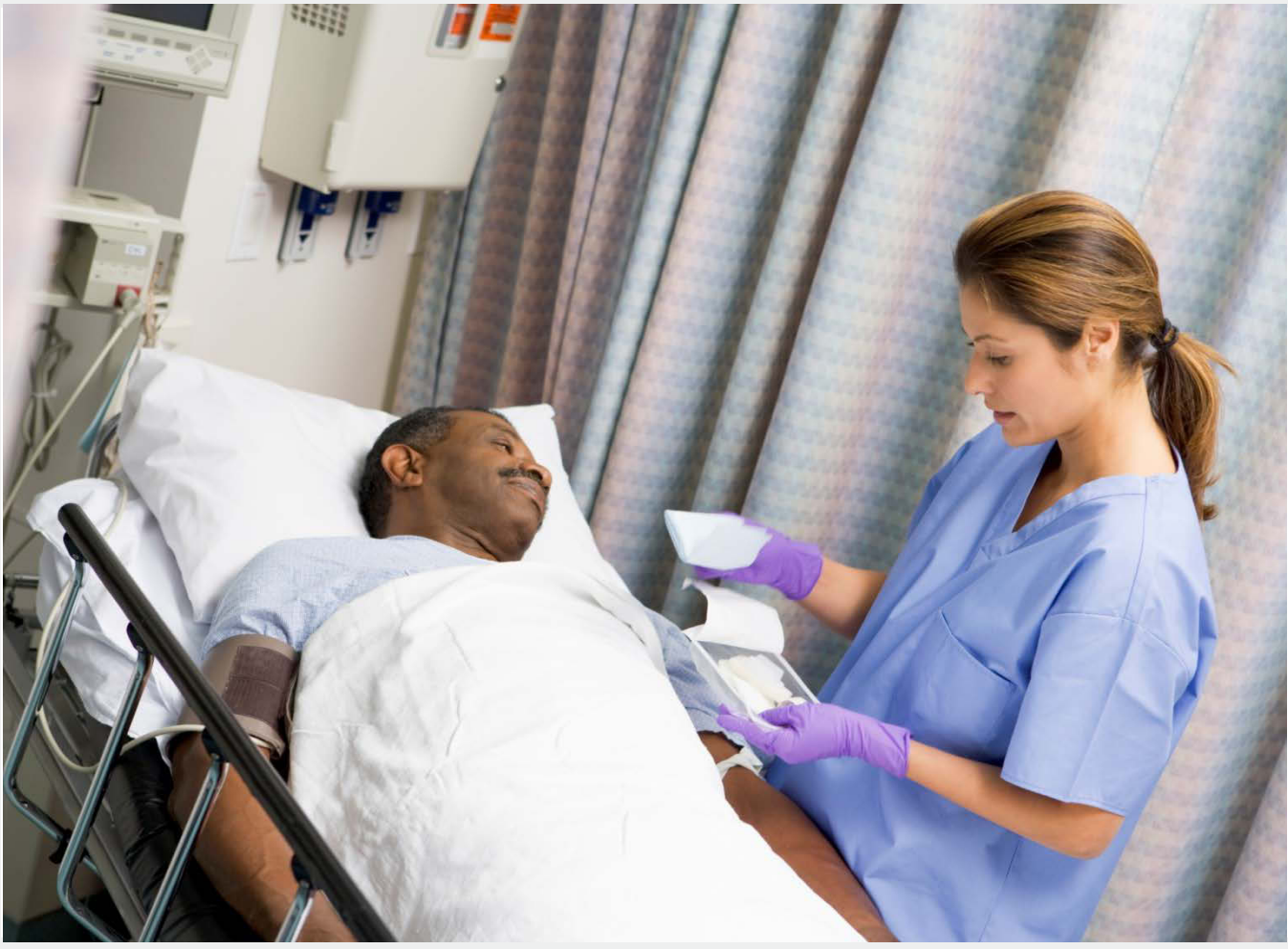
CENTRE FOR WORKFORCE INTELLIGENCE

Future nursing workforce projections

Starting the discussion



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Part of the overall nursing and maternity programme

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Executive summary

The future nursing workforce projections report

This report for leaders in the health and social care system is designed to stimulate discussion on the main opportunities and challenges facing employers, the nursing profession and workforce decision makers in relation to the future balance of the supply and demand of the nursing workforce.

The authors of this report recognise the context for nursing is set against the recent introduction of a new three-year vision and strategy, aimed at building a culture of compassionate care for nursing, midwifery and care staff (NHS Commissioning Board & Department of Health, 2012). Clearly this is the principal driver for improving patient care, but this report focuses on the supply and demand of the future nursing workforce.

The discussion which we hope this report stimulates can help inform the development of policy on the contribution of nursing to healthcare. The report will also provide insight for Health Education England (HEE) and local education and training boards (LETBs), their constituent employers, and the nursing profession in making decisions on how to plan and deliver a sustainable nursing workforce in the future.

Opening a discussion with system leaders

The nursing workforce is at the forefront of delivering quality patient care. In England, the headcount of nurses registered with the Nursing and Midwifery Council (NMC) was 583,285 in 2011 (NMC, 2011) with just over half of these, 323,377, in the NHS in 2011 (HSCIC, 2012a).

Providers are currently considering how to transform their services to improve the quality of patient care and increase productivity while responding to the economic conditions faced by England, the UK and beyond. The growing and ageing population requires a focus on the management of long-term conditions and the delivery of care closer to home. Healthcare is under the spotlight in terms of delivering compassionate care; and the Francis Report presents a challenge to review and improve the quality of patient care. Employers have a real challenge to plan and sustain the supply and demand of the future nursing workforce at a time of financial constraint.

This report provides improved projections for the future shape of the nursing workforce at a national level, based on a range of supply and demand factors. It includes a range of possible supply and demand projections for the future national nursing workforce in England, which is composed of four main branches: adult nurses, children's nurses, mental health nurses and learning disability nurses. Projections of supply and demand rely on a range of assumptions and assumed behaviours in response to changes in service demand and financial and economic challenges faced by the NHS, service providers and individuals. This report also includes additional geographical workforce profiles derived from regional data and stakeholder engagement.

We are seeking to open a discussion on the key national and regional messages in this report and to refine the assumptions underpinning supply and demand forecasts and narrow down the range of possible outcomes. We hope to better understand:

- how supply and demand will change up to 2016
- which underpinning assumptions are most likely to happen
- the employer's view of likely future demand and affordability to recruit and retain nursing and care staff
- the relationship between the total available supply of registered nurses and those available to work in the NHS.

This will help to inform workforce leaders making decisions on the future shape and composition of the nursing workforce, including consideration of new ways of working, role extension, a shift from acute to community settings and a range of other factors.

The feedback from this discussion will also help to inform and improve our modelling in 2013, when we will be working closely with employers to understand their short-, medium- and long-term plans for meeting care needs of patients and service users.

The modelling approach

In this report we share the results of a modelling exercise that we developed to project the supply and demand of the nursing workforce in England. Our modelling helps show the likely impact of certain variables on both the supply and demand of the nursing workforce.

We use nurse registrant data and modelling techniques to project supply and demand based on a set of scenarios. The assumptions used in the scenarios were tested with a small number of stakeholders and we now wish to start a wider discussion about how these assumptions may affect supply and demand.

The factors that work together to affect supply include: trends in the new supply of planned nursing commissions and evidence-based attrition rates. We also look at other factors for nurses joining and leaving the profession, including retirement and net emigration.

A complex set of factors affect demand. Our work reviews the growing and ageing population combined with trends in activity rates, productivity and skill mix. In addition, we need to take into account the impact of the financial situation. The financial analysis suggests smaller relative reductions in nursing levels than occurred in the early 1990s, when nursing (FTE basis) fell by an average of almost one per cent per annum for five years.

The projections shown in the report represent unconstrained demand based on 'what if' assumptions in the model. They provide a range of possible scenarios which need to be considered alongside LETB investment plans and other emerging evidence to refine the assumptions and produce a clearer picture of likely future supply and demand. The CfWI expect to engage in this work in the next stage of our work on the nursing workforce.

Further information on our modelling approach is outlined in appendix 1.

The national analysis highlights a number of potential issues

Given the complexity of assumptions – and the interplay between assumptions – we have purposely avoided providing a single numerical comparison between projected supply and demand. Instead, our modelling indicates a range of results for supply and a range of results for demand.

The baseline projection for supply and demand demonstrates a possible shortfall of registered nurse headcount by 2016. However, it is possible that if the high supply scenario combined with the low demand scenario there would be a reversal of the situation.

The challenge for the whole system is to consider how to ensure that demand for nurses remains in the range of potential projections of the available and affordable supply.

All scenarios project an overall decline in the registered nurse headcount between 2011 and 2016. However, the modelling results cannot simply be translated to the NHS as the structure and location of the non NHS workforce is unknown. In the baseline scenario, supply is forecast to reduce by just over 5 per cent by 2016. This is due to the projected impact of reduced education commissions, attrition, rising retirements, net emigration of UK-trained nurses and trends in other leavers. The work does not take account of possible changes to pensions and the impact on individual behaviour.

Forecasts of future supply of registered nurses show a likely reduction of between 0.6 per cent and 11 per cent depending on assumptions on net emigration of UK trained nurses, numbers of newly qualified nurses exiting training programmes and forecast retirements.

Forecasts of future demand vary between an increase of 23 per cent and a reduction of 7 per cent by 2016 depending on demographics and productivity increases.

When we look in more depth at the demand projections, according to the baseline scenario an increase in demand for registered nurses of 3 per cent is forecast by 2016. This is driven by a growing and ageing population combined with an increase in service delivery activity, offset to an extent by an increase in productivity.

In the high scenario, the demand model projects a larger increase in demand of about 23 per cent by 2016, driven by a larger assumed increase in activity due to demographic changes, offset to an extent by a lower assumed increase in productivity than in the baseline scenario. However, in the low scenario the demand model projects a decrease in demand of about 7 per cent by 2016, driven by a lower assumption of increased activity offset by a larger increase in productivity than in the baseline scenario.

The ratio of registered headcount to NHS headcount workforce may vary over time so we cannot necessarily confirm or imply that the percentage changes in our modelling will impact on the NHS workforce in the same way.

The impact of the financial challenges faced by the NHS and the prioritisation of staffing requirements across service areas are likely to be drivers for relative reductions in nursing staff demand. This is already starting to happen, with the latest staff census and training commissioning figures showing reductions. Part of this discussion will need to understand how economic constraint will impact on employers and nursing numbers.

The regional analysis highlights a number of potential issues

Emergent LETBs and providers report rising demand with financial constraints impacting on the NHS nursing workforce. They also report pockets of recruitment from the European Union in some areas to help meet the gap between supply and demand and we need to consider the continued impact of this over the period up to 2016.

The majority of emergent LETBs also report a steady state in terms of education commissions and some report intra-regional recruitment issues.

Action to take part in the discussion

LETBs, employers in health, the midwifery profession and workforce decision makers are asked to consider the potential issues identified in this report and whether these match their experience in the system. An analysis of the discussion the CfWI has with our stakeholders will help inform our work in 2013-2014.

Staged improvements to future nursing workforce projections

This report is part of an overall CfWI project that sets out staged improvements to national supply and demand

projections for the nursing workforce in order to support more effective planning through the provision of clear national perspectives and implications. This work links to a wider CfWI programme on the shape of the health and social care workforce. The CfWI is actively developing an improved approach to modelling the nursing workforce, which will explore likely scenarios and whole-system modelling to improve supply and demand projections in 2013.

1. Introduction

1.1 Purpose of the CfWI future nursing workforce projections report

The findings in this report provide improved supply and demand projections up to 2016 for the future shape of the nursing workforce at a national level, based on a range of supply and demand factors. We also recognise that the context for nursing and midwifery is set against the recent introduction of the new three-year vision and strategy, aimed at building a culture of compassionate care for nursing, midwifery and care staff.

We consider a discussion is required to support workforce leaders reviewing the shape of the future nursing workforce to deliver quality patient care. There are a number of complex and inter-related factors which affect supply and demand, outlined in the report. The report also includes additional geographical workforce profiles derived from regional data and stakeholder engagement.

The report will provide insight for Health Education England (HEE) and local education and training boards (LETBs), their constituent employers and the nursing profession, in making decisions on how to plan and deliver a sustainable nursing workforce in the future.

The 2012-13 CfWI nursing and maternity programme consists of three linked project areas:

- an in-depth review of the shift of care into the community and the implications this has for nursing workforce planning
- the development of a maternity care pathway framework
- an analytical project that will deliver high-quality national supply and demand projections for periods of up to 2016, and five-to-20 years in the future.

This report forms part of a staged improvement to our supply and demand work that will be supported by a new nursing workforce planning model in 2013.

1.2 Evidence of impact of the future nursing workforce projections report

As part of the drive to assess the impact of our work, we will show how this report adds value for local decision makers by reviewing the responses to our 'discussion' and providing a report and recommendations on the findings to the DH.

We will also investigate how workforce leaders use and interpret the findings to support more accurate forecasting for their local nursing workforce. We will carry out a review of the use of these findings with a range of stakeholders. Together with the DH and HEE, we will also review impact through the analysis of the LETB strategic plans.

2. Context

2.1 The nursing context

The nursing workforce is at the forefront of improving patient-centred quality care. The Delivering care closer to home (DH, 2008), and Transforming Community Services (DH, 2009) guidance redefined nursing service delivery models.

The initial recommendations from the Nursing and Care Quality Forum (DH, 2012a), and the second Francis Report on Mid Staffordshire Foundation NHS Trust (Mid Staffordshire NHS Foundation Trust Public Inquiry, 2013) heighten the importance of nurses in getting the 'basics right': the provision of high-quality, compassionate patient care.

Further approaches continue the focus on quality patient-centred care, including the new vision and strategy for nurses, midwives and care-givers, which sets out the '6 Cs' for care behaviours (NHS Commissioning Board & DH, 2012), and the Willis Commission (2012) with recommendations for nursing education.

2.2 Economic climate

This is a time of great change in the NHS. Providers are considering how best they can transform their services to improve the quality of patient care and increase productivity, while at the same time being responsive to the prevailing economic conditions across England, the UK and Europe. These economic conditions impact on the health sector.

During the last recession in the 1990s, commissions were reduced for training places on nursing courses, directly resulting in a later shortage in the supply of nurses. This was alleviated in the short term by relying on the intake of foreign nurses, peaking in 2001-02 when there was a net inflow of nurses to the UK (Royal College of Nursing (RCN), 2011). However, due to recruitment campaigns to attract UK-born nurses to work abroad, there has been a net outflow of nurses from the UK since 2006-07.

Immigration regulations are stricter now than they were in the 1990s, which limits the option of relying on non-EU foreign nurses (PPN, 2012). In addition, the UK is a signatory of the World Health Organisation (WHO, 2010) Global Code of Practice, which aims to reduce the recruitment of healthcare staff from developing countries. Furthermore, the current global economic downturn has occurred at a time when an ageing population and increasing complexity of disease place increasing demands on the health service.

The majority of nursing care in England is funded by the taxpayer, through the NHS. Therefore the outlook for the NHS budget is a key consideration when assessing the feasibility of maintaining or expanding the nursing workforce.

The cash-spending plans for the NHS in England for 2011-12 to 2014-15 were set out in the last Spending Review (HMT, 2010). They provide for very modest real increases over that period. Several funding scenarios are outlined in Appendix 4, drawing on the work of the Institute for Fiscal Studies (2012). Irrespective of the funding scenario, it is unlikely that real funding levels for the English NHS will vary much from Spending Review levels. Recent health settlements have been challenging, and this is likely to remain the case.

Finally, a comparison of recent trends in NHS nursing employment with the last period of reductions in nursing employment – the early-to-mid 1990s – suggests that to date we have seen a similar pace of decline in employment levels (FTE basis), as outlined in Appendix 4.

2.3 Improvements in our modelling work

The findings in this report were produced by:

- assessing any policy changes there have been since earlier *CfWI Workforce Risks and Opportunities – education risks summaries* (CfWI, 2012) for the nursing workforce
- improving the quantitative analysis of key policies
- refreshing supply parameters and ensuring that historical factors are fully captured (e.g. for leavers other than by retirement)
- focusing on demand through the quantification of demand factors, allowing for a range of potential assumptions as well as baseline projections
- recognising any changes in medicine and dentistry that may affect the nursing workforce in terms of finance and skill mix; any such changes may be incorporated into analysis by estimating the range of effects that constraints could have on commissioning and employment
- providing analysis of geographical workforce profiles
- interviewing regional stakeholders to capture their views.

These have been considered with variation across the scenarios in accordance with standard CfWI demographic modelling methodology (see Appendix 5 for details).

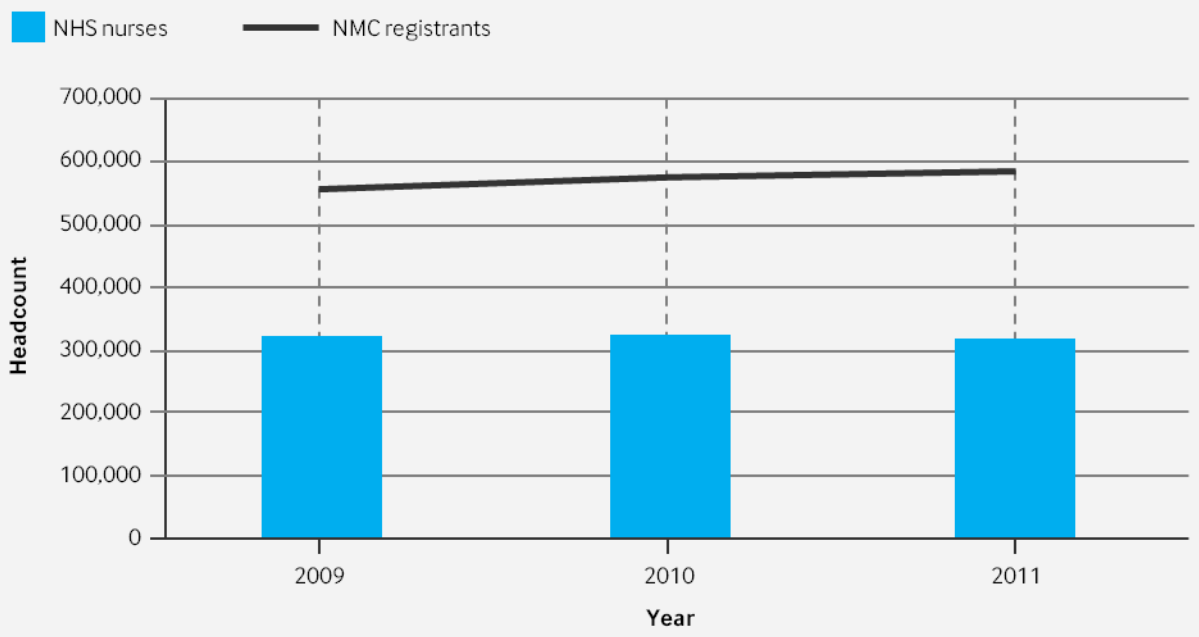
2.4 Implications for the NHS

We use the Nursing and Midwifery Council (NMC) registrant data in our projections in order to assess the potential source of employees, allowing for movement of staff between sectors. A limitation of this method is that the NMC registrant data source does not include as much information about nurses as the NHS staff record data does, such as the age of registrants and whether or not they are employed currently. It is therefore possible that the ratio of registrants who are employed as nurses to registrants who are not employed as nurses could change over time, which would not be reflected in projections. Improvements to the NMC data in the future will help to evolve workforce modelling for the whole of the health sector.

Figure 1 shows the historical NHS headcount data from the Health and Social Care Information Centre, (HSCIC) for the NHS permanent nursing workforce, excluding bank staff, along with historical headcount data from the NMC for all registered nurses. This shows that the NHS headcount supply of nurses decreased from 2009 to 2011 by 2 per cent, while the total (NMC) registrant headcount increased by 5 per cent from 2009 to 2011. Changes to working patterns will not be reflected in registrant headcount figures. Census data published in 2012 is correct as at 30 September 2011; the 2012 census figures were not available at the time of analysis.

Figure 1: Historical NHS headcount and NMC registrant headcount – nurses

While the number of nurses registered in England has risen in recent years, NHS nursing headcount has been relatively more stable.



Source: NMC (2011); HSCIC (2010, 2011, 2012).

The projections will have a smaller impact on the NHS nursing workforce compared to NMC headcount. However, the modelling results cannot simply be translated to the NHS, as the structure and location of the non-NHS workforce is unknown. Understanding the non-NHS workforce and working closely with the NMC will be essential to developing improved supply and demand modelling.

3. National projections

3.1 Supply and demand scenarios

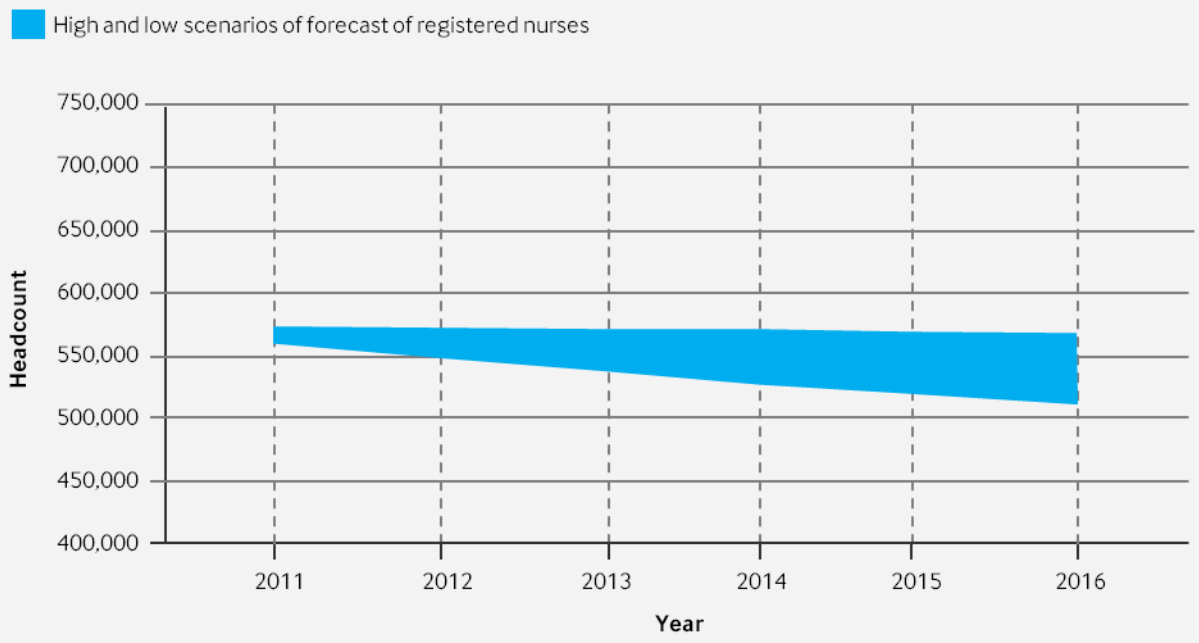
This report demonstrates improved supply and demand projections based on a range of supply and demand factors. We use nurse registrant data and modelling techniques to project supply and demand based on a set of scenarios. The assumptions used in the scenarios were tested with a small number of stakeholders to consider plausible futures prior to our detailed modelling taking place. We believe that the baseline case is the most plausible future, although low- and high-assumption ranges are considered for both supply and demand.

3.2 Supply projections

Figure 2 shows the supply for registered nurses in England to 2016. The forecast is based on NMC registration data, which records a larger number of nurses than the NHS staff alone, as it includes non-NHS staff and non-practising nurses whose registrations have not yet lapsed. Forecasts have been based on registration data in order to analyse the entire available workforce and not just those currently working in the NHS. The shaded area for the forecast shows the range of staff levels predicted from the low and high scenarios. The scenarios reflect different possible supply projections when supply parameters are varied.

Figure 2: Supply of registered nurses in England to 2016

We project a declining supply of registered nurses up to 2016.



Source: CfWI estimates. Supply projections are based on NMC data and workforce assumptions.

All scenarios project an overall decline in the registered nurse headcount between 2011 and 2016. However, because of the relationship between numbers of registered nurses and the NHS nursing workforce, this does not necessarily mean that the number of nurses available to work in the NHS will go down. In the low scenario, a reduction of 11 per cent is forecast by 2016. In the high scenario, a reduction of 0.6 per cent is forecast by 2016. In the baseline scenario, the forecast reduction is just over 5 per cent. The differences are driven by a range of factors, including variations in the outflow of nurses to the international market.

Over the period up to 2016 the difference between the high and low scenarios for supply widens. The challenge is to ensure

that demand remains within the range of potential projections of the available and affordable supply.

3.2.1 Supply assumptions

A wide range of data from a variety of sources was considered in order to produce a robust model. Assumptions are highlighted where data availability is limited.
Table 1 details the assumptions used in all three scenarios.

The modelling for this project is based on assumptions about the key factors affecting the supply of nurses, with low and high scenarios reflecting levels of uncertainty about the future. The low scenario projects a lower level of supply of registered nurses than the baseline, while the high scenario projects a higher level of supply than the baseline.

Table 1: *Supply assumptions – nurses*

Variable	Detail	Low scenario	Baseline	High scenario
Length of training pipeline	Length of training as stated by NHS Careers (2012).	3 years across all scenarios		
Trainee commissions	Baseline from Non Medical Education and Training planned commissions for 2012/13. High and low variation based on assumption that only moderate variation is likely under the financial challenge.	Commissions 5 per cent lower	17,903 per year from 2011/12; 17,402 per year from 2012/13 onward	Commissions 5 per cent higher
Training attrition	Baseline from Workforce Availability and Policy Implementation Group (2012) attrition figures for courses started in 2009/10 (as following start years are not yet complete). High and low variation based on assumption that only moderate variation is likely due to the work that has been done to improve attrition rates.	16 per cent	15 per cent	14 per cent
Pre-registration following graduation	Based on assumption that majority register with the NMC.	98 per cent with NMC	99 per cent with NMC	99 per cent with NMC
International recruits	Baseline is an estimate for England based on UK data for applications to NMC to work abroad (non-EEA) compared with applications to work in UK (RCN, 2011).	25 per cent higher out of England	2,651 per year out of England	25 per cent lower out of England
FTE/HC ratio	Baseline based on HSCIC 2011 ratios weighted by branch of nursing (HSCIC, 2012a). High and low scenarios are +/- 1 per cent of the baseline figures as there is no evidence to suggest a large change in working pattern will occur.	0.88 mental health and learning disability; 0.81 adult; 0.79 children's	0.89 mental health and learning disability; 0.82 adult; 0.80 children's	0.9 mental health and learning disability; 0.83 adult; 0.81 children's
Retirements	Baseline used retirement profile based on HSCIC (2012) age data. Low and high scenarios shift retirement profile based on standard[1] assumptions for CfWI retirement modelling. High scenario allows for staff to retire later.	Retirement trends shifted 2 years earlier, and 50 per cent greater	Retirement profile as 2006 - 09	Retirement trends shifted 2 years later reflecting the removal of default retirement age

[1] For details on methodology, see:
http://www.cfwi.org.uk/publications/technical-report-workforce-risks-and-opportunities-education-commissioning-risks-summary-from-2012

Variable	Detail	Low scenario	Baseline	High scenario
Other leavers/joiners (net)	The total net other leavers /joiners are all factors except for retirements and international leavers. Baseline based on 4 years of historical data from HSCIC and NMC. High and low scenarios assume 5 per cent difference under the assumption that only moderate variation is likely in the economic climate.	5 per cent higher than baseline other leavers figure	1.72 per cent of NMC registrants per year	5 per cent lower than baseline other leavers figure

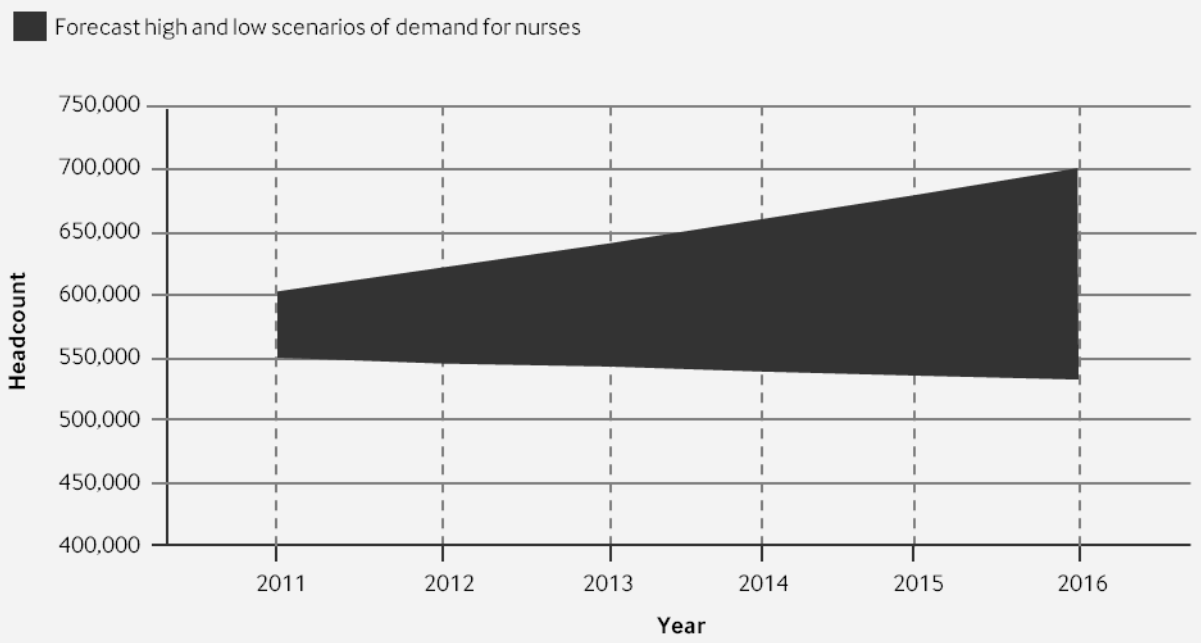
See appendix 2 for a summary of figures derived from the model.

3.3 Demand projections

Figure 3 shows the projected demand for the registered nurse headcount up to 2016. The shaded area shows the range of staff headcounts projected in the low and high scenarios. The scenarios reflect different possible demand projections when demand parameters are varied.

Figure 3: Demand for registered nurses up to 2016

Different demand scenarios for registered nurses produce a wide range of projections for the period up to 2016 from a moderate reduction to a large increase.



Source: CfWI estimate. Demand projections use population projections (ONS, 2011a) and workforce assumptions.

In the high scenario, the demand model projects a large increase in demand of 23 per cent by 2016. This is driven by a large assumed increase in activity due to demographic changes, offset to an extent by a low assumed increase in productivity. However, in the low scenario the demand model projects a decrease in demand of 7 per cent by 2016, driven by a lower assumption of increased activity offset by a larger increase in productivity. The baseline scenario projects an increase in demand for registered nurses of 3 per cent by 2016.

This does not mean that numbers of nurses in the NHS should increase by 23% by 2016. Demand forecasts in the model are

unconstrained and this size of increase is neither achievable nor do current estimates suggest it is affordable, (Institute for Fiscal Studies, 2012). These scenarios will be considered alongside other evidence including LETB investment plans as part of a debate on the future demand and supply for nurses in the NHS.

The impact of the financial challenges faced by the NHS and the prioritisation of staffing requirements across service areas are likely to be drivers for relative reductions in nursing staff demand. Decisions on staffing and prioritisation remain the responsibility of local employers and some of these are outlined in section five of this report.

3.3.1 Demand assumptions

Table 2 shows the factors that may affect demand in 2016 and the percentage change per annum relative to the starting year of 2010 for each of the three scenarios. In order to be realistic, the approach taken to modelling demand has been to use assumptions that reflect the overall financial challenge faced by the NHS. Demographics, activity and productivity are the main factors affecting the demand projections.

Table 2: *Factors that may affect demand of nurses up to 2016*

Factor	Detail	Low scenario	Baseline	High scenario
Demography	Baseline based on ONS population projections and weighted towards ageing population. High and low scenarios allow for 0.2 per cent variation. The demographic picture painted by the ONS suggests an overall growing and ageing population. This has been considered with variation across the scenarios in accordance with standard CfWI demographic modelling methodology (see Appendix 5 for details).	0.7 per cent increase per year	0.9 per cent increase per year	1.1 per cent increase per year
Skill Mix	There has been a stable ratio of nurses to HCAs and support workers over the past 5 years and this pattern is assumed to continue. There has been a reduction in the ratio of nurses to consultant doctors; however, this has not been modelled as it is unlikely that doctors are carrying out nursing tasks.	0 per cent across the three scenarios		
Activity	Hospital Episode Statistics (HES) and ONS data suggest a 4 per cent per annum increase in activity. However, this would double-count other factors included separately in this model, such as demography, therefore for the purposes of this model, activity is defined as the remaining factors such as new treatments and technology. Assumptions have been estimated in the absence of more robust figures. There are implications in this projection for demand management, and self care, that can be further explored through horizon scanning.	0.8 per cent increase per year	1 per cent increase per year	1.2 per cent increase per year
Productivity	High scenario based on ONS (2011b) figures. Low scenario is based on QIPP targets from discussions with DH. Baseline scenario is mid-point between high and low. There is significant potential variation in productivity between historical improvement, estimated improvement and the financial challenge to the system. Assumptions for this factor produce significant variation in potential future projections.	2.5 per cent improvement per year	1.6 per cent improvement per year	0.7 per cent improvement per year
Policy	No policies were identified in stakeholder engagement as being appropriate for modelling.	0 per cent across the three scenarios		

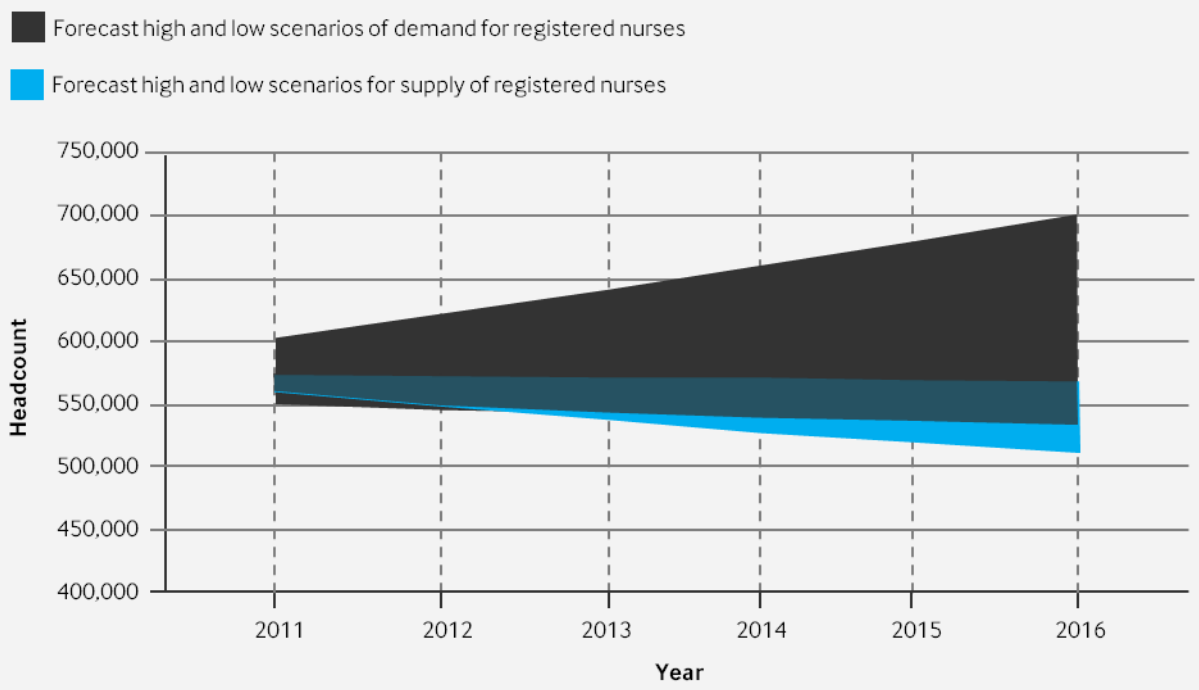
Factor	Detail	Low scenario	Baseline	High scenario
Finance	Financial factors have not been identified as appropriate for modelling. See separate analysis in appendix 4.	0 per cent across the three scenarios		

3.4 Supply and demand matching

Figure 4 shows the range of supply and demand set against each other for registered nurses in England

Figure 4: Range of supply and demand for nurses up to 2016

The scenario ranges for supply and demand overlap, with much of the demand range higher than the supply range. This means that it is possible for supply to meet demand, but more likely that it will not.



Source: Supply projections are based on NMC data and workforce assumptions. Demand assumptions use population projections (ONS, 2011a) and workforce assumptions.

This graph shows the range of demand forecasts set against a range of supply forecasts. The CfWI does not expect both extremes to actually occur, because demand is limited by cost and affordability. It would be unwise, therefore, to simply subtract the low case of supply from the high case of demand because the probability of both occurring is relatively low. The unconstrained demand figures shown in the graph represent 'what if' scenarios based on the assumptions set out above. A debate is needed to refine the forecasts and assumptions, and narrow down the range of supply and demand projections to provide useful information to inform future policy and investment decisions.

4. Regional trends

We have gathered regional perspectives to provide context to the national picture presented in this report and to demonstrate improved understanding of both the regional and local factors affecting supply and demand of the workforce up to 2016. The report also highlights any strategies and responses being adopted by provider organisations. This information was gathered through a series of structured interviews during August and September 2012 with 10 strategic health authorities (SHAs) / emergent LETBs and 21 providers.

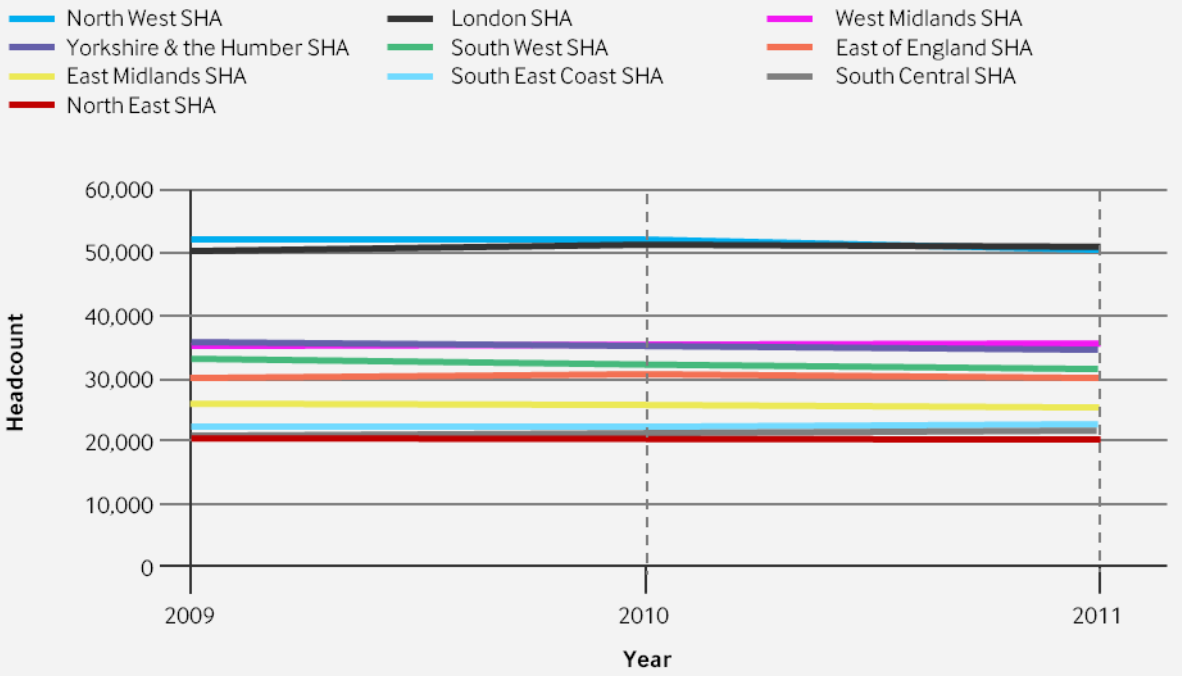
The timing of the engagement coincided with the period when most SHAs / emergent LETBs were actively engaging and consulting with their workforce on education commissioning plans. As a result, some information could not be gathered from these structured interviews, and other information used may be subject to change once plans have been adopted and aggregated.

4.1 Historical NHS nurse headcount by SHA

Figure 5 shows the headcount of permanent nurses in the NHS excluding bank staff in each SHA in September 2011 (HSCIC, 2012A). This shows variations in permanent staff numbers between SHAs.

Figure 5: Historical NHS nurse headcount by SHA

Nurse headcount has reduced in all SHAs except for the South East Coast SHA from 2010 to 2011. Over the two years, all SHAs except for London and the South East Coast have reduced nurse headcount.



Source: HSCIC 2010, 2011, 2012.

4.2 National commissioning figures

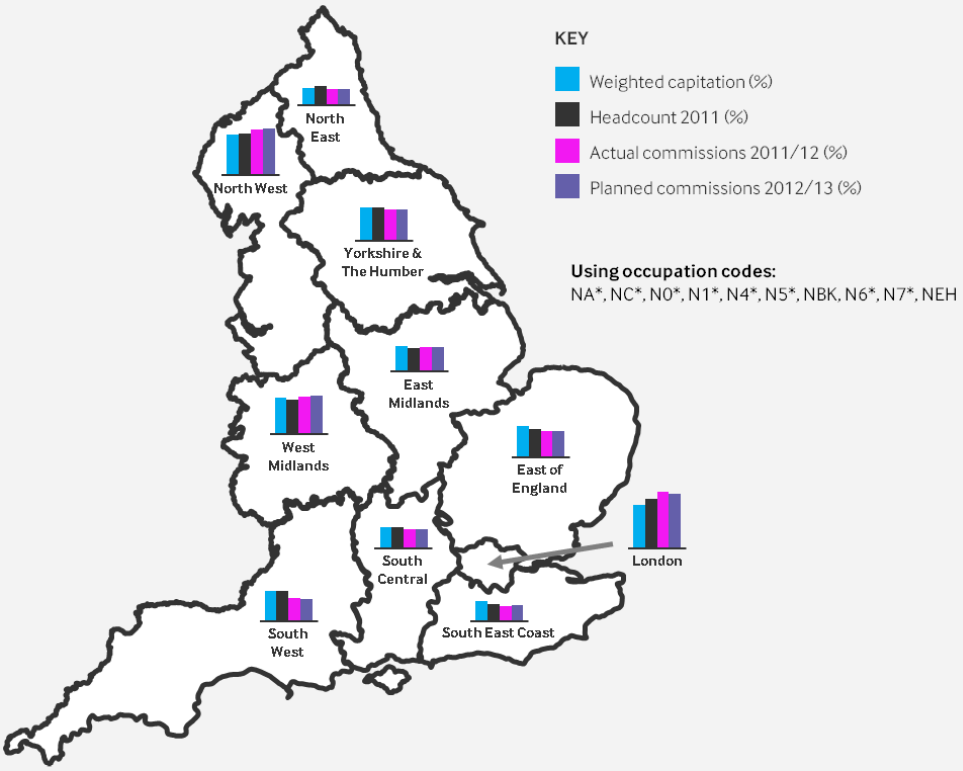
Figure 6 shows the headcount of permanent nurses excluding bank staff in the NHS in each SHA in September 2011 (HSCIC, 2012A), the actual commissions for training in nursing in the 2011/12 academic year and planned commissions 2012/13 (DH, 2012b), and weighted capitation (DH, 2011a).

Figure 6: showing NHS staff, planned and actual commissions in relation to weighted capitation by SHA

Actual regional headcount and commissions can vary significantly from what would be allocated according to weighted capitation alone.

Comparison of weighted capitation, headcount, and commissions by SHA for nurses	Weighted capitation	Headcount 2011	Actual commissions 2011/12	Planned commissions 2012/13
North East	5.8%	19890	1007	992
North West	15.0%	49483	3033	3066
Yorks & Humber	10.7%	34180	1822	1805
East Midlands	8.6%	24866	1435	1430
West Midlands	11.0%	34642	2073	2102
East of England	10.3%	29318	1516	1494
London	14.2%	50385	3259	3088
South East Coast	7.7%	22006	1123	1123
South Central	6.8%	21107	1112	1153
South West	9.9%	30934	1361	1293
Total	**100.0%**	**316811**	**17741**	**17546**

Data by SHA as % of national total	Weighted capitation	Headcount 2011	Actual commissions 2011/12	Planned commissions 2012/13
North East	5.8%	6.3%	5.7%	5.7%
North West	15.0%	15.6%	17.1%	17.5%
Yorks & Humber	10.7%	10.8%	10.3%	10.3%
East Midlands	8.6%	7.8%	8.1%	8.2%
West Midlands	11.0%	10.9%	11.7%	12.0%
East of England	10.3%	9.3%	8.5%	8.5%
London	14.2%	15.9%	18.4%	17.6%
South East Coast	7.7%	6.9%	6.3%	6.4%
South Central	6.8%	6.7%	6.3%	6.6%
South West	9.9%	9.8%	7.7%	7.4%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**



Weighted capitation: The Department of Health uses a weighted capitation formula (WCAP) to distribute resources to primary care trusts (PCTs) based on the relative health needs of each PCT's catchment area. The weighted capitation formula determines PCTs' target shares of available resources to enable them to commission similar levels of healthcare for populations with similar healthcare need, and to reduce avoidable health inequalities.

Headcount data source: Health and Social Care Information Centre non-medical workforce census 2012. Excludes staff from Special Health Authorities and other statutory bodies.
Commissioning data sources: Department of Health NMET (non-medical education and training) Monitoring. Quarter 4, 2012 & Forecast 2012-13.

Figure 6 indicates that the London SHA has a higher headcount of permanent nurses and more planned and actual commissions than would be allocated according to weighted capitation alone. By contrast, the East of England and South West SHAs have lower headcount and numbers of planned and actual commissions than if provision were to follow weighted capitation.

4.3 Key issues from the regional and provider engagement

4.3.1 Demography

All NHS regional areas and constituent SHAs reported a trend of an increasing and ageing population. In London the population increase is much higher than the national average. In the South there is a higher percentage of over 65s than the national average. In the North there is a lower rate of rising birth rate than the national average and a lower life expectancy than the national average.

4.3.2 Headcount

NHS nurse headcount has reduced in all SHAs over the period of 2009 to 2011, except for London, where it has stayed the same, and the South East Coast, which increased its permanent nurse headcount.

4.3.3 Demand and education commissions

The majority of SHAs and providers reported an increasing patient need for adult nurses due to increased levels of activity over the next year or two. They also expressed limited confidence in their ability to make projections for five years into the future. However, they also reported reductions in the affordable demand for the established workforce driven by financial constraints. Six SHAs reported that at present they intend to keep education commissions at a steady state. Two SHAs reported that education commissions will be decreasing to balance the future reductions in required workforce. Two SHAs reported an increase in commissions for certain areas such as mental health nursing.

The providers who were interviewed across the regions reinforced the view that the decrease in demand for nurses is financially driven. Several providers reported that service redesign is being implemented to address this, for example trust mergers, integrated trusts and community pathways. One SHA stated that the patient need will have to be addressed by backfilling with temporary staff. Some providers in this same area and also across the country reported a downward trend in the use of agency staff and a preference for bank staff. A recurring theme across most regions was that learning disability nurses are very hard to recruit.

4.3.4 Skill mix / productivity

All providers reported that they were leading reviews of skill mix in certain services. Some providers reported that they were reducing senior posts and increasing the use of band 4 and 5 posts. One provider reported a strategy to increase band 3 posts and career pathways.

There was a view expressed from most SHAs that the shift of care into the community continues to be a challenge and is not happening on the scale required. All SHAs and providers interviewed were in agreement about the importance of the 'shift of care' but there are challenges in making it happen in practice. Just two SHAs reported a rise in the number of nurses working in the community due to service reconfiguration, whilst one provider reported that traditional community nursing roles are diminishing and that there is a greater need for more generic nurses with the ability to work across several settings. Another provider said that their commissioning intentions are not yet aligned with the expectation for more care to be delivered in the community.

Another theme reported by many providers was that efforts to improve productivity are not yet producing the savings that were expected. They also stated that this could still improve in the future. Some providers reported that productivity improvements were successful on a small scale, so are looking at ways to improve this on a larger scale. Two providers interviewed stated that the implementation of telehealth was an example of where productivity is providing improvement.

Two providers interviewed are using nursing role substitutions to encourage movements between acute and community roles, and one provider reported the implementation of competence-based workforce planning. Others were looking at innovative ways to recruit: by looking internationally and also by working with higher education institutions (HEIs) to reduce course attrition and have a higher uptake rate for courses. Other solutions from providers were based around service provision, such as a newly build hospital that includes a GP practice, and working with voluntary organisations

Further detail on regional supply and demand is provided in appendix 3.

5. International perspectives

Other English-speaking and EU countries are projecting nursing shortages.

Australia

Health Workforce Australia modelling projects a shortage of 13,162 registered nurses (headcount) by 2016 in the baseline scenario (HWA, 2012). Similarly to the CfWI modelling, other scenarios project supply to meet demand if there are improvements in retention and productivity. Like England, Australia has historically relied on immigration to provide extra nurses required during shortages. However, Australia is aiming towards becoming self sufficient, which would create a larger gap between supply and demand. HWA suggests there would need to be additional graduates and reform of the system in order to prevent a further shortage.

Canada

In Canada, modelling projects a shortage of 11,000 FTE in 2007 rising to 60,000 by 2022 in the baseline scenario. Similarly to the CfWI modelling, other scenarios project supply to meet demand if there are improvements in retention, activity and productivity (Murphy et al, 2011). Other work suggests that the supply of nurses in Canada could be improved if there was an increase in migration of nurses to Canada and an improvement in absenteeism. Canadian absenteeism in the nursing workforce averages 14 days per year, which, if halved, would add an equivalent to 7000 nurses to the workforce (CNA, 2009).

USA

According to the American Association of Colleges of Nursing, several models have projected substantial nursing shortages in the USA (AACN, 2012). There are several reasons, including the ageing population and the ageing nursing workforce. Suggested solutions focus mainly on the training of more nurses through public-private partnerships.

Europe

According to the WHO, many other countries across the EU have a shortage of nurses (WHO, 2009). However, due to differences in the extent to which different EU countries have been affected by the financial crisis, it is possible that some countries will be less able to provide nursing services than others, so there may be nurses available to move to work in other EU countries. Due to the freedom of movement of workers in the EU, this may provide a preferable source of nurses to England than recruiting from the rest of the world.

6. Conclusions

In order for the nursing workforce to continue to deliver patient-centred, quality care, we must ensure that demand remains within the range of potential projections of the available and affordable supply.

Our projections show that there is potential for increased pressure on the availability of nursing staff to work in the NHS caused by a reduction in the supply of registered nurses and the possible increase in NHS demand up to 2016. We recognise that this modelling exercise has demonstrated that different combinations of assumptions can result in different projections and that further work is required to refine the forecasts in this report.

Firstly, an extensive discussion needs to be had within the system on the key national and regional messages in this report, to better understand how future supply and demand will change and which underpinning assumptions are most likely to happen. This will help to inform workforce leaders to make decisions on the future shape and composition of the nursing workforce up to 2016.

Secondly, we are urging workforce leaders to give careful consideration to balancing supply and demand locally based on their understanding of local population changes and behaviours. Education commissioning decisions should be set in the context of national projections and against budgetary constraints.

Thirdly, we will consider the impact of the new vision and strategy for nursing and midwifery and any actions that follow from the Francis Report.

LETBs together with their constituent providers will need to consider how supply can balance demand with a particular focus on reviewing the CfWI assumptions and comparing with local factors to establish a local supply and demand position. It will be important to managing at a minimum the following supply and demand factors.

Supply measures:

- commission an adequate supply of training posts
- continue to reduce the training attrition rate
- increase retention of new graduates and current staff
- reduce the loss of nurses to the international market
- encourage working patterns that are closer to full time to make best use of existing staff
- encourage older staff to delay retirement
- develop a programme for encouraging nurses to return to the profession.

Demand measures:

- work to meet Quality, Innovation, Productivity and Prevention (QIPP) targets
- respond to the growing demographic burden with efficient preventive measures such as effective management of long-term conditions to keep people out of hospital.

We will be developing an improved approach to nurse modelling which will explore likely scenarios and whole-system nurse modelling to improve supply and demand projections.

For further information, please contact nursing@cfwi.org.uk

7. Appendix 1: The CfWI model

7.1 CfWI modelling methodology

The CfWI has established a model to analyse and deliver high-quality national supply and demand projections for the nursing workforce that can be updated annually. This included the following.

- Establishing a gap analysis in information provision and identifying the new sources of data as necessary. This involved assessing the data available to the CfWI and initiating engagement with relevant stakeholders to obtain any further information.
- Establishing criteria for developing an upgraded, robust and future-proof model, incorporating supply and demand model parameters, including:
    - improved demand modelling with focus on key factors that will have significant quantitative effect
    - supply parameters based on latest available data, and up to five years' history
    - intelligence on factors that will affect the supply and demand of the nursing workforce.
- Ensuring the model aligned with 2012-13 generic developments for analytics and modelling in the CfWI.

7.2 Eight-stage process

This project followed an eight-stage process to produce the supply and demand projections:

- **Stage 1:** Collecting the data by using sources already accessible to the CfWI and liaising with other organisations to obtain their data. This involved collating data for the four separate branches of nursing – adult, children's, mental health and learning disability – to produce a dataset for all nurses. This enabled comparison in order to establish the best overall data and to highlight any issues with any particular source.
- **Stage 2:** 'Data cleansing' (i.e. checking the data for inaccuracies and anomalies). We carried out a literature search and review of key policy documents to indicate sets of data and trends for review. This enabled us to quantify some of the drivers for modelling.
- **Stage 3:** Drawing up assumptions, as set out in section 8.3, in the context of historical evidence and affordability.
- **Stage 4:** Testing the validity of our assumptions and data via stakeholder workshops. These were attended by different participants from the Royal College of Nursing (RCN), the NMC, NHS East of England Multi-Professional Deanery, the South London & Maudsley NHS Foundation Trust, NHS Professionals, the Council of Deans of Health and the University of Southampton Faculty of Health Sciences. This helped to quantify further drivers for modelling, based on the knowledge and experience of the stakeholders.
- **Stage 5:** Developing our baseline/low/high scenarios for supply and demand. These scenarios reflect a range of assumptions. The low scenario sets out the worst case if there were significant variations to the assumptions. Likewise the high scenario shows the best case.
- **Stage 6:** Simulation using the CfWI modelling tool, using the data and assumptions to forecast the future supply and demand in these scenarios.
- **Stage 7:** Analysis of the projections to establish whether there are any gaps between supply and demand predicted for the future, in the context of the strengths and weaknesses of the data and assumptions. Lessons learned during the process will be fed into the next stage of our work.
- **Stage 8:** Gathering of all regional perspectives via a stakeholder engagement strategy and through the use of structured interviews, in order to provide context to the national picture. This offers an improved understanding of both regional and local factors affecting supply and demand of the workforce and any strategies and responses being adopted by provider organisations.

8. Appendix 2: Supply and demand figures

8.1 Supply figures

Table 3 shows the supply figures derived from the supply modelling assumptions for all three scenarios across the forecast period.

Table 3: *Supply figures – nurses*

Supply factors	Notes	Low scenario	Baseline	High scenario
Starting point	Baseline based on total registration data for 2010. Low and high scenarios are projections and therefore start at 2011.	557,937 (2011)	572,034 (2010)	572,493 (2011)
End point in 2016	Projections for 2016 in baseline, low and high scenarios with supply drivers applied.	507,777	541,762	568,419
Change from starting point to 2016 projection	Baseline scenario projects a decrease between 2010 and 2016.	Decrease of 50,160	Decrease of 30,272	Decrease of 4074
Percentage change from 2010 to 2016	Percentage increase or decrease over the period, based on starting point of 572,034 in 2010.	12.05 per cent decrease	6.07 per cent decrease	1.35 per cent decrease
Key driver 1: New graduates joining register (starting point 13,724 in 2010)	All scenarios increase from 2010 to 2016.	Up to 14,001 (2016). Total graduates for the period: 96,706	Up to 15,065 (2016). Total graduates for the period: 102,353	Up to 16,005(2016). Total graduates for the period:107,228
Key driver 2: Retirements (starting point 9,586 in 2010)	All scenarios increase from 2010 to 2016. NB: The retirement profile is not constant over the period. Because of the initial high retirements in the first few years in the low scenario, there are effectively fewer people to retire in later years, whereas the baseline and high scenarios are more consistent through the years.	Up to 12,629 (2016). Total retirements for the period: 100,425	Up to13,054 (2016). Total retirements for the period: 78,675	Up to11,058 (2016). Total retirements for the period: 61,184
Key driver 3: Other joiners /leavers (net) (starting point 12,284 in 2010)	Baseline and high scenarios down from baseline in 2010. Low scenario up from baseline in 2010. NB: Others joiners /leavers (net) are all leavers except for retirements and international leavers from the total of registered nurses, therefore there may be some double-counting if a nurse leaves the NHS to work as a non-NHS nurse.	Up to 13,125 (2016). Total other leavers for the period: 93,183	Down to 12,114 (2016). Total other leavers for the period: 86,045	Down to 11,103 (2016). Total other leavers for the period: 78,906

The supply projection for nurses builds on the information provided in the CfWI workforce risks and opportunities (WRO) reports and offers a more comprehensive picture of future supply. The projection includes explicit consideration of leavers other than retirees. As specific data does not exist for this element of supply, its level is deduced from net staffing changes.

The latest Workforce Availability Policy and Programme Implementation Group (WAPPIG) figures show a reduced attrition rate for courses starting in 2009/10, which is the last starting year for a course to be complete by 2012 and therefore the latest full set of attrition figures. These figures have been included in the latest supply modelling.

The CfWI assumes that new graduates start work the same year they graduate, and that the net outflow of nurses through emigration, as identified in the WRO reports, continues in the future.

International recruitment was a substantial contributor to nursing staff growth in the early part of the last decade. This supply lever can be re-examined as part of the Migration Advisory Committee work the CfWI is currently undertaking.

8.2 Demand figures

Table 4 shows the demand figures derived from the demand modelling assumptions for all three scenarios across the forecast period.

Table 4: *Demand figures – nurses*

Demand factors	Notes	Low scenario	Baseline	High scenario
Starting point	Baseline based on total registration data for 2010. Low and high scenarios are projections and therefore start at 2011.	550,268 (2011)	572,034 (2010)	603,755 (2011)
End point in 2016	Projections for 2016 in baseline, low and high scenarios with supply drivers applied.	533,689	589,307	701,939
Change from starting point to 2016 projection	Baseline scenario projects an increase between 2010 and 2016.	Decrease of 16,579	Increase of 17,273	Increase of 98,184
Percentage change from 2010 to 2016	Percentage increase or decrease over the period, based on starting point of 572,034 in 2010.	6.7 per cent decrease	3.02 per cent increase	22.71 per cent increase

Table 5 summarises the projections in the baseline supply and demand scenarios. These are the resulting figures when the baseline assumptions are modelled.

Table 5: *Supply and demand matching projections – nurses*

Supply and demand matching	Notes	Baseline supply scenario	Baseline demand scenario
Starting point in 2010	Based on total registration data for 2010. Starting point for demand in 2010 assumed to equal supply in 2010.	572,034	572,034
End point in 2016	Projections for 2016 after supply and demand drivers applied to baseline scenario.	541,762	589,307
Profile across period from starting point	Overall change in baseline scenario from 2010 to 2016.	decrease of 30,272	increase of 17,273
Variations between 2010 and 2016	Percentage increase or decrease over the period, based on starting point of 572,034 in 2010.	5.59 per cent decrease	3.02 per cent increase
Gap between supply and demand by 2016	Extent to which demand is projected to outstrip supply by 2016.	47,545 (8.31 per cent)	47,545 (8.31 per cent)

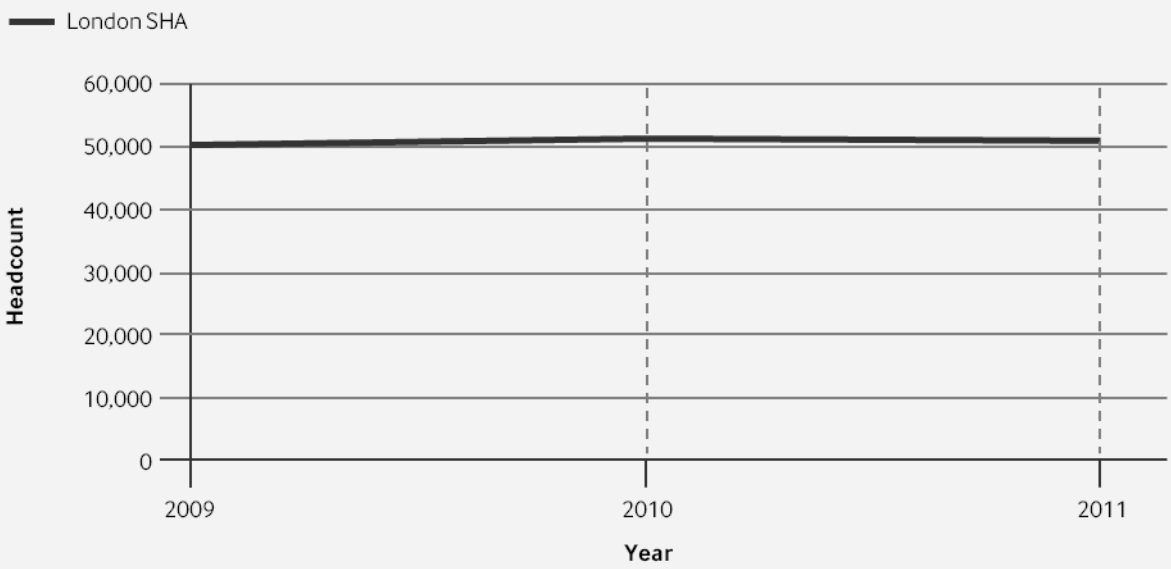
9. Appendix 3: Regional information summaries

9.1 NHS London

Figure 7 shows the historical headcount of permanent nurses working in the NHS since 2009 in London SHA, which shows an increase until 2010, followed by a reduction in 2011. **These figures exclude bank staff; therefore any relative change in their contribution is not reflected in the graphs.**

Figure 7: Historical NHS headcount – London cluster

After increasing from 2009 to 2010, NHS nurse headcount in London fell very slightly in 2011.



Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

London is a large world city and the largest urban population centre in the UK. It has a complex population characterised by ethnic diversity, comparatively young age, population mobility and migration, poverty and inequalities, crime and socially excluded population groups. According to ONS projections, the population will increase by 13 per cent to 9.08 million by 2031 (ONS, 2011a). This increase is across all age groups, but notably school children, those between the ages of 45 and 64, and older people (there has been a 34 per cent increase in the over-65s).

Providers have reported the intention to reduce, or increase, their overall nursing workforce by differing percentages up to 2016. An overall reduction to London's adult nursing workforce of 2.6 per cent is projected, although a very small increase is expected in the short term. Some providers anticipate a reduction of up to 30 per cent for certain branches of nursing up to 2016. Providers reported that financial constraints were the main driver for reducing their workforce, in conjunction with service redesign. Most acute and community trusts reported projected reductions in workforce, so there are issues relating to when and how care will shift into the community.

There are large trust mergers underway or being proposed, and major, local service, system redesigns at different stages of implementation, for example in North West London. The impact of these changes on the nursing workforce is difficult to assess.

Productivity improvements currently tend to be on a small scale and have only resulted in small reductions in demand. All

the providers interviewed reported reviewing skill mix in certain services and many were reviewing the band profile of their nursing workforce with the aim of increasing the proportion of band 5 posts. Through the emerging LETBs, providers aim to work more closely with their local higher education institutes (HEIs) to achieve improved quality of newly registered nurses, less attrition from courses and improved local recruitment, which is already being evidenced as successful by some providers.

Table 6: *Historical NHS nursing workforce headcount – London SHA*[2]

Staff type	2009	2010	2011
Nurses	50,459	51,361	51,259
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	9831	9352	5801
Healthcare assistants (HCAs) & support workers	9104	10,047	10,665
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	2.66	2.65	3.11

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

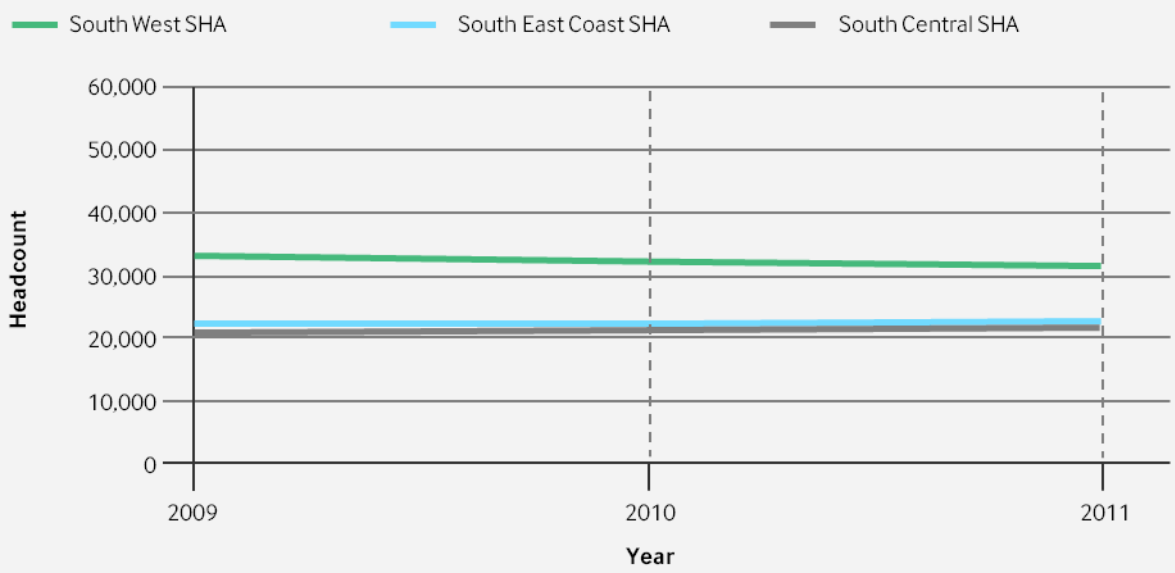
[2] Support staff excludes those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

9.2 NHS South of England

Figure 8 shows the historical headcount of permanent nurses working in the NHS from 2009 to 2010 in the South of England cluster by SHA, showing an increase over the period in the South East Coast SHA while the headcount decreased in the remaining SHAs. These figures exclude bank staff; therefore any relative change in their contribution is not reflected in the graphs.

Figure 8: Historical NHS headcount – South of England cluster

NHS nurse headcount rose in the South East Coast SHA, while it decreased in the remaining SHAs.



Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

NHS South of England comprises the South East Coast SHA, South Central SHA and South West SHA. According to the Office for National Statistics in 2010 the population for the South of England was 13,549,844, about 26 per cent of the population of England.

The largest density of population in the South of England cluster is Hampshire.

The South of England has a large population aged 65 and over (18.3 per cent), higher than the national average for England of 16.5 per cent.

South Central

The South of England (Central) SHA (SC SHA) in consultation with employers indicates some supply issues in general adult nursing in acute services.

The SC SHA view is to increase education commissions in the Thames Valley, subject to clinical placement capacity, and support return-to-practice initiatives. There will also be a move to a two output model to smooth the supply of new graduates. The SHA also reports that attrition during training is below the national average and expects a good supply of nurses in the future.

Providers in the South Central region believe that the increase in patient need could be met by transferring care into the community, increasing skill mix in the existing nursing workforce, as well as further honing of productivity measures. The SC SHA reports difficulties recruiting learning disability nurses and filling training places for this profession.

All organisations have cost improvement plans in place and are looking at reductions in senior posts and exploring skill-mix initiatives.

The providers described some successful initiatives in the region to increase productivity and implement innovation initiatives such as telehealth, return-to-work initiatives, community based skill-sets and discharge-planning initiatives. Providers say these initiatives are still in the early stages of development and implementation.

Table 7: *Historical NHS nursing workforce headcount – South Central SHA*[3]

Staff type	2009	2010	2011
Nurses	22,217	21,881	21,519
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	6500	6296	4941
Healthcare assistants (HCAs) & support workers	5585	5453	5470
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.84	1.86	2.07

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[3] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

South East Coast

The area has a large ageing population, so adult services are likely to show the largest change in patient need. Demographically, the workforce profile also shows a large proportion of nurses over 45.

The South East Coast SHA (SEC SHA) analysis of demand drivers indicates that patient need for nursing care will increase. High level workforce plans from the core providers project a fall in nursing establishment, reflecting financial pressures and some development in respect of any qualified provider. The drop in establishment will be partially mitigated by converting bank and agency spend to employing staff in post. The use of agency staff has declined overall, but in the acute sector in recent months the decline has halted, as activity has been higher than forecast.

At the time of the CfWI engagement, SEC SHA analysis of workforce demographics and flows, NHS provider projections and assumptions about demand from other sectors concludes that risks around security of supply will be contained by commissioning student adult nurse places at levels close to 2012/13 for the next academic year.

At the time of this discussion, SEC SHA proposes that district nursing courses are reinstated as requested by providers in each of the three county level partnership councils of the LETB (in recent years community nurse development has been delivered through a modular approach via CPD).

In the case of learning disability (LD) nurses, the number of commissions in SEC has been reduced in recent years, and these commissions have been under-recruited. The SHA has undertaken a review with commissioners and providers of LD services to explore issues and as a result of this has increased proposed commissions in 2013/14.

Successful initiatives in the region to meet the financial challenge include electronic rostering and the use of links to NHS professionals. There has been some success in using role substitution (assistant practitioners) and early recruitment initiatives by monitoring retirement and attrition trends. Providers are also exploring joint working initiatives with voluntary organisations.

Table 8: *Historical NHS nursing workforce headcount – South East Coast SHA*[4]

Staff type	2009	2010	2011
Nurses	22,086	22,100	22,371
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	8520	8093	5537
Healthcare assistants (HCAs) & support workers	5612	5219	5116
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.56	1.66	2.10

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[4] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

South West

The South West SHA reports that it expects the biggest increase in supply to be in adult nursing (general) which should rebalance the adult nursing workforce following the implementation of planned reductions in supply over the last four years. Productivity initiatives do not appear to be resulting in staff reductions as originally expected.

Geographically, there is an issue of recruiting nurses, as some parts of the region are seen as having access issues. The biggest risk, interviewees say, is the variations in supply between the two footprints covered by the LETBs, as this may reduce the possibility of moving nurses between locations to deal with unexpected rises in demand.

Providers in the South West report increased patient need over the past two years due to an increase in population, and ageing population and service changes (e.g. one provider has been designated as a trauma centre and is seeing increased levels of activity). Providers are reporting a planned decrease in demand but this is contrary to reported spikes in activity.

Nursing turnover is reported at 9 per cent, with some reported attribution to policy changes on retirement.

Providers report that initiatives include exploring recruitment (from Scotland and Portugal), admission prevention, early discharge and high levels of preceptorship for new graduate nurses. Skill-mix initiatives for support workers with extended roles are also being explored.

Table 9: *Historical NHS nursing workforce headcount – South West SHA*[5]

Staff type	2009	2010	2011
Nurses	32,867	32,185	31,502
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	12,040	10,813	7304
Healthcare assistants (HCAs) & support workers	7844	7541	8585
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.65	1.75	1.98

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

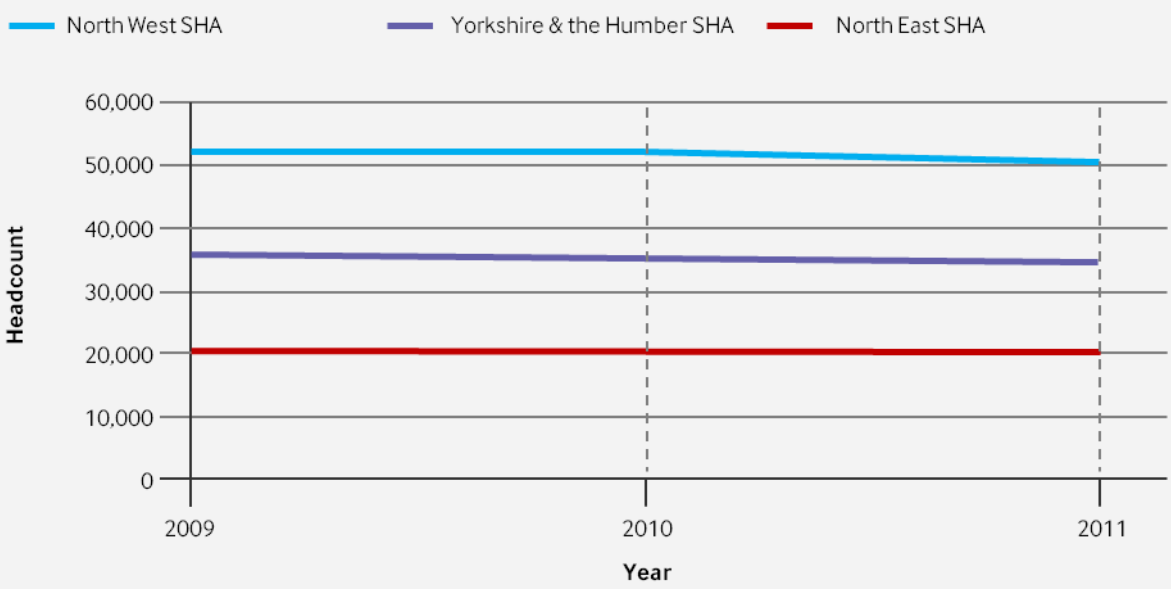
[5] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

9.3 NHS North of England

Figure 9 shows the historical headcount of permanent nurses working in the NHS since 2009 in the North of England cluster by SHA, showing a reduction by 2011 in the North East, North West and Yorkshire and the Humber SHAs. These figures exclude bank staff; therefore any relative change in their contribution is not reflected in the graphs.

Figure 9: Historical NHS headcount – North of England cluster

All SHAs in the North of England cluster recorded reductions in NHS nurse headcount in 2011.



Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

North East

The North East has a population of 2.6 million people. This has increased by 2.6 per cent since 2001, compared with an increase of 5.3 per cent for the UK over the same period. Life expectancy at birth for the region is one of the lowest in the UK, standing at 77.2 years for males and 81.2 years for females. The UK-wide figures for life expectancy are 78.2 and 82.3 years respectively (ONS, 2012).

The North East SHA is not anticipating any major changes in education commissions in the next year, nor any significant increase in the overall nursing workforce.

Employers in the North East have a focus to increase productivity and are reviewing their grade mix, managing costs more effectively by making more use of less-expensive staff and making more use of staff on bands 4 and 5.

The impact of the shift of care to the community is not yet being fully realised and while structural change is happening transformation of the workforce is still in its early stages. Providers in the North East shared that they expect to see more integrated trusts, community pathways, possibly an erosion of traditional community nurse roles, with more generic nurses working across different settings to give providers greater flexibility.

There are some difficulties in recruiting learning disability nurses. Health visitor numbers are increasing and the SHA anticipates that the community nurse roles will change as FTs use their staff differently. The impact of GP nursing teams could be seen in the future, with patients being referred to other parts of the same practice rather than to the acute sector, and with nurses being employed on a session basis.

Table 10: *Historical NHS nursing workforce headcount – North East SHA*[6]

Staff type	2009	2010	2011
Nurses	20,818	20,800	20,430
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	5563	6269	4693
Healthcare assistants (HCAs) & support workers	6531	6366	6209
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.72	1.65	1.87

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[6] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

Yorkshire and the Humber

The Yorkshire and the Humber had a population of 5.3 million people in mid-2010; this has increased by 6.5 per cent since 2001, compared with an increase of 5.3 per cent for the UK over the same period (ONS, 2012).

The Yorkshire and the Humber SHA anticipates a relatively steady state of education commissions due to commissioning reductions over the last few years following a period of increased commissions prior to that and much reduced attrition rates from training courses over recent years. The SHA also anticipates an increase in patient need for primary care, health visiting and school nursing services, which could deplete the adult nursing workforce. As a result of this, it is unlikely that commissions will be reduced, as the SHA has to slightly over-commission based on regional needs to ensure that a national balance is also maintained and non NHS posts are filled. Close scrutiny of changing retirement patterns may also require some adjustment in commissions over the next few years, as 12 per cent of the nursing workforce is aged over 50.

However, the general trend is that trusts in Yorkshire and the Humber are reducing beds and nursing posts, and expect to see a downward trend in demand from providers. One provider interviewed did suggest an increase in patient need for all nursing roles, partly driven by an expectation that more services will be provided in the community, and partly by some difficulties in retaining their current workforce. However, it is recognised by the SHA and providers that commissioning intentions and 'realities' are not yet aligned on this. Providers are aware that service change configurations will affect demand but they are not certain if this will result in a significant increase or decrease as yet.

Attrition is reported as an issue for some providers, due in part to the rising number of retirements. But providers report introducing strategies to mitigate against this issue, such as initiating band 3 posts and career pathways.

A large provider organisation in the Yorkshire and the Humber SHA reports that demand for nursing broadly matches supply, and that it employs the majority of suitable graduate nurses.

Patient need has increased recently due to a population increase and significant regional health indices with increasing complex needs for patients. Future demand is dependent on the successful implementation of care closer to home initiatives, which will drive lower requirements for district nurses. At the moment providers are not seeing a reduction in accident and emergency attendance. Future demand will be for community nurses (with acute skills) and an increased capability for prescribing – for which training is readily accessible.

Initiatives include reducing unavoidable and unplanned admissions, recognising very complex needs of the frail and older population and service redesign improvements (geriatric medicine one-stop shop) which are reducing bed days and should reduce demand for nurses. There are local GP cooperative initiatives designed to reduce accident and emergency attendance as well as hospital at night initiatives looking at multiprofessional and multispeciality approaches.

Agency nurses are used (through NHS Professionals and with electronic rostering) and cover sickness and vacancies where recruitment is challenging. This is strictly controlled and allied with minimum standards of safe-staffing policies. Providers are not recruiting nurses from other countries.

The region is also focusing on workforce redesign to maximise skills and enhance the patient experience as well as acting as a financial driver in meeting productivity targets. This includes regional designation of services and redesign of tertiary centres to deliver services.

An initiative to consider how to develop advanced practice nursing in primary care is now in its third full year of implementation and a career structure for the community nursing workforce is being developed.

The SHA reports some areas as difficult in terms of recruitment, including prison service nursing and district nursing. Although the general trend is for trusts to reduce nursing numbers, neonatal nursing and health visitor numbers have increased, with particular demands being made across many specialist nursing areas, requiring additional post-registration training from an early career stage.

Table 11: *Historical NHS nursing workforce headcount – Yorkshire and the Humber SHA*[7]

Staff type	2009	2010	2011
Nurses	35,515	35,270	34,795
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	14,031	11,465	8971
Healthcare assistants (HCAs) & support workers	9954	10,248	9705
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.48	1.62	1.86

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[7] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

North West

The North West is the third largest region in the UK in population terms. Its population of 6.9 million people has increased by 2.4 per cent since 2001, compared with an increase of 5.3 per cent for the UK over the same period. Life expectancy at birth is 77 years for males and 81.1 years for females, lower than the UK-wide figures of 78.2 and 82.3 years, respectively.

There are indications are that there may be a slight increase in education commissions this year, but followed by a steady state with no further increase in the foreseeable future. This potential increase in education commissions is largely being driven by an increase in patient need for mental health services and adjustments to learning disability numbers to accommodate some movement from this branch into health visiting and school nursing.

The steady state will be influenced by the conversion of hospital staff to community roles rather than additional staffing being required.

An increase in the supply of nurses is being influenced by reduced attrition from education programmes and a potential influx of Greek and Spanish nurses seeking work in the UK. Historically, the Improving Access to Psychological Therapies (IAPT) / mental health programmes have attracted their high-intensity workers from the nursing workforce, but this is expected to level out.

A provider in the region reported that there were a reduced number of applicants despite increased services requirements pointing towards an overall shortage. This provider faced challenges attracting the workforce due to its geographical location as well as to unscheduled care areas. The provider was looking at ways to attract staff through open days and targeted recruitment drives. The provider described they were also looking at 24/7 working arrangements to try to improve the flexibility of the workforce.

Another provider in the region reported that demand has changed over the last two years. In 2011 the organisation was looking at bed reductions and reconfigurations that were indicating lower demand for adult nurses. In 2012 demand has changed due to an increase in funding for nursing posts and its establishment across specialities and services. The provider was also looking to introduce modular theatres which will result in new ways of working and likely to increase the demand for nurses as part of looking at the whole workforce configuration for these modular theatres.

Across the North West there is an initiative to look at possible joint services across providers in the future. This initiative is considering the overall make up of services in relation to the overall population and service requirements from providers.

The North West has invested in developing competence-based workforce planning so that the work of nurses and midwives is focused on confirmed activities and continuing to improve productivity and quality outcomes.

Table 12: Historical NHS nursing workforce headcount – North West SHA[8]

Staff type	2009	2010	2011
Nurses	52,091	52,032	50,577
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	18,512	19,348	13,419
Healthcare assistants (HCAs) & support workers	11,196	10,175	10,438
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.75	1.76	1.88

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[8] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

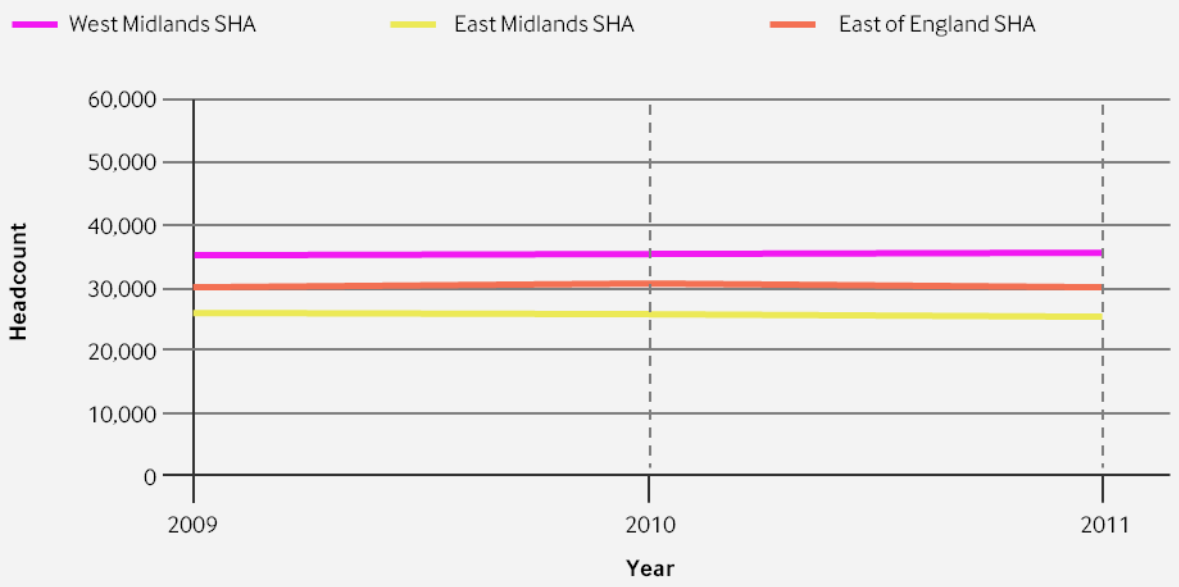
9.4 NHS Midlands and East

The NHS Midlands and East is comprised of the West Midlands, East Midlands and East of England SHAs.

Figure 10 shows the historical headcount of permanent nurses working in the NHS since 2009 in the Midlands and West cluster by SHA. This shows a reduction in headcount from 2009 to 2011 in all SHAs. These figures exclude bank staff; therefore any relative change in their contribution is not reflected in the graphs.

Figure 10: Historical NHS headcount – Midlands and East cluster

NHS nurse headcount decreased from 2009 to 2012 in the East Midlands, East of England SHAs and West Midlands.



Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

West Midlands

The West Midlands is a diverse region and includes Birmingham. Its population was 5.5 million in mid-2010 and has increased by per 3.3 per cent since 2001 (5.3 per cent for the UK across the same period). Life expectancy at birth is 77.9 years for males and 82.2 years for females, slightly less than the UK-wide figures of 78.2 and 82.3 years, respectively.

Due to service reconfigurations and a need for efficiency, there is evidence that there are some reductions in provider demand for adult nurses in the West Midlands.

There has been a rise in the number of nurses working in the community due to service redesign. Therefore the SHA is considering increasing education commissions on community nursing. Overall, education commissions are described as being in a steady state. The need for efficiency is a common element across all providers. Many have described a steady state holding pattern due to service reconfiguration consultations and service changes on the horizon.

One provider reported that turnover for nursing staff is low and any recruitment of nurses was not problematic. This provider also reported that demand for nurses is shrinking due to the cost improvement programmes in district nursing and community hospitals.

There have been some recent reductions in provider demand, but this may be counteracted by the shift from secondary to primary care. However it is difficult to predict at this stage. The SHA is considering re-skilling nurses, e.g. nurses working as virtual teams, and using different service models.

One provider described a range of initiatives to help address some of these issues, including a new-build hospital that includes a co-located GP practice. There is also a focus on competency development for physiotherapists and occupational therapists including skills and capability development to increase workforce flexibility.

Provision for learning disability nurses has been, and continues to be, challenging. It has been difficult to achieve suitable geographical coverage in the region, and data on the latest coverage is still to be confirmed.

Table 13: *Historical NHS nursing workforce headcount – West Midlands SHA*[9]

Staff type	2009	2010	2011
Nurses	35,294	35,368	35,258
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	10,123	11,111	7389
Healthcare assistants (HCAs) & support workers	9662	9933	9950
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.78	1.68	2.03

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[9] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

East of England

The East of England is the second largest region. The population was 5.8 million in mid-2010 and has increased by 8 per cent since 2001 (5.3 per cent for the UK across the same period). Life expectancy at birth is 79.6 years for males and 83.2 years for females, higher than UK-wide figures of 78.2 and 82.3 years, respectively.

The SHA indicates that education commissions in the East of England will remain at a steady state. The East of England SHA is aware that the workforce will have to become more flexible in its way of working to support the shift in care from acute to community settings. Assistant practitioner and maternity support worker programmes are, however, well embedded.

There are challenges demonstrating improvements in productivity as a result of the initiatives implemented and in moving the services into community settings.

Changes in the workforce indicate that some adult nurses may be redeployed to work as health visitors in the future, and there may be a potential increase in provider demand for advanced practitioners where there are challenges with medical staffing, for example, in emergency medicine. Difficulties were reported in recruiting children's nurses and a potential knock-on effect to health visitors.

One provider reported issues with recruiting staff, particularly operating department practitioners (ODP), nurses in bands 5 and 6, and scrub and anaesthetist nurses. This provider is partnering with other providers and investigating ways of working to increase activity to meet demand. Another provider in the region had concerns about the age profile of this workforce and was looking into ways of further understanding supply risks.

Historically, commissions have reduced, and coupled with an ageing workforce, there are potential local service-delivery risks. The involvement of providers in the development of workforce and education commissioning plans, in partnership with local workforce planning, minimises this risk. Additionally the Performance and Quality Assurance Framework has resulted in improved attrition rates, particularly for adult nursing.

Cross-border flows of workforce across counties are also a key consideration, as the region can be a difficult area to settle into. Families often require two working adults to sustain and meet living costs. These factors reduce the overall flexibility of this workforce.

Table 14: *Historical NHS nursing workforce headcount – East of England SHA*[10]

Staff type	2009	2010	2011
Nurses	29,989	30,312	29,907
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	11,077	10,560	7848
Healthcare assistants (HCAs) & support workers	6105	6522	6603
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.75	1.77	2.07

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[10] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

East Midlands

The East Midlands is a diverse region hosting significant conurbations such as Nottingham and Leicester. The population was 4.5 million in mid-2010 and has increased by 7 per cent since 2001 (5.3 per cent for the UK across the same period). Life expectancy at birth is 78.4 years for males and 82.4 years for females, compared to UK-wide figures of 78.2 and 82.3 years, respectively.

The East Midlands SHA reports some historical reductions in the adult and mental health nursing workforce, although there are early indications that there is a national appetite to modify nursing workforce based nurse-to-bed ratios.

However, the East Midlands SHA expects a slight downward trend in commissions for adult nurses and learning disability nurses, with some expected difficulty in recruiting learning disability nurses. There does however appear to be an increase in independent sector providers for learning disability nursing.

The SHA is engaged in discussions regarding the role of the advanced practice nurse, with a view that the nursing role is changing and needs to adapt to changes for intensive-care medicine and anaesthetics.

The East Midlands SHA reports some difficulty in recruiting the workforce to rural areas (specifically Lincolnshire) and is providing incentives for trainees to work in these rural locations.

Some providers in the East Midlands report an increase in patient need due to increases in population and age profile. There are no reported issues with the supply of nurses. However, some providers are developing plans to assure the supply of experienced nurses. In addition, assistant practitioners are being trained to foundation level to increase the capacity and capability of the workforce.

New models of care are being implemented (neighbourhood teams with close links with social care teams), which is easing the demand on the nursing workforce. There is a need to increase the skills base of nurses supporting those with long-term conditions.

Providers are using initiatives such as telehealth and telecare and non-medical prescribing to deal with the increased patient need overall.

Table 15: *Historical NHS nursing workforce headcount – East Midlands SHA*[11]

Staff type	2009	2010	2011
Nurses	25,813	25,537	25,362
Nursing assistants, nursing assistant practitioners, auxiliaries & nursery nurses	9477	7871	6214
Healthcare assistants (HCAs) & support workers	5810	6920	6869
Ratio of nurses to nursing assistants, nursing assistant practitioners, auxiliaries, nursery nurses, HCAs & support workers	1.69	1.73	1.94

Source: HSCIC Non-Medical Census (HSCIC 2010, 2011, 2012)

[11] Support staff exclude those working in maternity services. Totals may not match HSCIC figures due to differences in rounding.

10. Appendix 4: Economic considerations

Funding issues

This appendix sets out in more detail the funding issues facing the NHS nursing workforce in England and reviews recent employment trends against earlier periods of declining nursing levels.

The majority of nursing care in England is funded by the taxpayer, through the NHS. Therefore the outlook for the NHS budget in England is a key consideration when assessing the feasibility of maintaining or expanding the nursing workforce.

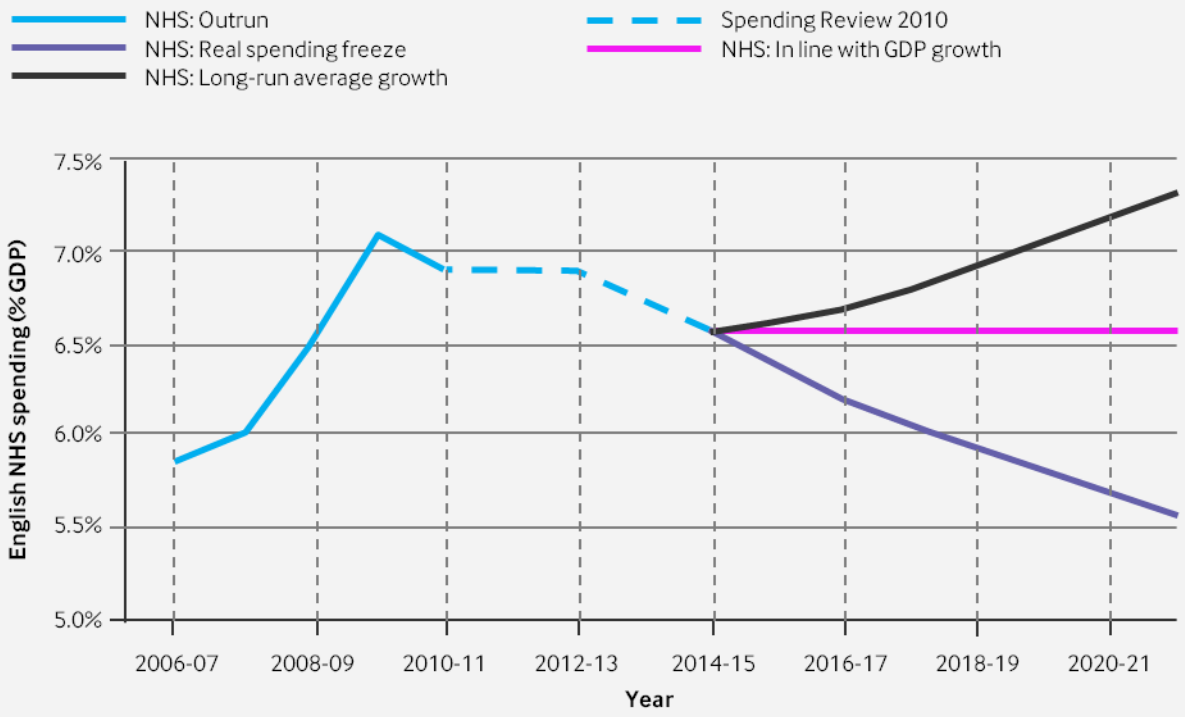
The cash-spending plans for the NHS in England for the period 2011/12 to 2014/15 were set out in the last Spending Review (HMT, 2010). They provide for a very modest 0.1 per cent per annum average real increase over that period. Though it is not yet clear what will happen to NHS funding beyond that point, a recent Institute for Fiscal Studies report for the Nuffield Trust outlined three funding scenarios for English NHS spending between 2015/16 and 2021/22:

- spending remains frozen in real terms
- spending grows and shrinks in line with national income
- spending grows in line with its long-run average for the UK (around 4 per cent per annum since 1950/51) (IFS, 2012).

These funding scenarios are shown in Figure 11.

Figure 11: NHS England funding scenarios

Three possible funding scenarios for NHS England to 2021/22, expressed as a percentage of national income.



Source: Institute for Fiscal Studies 2012

Irrespective of the funding scenario shown over the forecast horizon of this report, the CfWI holds that real funding levels for the English NHS will vary much from Spending Review levels. Recent health settlements have been challenging and the CfWI understands this is likely to remain the case for some time.

Recent analysis of foundation trusts' annual plans by the independent regulator of NHS foundation trusts Monitor found that:

All trusts face the challenge of improving the quality of care they provide and delivering significant savings year-on-year while meeting an increased demand for services and more stretching input targets... By the end of 2015 we expect that trusts will also need to be making significant changes in the way services are delivered, including through system reconfiguration and consolidation of suppliers. (Monitor, 2012)

On the demand side, greater reliance by trusts on demand management should reduce overall volume growth in demand below its long-term trend.

On the supply side, Monitor reports that pressure for trusts to make savings as part of the Government's efficiency challenge is resulting in a 'step change' in cost improvement plans.

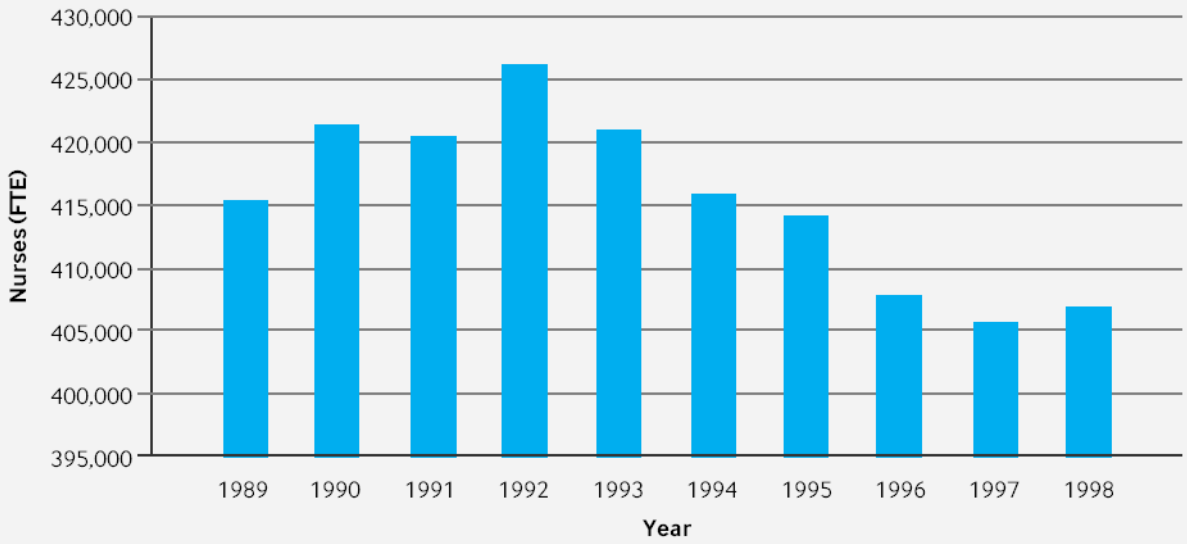
Employment trends

Budget pressures, efficiency measures and staff-reduction plans have led to some reduction in NHS nursing levels from their recent peaks. Monthly figures published by the Health and Social Care Information Centre on the NHS Hospital and Community Health Service (HCHS) workforce reported that by July 2012, NHS England nursing numbers in the HCHS workforce had declined by 2.5 per cent from its March 2010 peak of around 282,400 FTE staff (318,200 headcount) (provisional figures) (HSCIC, 2012b). This is an annual rate of decline of just over 1per cent, a similar pace of annual decline to that seen in the last nursing employment downturn in the early 1990s (as discussed below).

Figures 12 and 13 shows the historical nurse employed workforce full time equivalent (FTE) in Great Britain and the percentage change from year to year in another period of economic constraint.

Figure 12: Historical NHS nurse employment (FTE basis) during the last recession – Great Britain

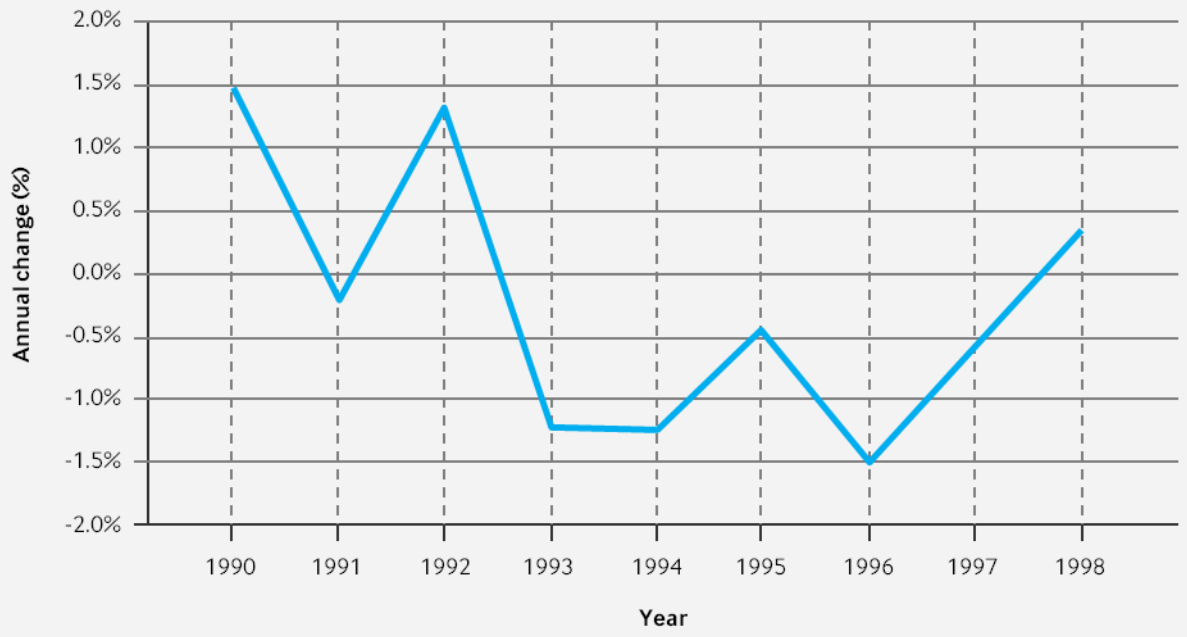
During the last recession, NHS nursing levels (full-time equivalent) peaked in 1991/92 and experienced a 5 per cent decline over the following five years.



Source: Office for Manpower Economics (OME, 2012)

Figure 13: Percentage annual change in historical nurse employment – Great Britain

NHS nursing levels fell for five consecutive years in the mid 1990s.



Source: Office for Manpower Economics (OME, 2012)

The continued pressure on trust budgets from challenging health settlements, and the need to achieve further savings in operating costs, may result in further reductions in NHS nursing levels over the remainder of the Spending Review period. However, Monitor reports the latest foundation trust annual plans 'are forecasting only a small change in frontline staff (acute +1 per cent, mental health -1 per cent)', over the plan period to 2014/15, with savings though reductions in clinical support staff, administrative and clerical costs, and 'more efficient working on the front line' (Monitor, 2012).

If these plans reflect the likely outcomes across all NHS trusts, they suggest smaller relative reductions in nursing levels than occurred in the early-to-mid 1990s, when nursing (FTE basis) fell by an average of almost one per cent per annum for five years. However, given the tighter fiscal position the NHS faces over the next five years compared with the early 1990s, and the challenges in transforming service delivery, such an outcome cannot be guaranteed.

11. Appendix 5: Demographic assumptions

The demand due to demographic growth was calculated using projections of the English population and weightings for requirements for medical services by age and gender. The relative demand from people in a particular age band and gender is calculated for the whole population, and calculated for each future year to give an estimate of the overall future health service demand by year.

The baseline growth of the English population uses the 2010-based principal population projection for England (ONS, 2011a) that assumes:

- a long-term average completed family size of 1.85 children per woman
- life expectancy at birth in 2035 of 83.6 years for men and 87.2 years for women, with constant rates of mortality improvement assumed thereafter
- long-term annual net migration to the UK of +172,500 per year.

The baseline weightings for health service use were calculated for both primary and secondary care. Secondary care weightings used HSCIC outpatient attendances data by age and gender (HSCIC, 2012c). Primary care weightings used PCT revenue allocation weightings by age and gender (DH, 2011b). The average demand from secondary and primary care estimates was used to give the year-on-year percentage growth in demand.

The demand projection is an average of 0.8 per cent, year on year, between 2012 and 2020. From a base in 2012, the CfWI expects the total demand to increase by 11.1 per cent by 2022. The forecast growth rate for primary and secondary care is 11.1 per cent, with primary care providing a slightly greater growth.

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