 3.5 per cent). The effect is enough to change the forecast from a deficit into a small increase. By 2021/22, the model projects an NHS nursing workforce of about **385,700**, more than **9 per cent** (33,600) higher than at the start of the projection.

**Scenario D** combines the lower outflow of scenario C with smaller inflows from education. Initially the lower outflow means that the workforce grows slightly. However, from 2016/17 onwards, as lower student intakes start to take effect, the workforce reduces. Overall these effects balance each other out so that by 2021/22 the workforce is **marginally (1.9 per cent or 6,600) larger**.

**Scenario E** combines the lower intakes of scenario D with higher outflows (other than retirement). This combination of variables generates a very large reduction (almost 81,000) in the nursing workforce within ten years. This produces an NHS nursing workforce of **271,200** by 2021/22, some **23 per cent** smaller than now.

**Scenario F** combines current inflows and outflows with a higher rate of retirement. As a consequence, inflows cannot match the outflows and the overall nursing workforce reduces by just over **61,000**, losing one in six nurses currently employed. By 2021/22 the workforce would be around **290,800**.

**Scenario G** combines current inflows and outflows with delayed retirement. Unlike the previous scenario this produces a comparatively small reduction, of **9,260 (2.6 per cent)** and a workforce in 2021/22 of **342,850**.
**Scenario H** represents the ‘worst case’ in which smaller inflows combine with higher outflows and a faster rate of retirement to shrink the nursing workforce very rapidly. Over ten years **more than a quarter** of the nursing workforce (99,000) would be lost leaving staff in post of just **253,000** in 2021/22.

**Table 2. Summary model outcomes**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>NHS England: Staff in post 2021/22 (headcount)</th>
<th>Change on 2010/11</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>A    Current rates</td>
<td>309,297</td>
<td>-42,807</td>
<td>-12.2%</td>
</tr>
<tr>
<td>B    Current inflow &amp; higher outflow</td>
<td>296,083</td>
<td>-56,021</td>
<td>-15.9%</td>
</tr>
<tr>
<td>C    Current inflow &amp; lower outflow</td>
<td>385,723</td>
<td>+33,619</td>
<td>+9.5%</td>
</tr>
<tr>
<td>D    Lower inflow &amp; lower outflow</td>
<td>358,734</td>
<td>+6,630</td>
<td>+1.9%</td>
</tr>
<tr>
<td>E    Lower inflow &amp; higher outflow</td>
<td>271,177</td>
<td>-80,927</td>
<td>-23.0%</td>
</tr>
<tr>
<td>F    Current inflow, outflow &amp; higher retirement</td>
<td>290783</td>
<td>-61,321</td>
<td>-17.4%</td>
</tr>
<tr>
<td>G    Current inflow, outflow &amp; lower retirement</td>
<td>342,844</td>
<td>-9260</td>
<td>-2.6%</td>
</tr>
<tr>
<td>H    Lower inflow, higher outflow &amp; higher retirement</td>
<td>253,088</td>
<td>-99,000</td>
<td>-28.0%</td>
</tr>
</tbody>
</table>

**Inflow and outflow**

This section describes the assumptions behind the model and scenarios, explaining the possible changes to inflow and outflow to the NHS nursing workforce in England.

**Inflow – annual intakes to pre-registration nurse training**

- Planned commissions in England for nursing and midwifery in 2011/12 are currently estimated at 20,495.
- Annual intakes to education are assumed to remain level for the next 10 years for Scenario A (no change), Scenario B (redundancies), Scenario C (improved retention), Scenario F (pension time-bomb) and Scenario G (pension delayed).
• Scenarios D and E (reduced training intakes) and Scenario H (worst case) examine the impact of planned commissioning falling below current levels.

• Using figures obtained by Nursing Standard from higher education institutions, we assume an attrition rate of 28 per cent. 29

• Not all nurses who qualify go on to work in the NHS. By comparing the number of new qualified nurses aged under 25 in NHS employment (13,040 in September 2010 non-medical workforce census) with the number on the NMC professional register (15,200 as at March 2010) we assume that 85 per cent of all newly qualified nurses were working in the NHS in 2010. This is a crude figure but similar to other estimates. Applying the 85 per cent figure suggests that from a commissioning intake of 20,495 the NHS can expect to recruit around 12,540 nurses and midwives three years later.

• Table 3 shows places commissioned and estimated outcomes, assuming attrition rates of 28 per cent and NHS participation of 85 per cent up until 2011/12.

• From 2015/16 onwards, the number of new qualifiers entering NHS employment is fixed in Scenario A (no change), Scenario B (redundancies), Scenario C (improved retention), Scenario F (pension time-bomb) and Scenario G (pension delayed).

• Scenarios D and E (reduced training intakes) and Scenario H (worst case) assume further reductions in places commissioned and subsequent inflow to employment of new qualifiers. These three scenarios assume an intake reduction of 11 per cent each year for three years. This figure is based on the actual reduction seen in the last major downturn in numbers commissioned (31 per cent between 1991/92 to 1994/95). This scale of reduction would mean the number of intakes falling from 18,445 in 2012/13 to 14,490 in 2014/15. Assuming no change in attrition rates, the number entering NHS employment from 2017/18 would be just under 8,000 (compared with 12,450 now).

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29 Nursing Standard, v24, n24, February 17, 2010
Table 3: Nurse and midwifery education: intakes and outcomes

<table>
<thead>
<tr>
<th>Start Year (September)</th>
<th>Places commissioned</th>
<th>Qualification Year</th>
<th>Newly qualified (June)</th>
<th>Enter NHS employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/10</td>
<td>21,746</td>
<td>2012/13</td>
<td>15,657</td>
<td>13,309</td>
</tr>
<tr>
<td>2010/11</td>
<td>22,473</td>
<td>2013/14</td>
<td>16,181</td>
<td>13,753</td>
</tr>
<tr>
<td>2011/12</td>
<td>20,495</td>
<td>2014/15</td>
<td>14,756</td>
<td>12,543</td>
</tr>
</tbody>
</table>

Inflow – International nurses

- The international inflow of nurses to the UK has recently fallen due to a combination of reduced demand and stricter entry restrictions for nurses from non-EU countries.
- There were 2,000 initial entrants to the NMC professional register from EU countries in 2009/10 plus 550 from non-EU countries.
- We assume that 95 per cent work in England and that 85 per cent of these work in the NHS and this is a constant inflow in all scenarios.

Inflow – other labour market entrants

- We assume an annual inflow of 8,000 nurses within the UK – people returning to practice after a break or from living abroad or new qualifiers who delayed their entry to the NHS. This is based on 28,348 new joiners among the nursing workforce, and taking out estimates of newly qualified joiners (18,000) and international inflow (around 2,000).³⁰
- This figure is kept constant for all scenarios, but we acknowledge the possibility of a recession benefit to the nursing labour market in the short term, as more nurses come back into employment or increase working hours.

³⁰ NHS Hospital & Community Health Service (HCHS) monthly workforce statistics turnover - selected staff groups - Provisional, Experimental Statistics
**Outflow – retirement**

- Based on recent trends, likely patterns for retirement for the next 10 years are for all nursing staff aged over 55 and around 40 per cent of those aged 50-55 to retire in the next 10 years (a total of 40,722).
- The NHS Workforce Review Team’s modelling work predicts that the retirement rate will rise from 1.6 per cent to 2.9 per cent over 2011 to 2020.
- For Scenarios A to E, we assume that the retirement rate remains constant.
- For Scenario F (pension time-bomb) and Scenario H (worst case), we assume that all those currently aged 50 and over will retire in the next 10 years.
- For Scenario G (lower retirement) we assume that only those aged 55 and over will retire.

**Outflow – other leavers**

- Data from the NHS Information Centre shows that 28,697 nurses, midwives and health visitors left the NHS in England between January 2010 and January 2011 – an outflow of around 8.2 per cent.
- Removing the number accounted for by retirement outflows leaves around 22,000 other leavers or 6 per cent.
- This 6 per cent figure is kept as a constant in Scenario A (no change).
- We assume it increases to 6.5 per cent in Scenario B (redundancies), Scenario E (reduced training intake) and Scenario H (worst case). The 6.5 per cent is within the range recorded by Office for Manpower Economics surveys conducted for the NHS Pay Review Body.\(^{31}\)
- We assume this figure to fall to 3.5 per cent for Scenario C (improved retention), and Scenario D (reduced training intake) due to improved retention rates. The 3.5 per cent figure is used by the WRT for the years 2009 to 2020 in its model of the nursing labour market.

\(^{31}\) [www.ome.uk.com/NHSPRB_Research.aspx](http://www.ome.uk.com/NHSPRB_Research.aspx)
5. The scenarios in context

This year’s LMR has reviewed recent trends in the nursing labour market. We have signalled the potential impact of NHS cost containment pressure on future intakes to pre-registration nurse education and on current staffing. We have also cited trend data which highlights the impact of previous cuts to nurse education on staff shortages.

Compounded by the collapse in international recruitment in recent years the consequences for the future supply of NHS nurses are potentially very serious. Figure 15 highlights the tailing off in growth of NHS nursing numbers over the last ten years and illustrates the best and worst case scenarios for future supply.

Fig 15: Trend in supply of NHS nurses, England (2000-2010), and ‘best’ and ‘worst’ case scenarios 2011-2021 (headcount).
All eight scenarios demonstrate the critical contribution of new intakes to pre-registration education and of retention of existing staff in determining NHS nursing supply. In relation to retention, much depends on how nurses’ retirement decisions and patterns are dealt with by policy makers.

In relation to intakes to pre-registration education, we have shown that there have been marked fluctuations in the numbers of nursing students being trained over the last 20 years, that there has been little evidence of sustained improvement in student attrition, and that there have been increasing numbers of applications in recent years.

In relation to retention, the ageing profile of the nursing workforce has been much discussed in recent years, but we are now entering the period when ageing and retirement will become critical factors. Even with delayed retirement for some, many more current NHS nurses will be reaching the age when they consider retirement or working reduced hours.

While there has been a recession benefit to the nursing labour market, with more nurses returning to employment or increasing their working hours – this cannot continue indefinitely. Any scope for improved retention will have to be based on policies that meet the employment and career needs of older nurses as well as being sufficiently flexible to meet changing priorities should the UK move into a stronger economic situation and labour markets tighten.

Critical factors in determining the labour market behaviour of older nurses will be pension provision and retirement options. The 2011 RCN report *Who will care: Nurses in the later stages of their career*, found that the closer nurses get to their retirement age, the less clear they are about when they will retire. Their retirement decisions are based on various factors including job satisfaction, personal

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health and wellbeing and household finances, but are also sensitive to changes in pensions arrangements, working conditions and levels of pay.

Finally, these scenarios also have significant implications for decisions on skill mix. As highlighted in this year’s LMR, the main recent area of staffing growth has been continued growth in the number of health care assistants (HCAs), with the added possibility that there will be future growth in the numbers of assistant practitioners and other level 4 care staff. A continuation of this trend, allied to any significant downward shift in the numbers of NHS nurses will intensify the debate about the appropriate skills mix deployed in various care environments. Policy makers will have to be confident that staffing mix, locally and nationally is based on a rational assessment of workload, quality and appropriate skills, rather than being driven by self imposed nurse staffing reductions.

**Conclusions**

The scenarios examined in this year’s LMR highlight the vulnerability of the size of the NHS nursing workforce to policy changes, particularly in terms of the numbers of pre-registration education places being commissioned and the impact of changes to pensions and retirement policies.

Prior to this work, the most recent workforce supply modelling is that undertaken by the NHS Workforce Review Team (WRT) released in June 2009. The nursing model projected a decline in headcount from 382,496 in September 2008 to 340,116 in September 2020, due in large part to the sharp reduction in education commissions in the middle of the last decade. However, as our own projections illustrate, small changes in assumptions can make a substantial difference to the outcomes and it is unwise to base policy decisions on a single projection, particularly when source data is far from robust, and when decisions on commissioning numbers can fluctuate significantly year on year.

Using more recent data and a variety of assumptions, we have illustrated how vulnerable NHS nurse staffing numbers are to changes in policy. We have also
highlighted that these policy decisions could lead to significant reductions, or a return to growth in NHS nursing numbers in England, depending on which mix of policies is implemented.

While this scenario modelling relates to NHS England, similar dynamics have been evident in the other three UK countries. Across the UK, significant NHS nurse staffing growth has tailed off, and all countries are looking at relative reductions in pre-registration nurse education intakes, and all face the same pressures related to the ageing nursing workforce.

This year’s LMR has highlighted that past policy decisions to reduce intakes to pre-registration education have contributed to nursing shortages. Policy makers in the four UK countries have important decisions to make about priorities for the allocation of NHS funding. They are in challenging economic times, but they also retain control over most factors that will determine future NHS nursing numbers.