CF WI
CENTRE FOR WORKFORCE INTELLIGENCE

Securing the future workforce supply

Speech and language therapy stocktake

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Executive summary

The Centre for Workforce Intelligence (CfWI) was commissioned by Health Education England (HEE) and the Department of Health (DH) to undertake a stocktake review of the speech and language therapy (SLT) workforce in England, up to 2025. **The stocktake investigated the whole workforce, including those working outside the NHS, to assess whether there will be an undersupply or oversupply of SLTs by 2025 if current levels of service per client are maintained. This report has been provided to HEE and will help inform the decisions it makes as part of its annual workforce planning process.**

CfWI modelling indicates that over the medium term, client demand and workforce supply are likely to remain broadly in balance, as long as current training and service levels are maintained. Our key findings and next steps are detailed below.

Our approach

A CfWI workforce stocktake investigates the current balance of demand and supply for a particular workforce and explores how this is expected to change in the medium term. For this project we took a view to 2025. Recognising the complex set of interrelated factors that may influence demand and supply, our stocktake approach consists of horizon scanning, a specialist Delphi panel exercise to quantify key uncertainties, and building a system dynamics workforce model.

This stocktake has been aided by extensive stakeholder engagement over the course of the project. Please see **Annex A** for more details.

Key findings

The current workforce

The SLT workforce has grown steadily over the past decade. Registration data from the Health and Care Professions Council (HCPC) shows a 91 per cent increase in SLTs in England since 2001. The SLT workforce in England in 2013 was estimated at 10,710 (headcount), which equates to about 8,630 on a full-time equivalent (FTE) basis.

Commissioned training places have fallen by around 16 per cent from their 2009-10 peak, to 673 posts in 2013-14 (see Figure 3 of the main report for details).

The SLT workforce is marked by its diversity, with a wide range of employers, settings and client groups. For example, about 66.5 per cent of contracted SLT time falls under the NHS. This diversity of employers (with many SLTs working independently, in education or in the third sector) has made data collection and workforce planning more difficult. Our research also found the SLT workforce is relatively young and 97 per cent of SLTs are women. Around 61 per cent of a SLT's contracted hours are spent working with children.

Baseline demand and supply

Our baseline demand projection forecasts around a 7.7 per cent increase in client demand for SLT services by 2025 compared with 2013 levels, on a full-time equivalent (FTE) basis. This would be a compound annual

growth rate of 0.6 per cent. However, this projection solely reflects demographic factors (population growth and changing age composition) and may significantly underestimate future increases in client demand. For example, higher demand for SLT services, due to factors such as the ageing population or higher life expectancies for those with cerebral palsy, Down's syndrome and other complex conditions, may mean more community-based SLT provision is needed. It is also likely to affect the balance between adult and children SLT demand and workforces.

We also note the Delphi expert panel's assessment of a high level of current unmet need for SLT services, particularly for adolescents (12-18 years old). The introduction of Education, Health and Care (EHC) plans – which replaced Special Educational Needs and Disabilities (SEND) statements and Learning Disability Assessments (LDAs) on 1 September 2014 – is expected to increase access and demand for SLT services. This CfWI publication was completed before the reforms came into place, but SLT is now classed as 'educational provision', which means there is a legal obligation for provision (The Telegraph, 2014). This change in policy may raise awareness of speech, language and communication needs (SLCN), and thus increase demand for SLTs in the long-term.

Our baseline supply projection forecasts a 25.4 per cent increase in the SLT workforce in England, to about 10,820 FTEs by 2025. This would be an annual growth rate of 1.9 per cent, which is slower than the historical pace of workforce growth – largely reflecting a lower level of training commissions.

Principal projections

Our 'principal projection' (the most likely or expected future) suggests that demand and supply will be broadly in balance over the projection period to 2025, although demand is forecast to rise slightly faster than supply.

Our modelling forecasts an increase in **client demand** for speech and language therapy services of around 32 per cent by 2025, to around 11,400 FTEs. This would be compound annual growth rate of 2.3 per cent and an increase of about 2,770 FTE from 2013 levels. This projection reflects demographic factors (population growth and changing age composition) and intrinsically uncertain variables considered by our Delphi panel such as rising average individual patient need (+12 per cent) and productivity (+4.2 per cent more time needed).

Our principal projection for SLT **workforce supply** is forecast to increase by around 28 per cent to around 11,075 (FTE) by 2025. This would be an annual growth rate of 2.1 per cent and an increase of about 2,445 FTE from 2013 levels. This projection reflects the total number of SLT trainees in 2013, assumptions about length of training and trainee and workforce attrition, and Delphi-informed assumptions about retirement age.

The CfWI's assessment is that if SLT training commissions are held at 2013-14 levels there should be a sufficient supply of SLTs working in England to keep supply and client demand broadly in balance over the entire projection period to 2025 (assuming the same level of services per capita as today). Sensitivity analysis suggests that changes to the productivity growth assumption or to our workforce attrition assumption do not fundamentally change that assessment.

Next steps

The CfWI suggests that HEE considers maintaining SLT training commissions at or around their 2013-14 level, as this is consistent with medium-term demand and supply being broadly in balance.

The CfWI considers that maintaining the current level of SLT training commissions is the best course of action, as it is likely to keep demand and supply for SLT services broadly in balance over the entire projection period to 2025. Any significant reduction in training commissions from current levels could put the SLT workforce at a risk of undersupply, particularly if demand for non-NHS services continues to grow.

The CfWI proposes a further workforce review be conducted in five years' time, or sooner if training commissions are reduced.

Periodic reviews (every five years or so) of the SLT workforce will help better inform training commissioning and workforce planning over the medium to long term. However, should there be a significant further reduction in SLT training commissions, it would be prudent for the next workforce review to be conducted sooner.

The viability of regular workforce reviews partly hinges on the collection of better data, and a review updating and expanding the areas this report has investigated may not be possible without an improved range of data. There are also areas of investigation regarding the profession that would help develop a better understanding of the unique dynamics of the profession, such as the flow of SLTs between different sectors of employment and changes to attrition rates.

The CfWI also proposes that another whole-profession census be conducted in time for the next SLT workforce review.

This workforce stocktake has been greatly facilitated by the recent Royal College of Speech and Language Therapists (RCSLT) membership census, which provided timely whole-profession data of great depth. A comparison against data with mandatory reporting (such as that collected by HCPC and HSCIC) indicates the survey data is representative. However, the survey was a one-off event, and identifying trends and changes over time is not possible without further editions of the survey. This does not necessarily have to be carried out by the RCSLT, but future SLT workforce surveys (as well as enhanced data collection regarding data on demand for SLT services) should make every effort to cover the whole profession.

Finally, the CfWI would like to thank the speech and language therapists, other health professionals, professional bodies, employers and patients who made a contribution to this workforce stocktake. The CfWI welcomes all responses to this report. The project team can be contacted at: medical@cfwi.org.uk.

1. Introduction

1.1 About this stocktake

Health Education England (HEE) and the Department of Health (DH) jointly commissioned the Centre for Workforce Intelligence (CfWI) to conduct a stocktake review of the speech and language therapy (SLT) workforce in England.

A CfWI workforce stocktake review investigates the current balance of demand and supply for a particular workforce and explores how this is expected to change in the medium term. For this project, we took a view to 2025.

This SLT stocktake seeks to analyse, where possible, the whole SLT workforce, including the considerable proportion working outside the NHS. The review also considers inter-professional working between SLTs and other clinicians who jointly deliver care. The CfWI was specifically asked to:

- identify the key drivers of demand and supply for the SLT workforce
- review the available evidence on service delivery, workforce workload and capacity
- estimate the level of training commissions that would be needed to ensure workforce supply is broadly in balance with expected demand in 2025.

The project does not propose future ways to deliver care or future models of funding. It studies the SLT workforce in England and sets out to assess whether there will be an under- or oversupply of SLT by 2025 if **current levels of service per client are maintained**. Although we account for regional differences, they are not analysed in detail. Furthermore, education and training structures and programmes are not discussed.

The stocktake provides baseline demand and supply projections and a 'principal projection' (most likely or expected future) for the SLT workforce to 2025, drawing on the CfWI system dynamics model and informed by a Delphi expert panel.

1.2 Stakeholder engagement

The CfWI approach involved engaging with a broad range of professional representatives with specialist perspectives on the SLT workforce, including the Royal College of Speech and Language Therapists (RCSLT). This engagement was both to improve the quality and credibility of the CfWI's approach and to improve stakeholders' understanding of the intelligence contained in this review and its potential to support decision-making.

Information provided by these representatives is used throughout the report, and includes perspectives and analysis derived from available data.

We would like to thank all stakeholders for their time and contributions, while also noting that our conclusions and suggestions may not necessarily reflect those of the individuals and organisations consulted. For a full list of the stakeholders involved in this project, please refer to **Annex A**.

1.3   Previous CfWI reviews

This report builds on the CfWI's *Workforce risks and opportunities* report for speech and language therapists (SLTs) (CfWI, 2012). That report concluded that rising demand for the SLT workforce was likely as a result of policy initiatives, the ageing population, the rise in dementia, and the increasing number of children with complex speech, language and communication needs.

The report noted that despite general recognition that demand is increasing, a majority of strategic health authorities (SHAs) were (at that time) reducing their planned training commissions for 2011-12. The supply of SLTs was forecast to increase by 36 per cent (headcount) in the five years to 2016.

Our 2012 report recommended the following next steps.

- Commissioners to take into consideration the management of the predicted increase of almost 30 per cent in the workforce in the next five years in the context of factors leading to increased demand.
- Employers and the professional body to work together to identify ways to support new graduates into work to consolidate learning and professional practice.
- Employers and the professional body to work together to explore ways to share the skills and experience of senior clinicians within a changing workforce.

2. Context

2.1   What do SLTs do, and who do they work with?

SLTs assess and treat speech, language, communication, and eating and swallowing disorders in people of all ages, both children and adults (NHS Careers, 2014a). They work with clients in a wide range of settings – including direct support, or helping and training parents, carers and other professionals. These disorders may be caused by neurological impairments (including stroke and acquired brain injury), an autism spectrum disorder, learning disabilities or voice disorders, though, in many cases, the cause of speech, language and communication needs (SLCN) is not clear.

Figure 1: Speech and language therapist time spent with client groups

Work with children constitutes 61 per cent of SLT contracted hours.
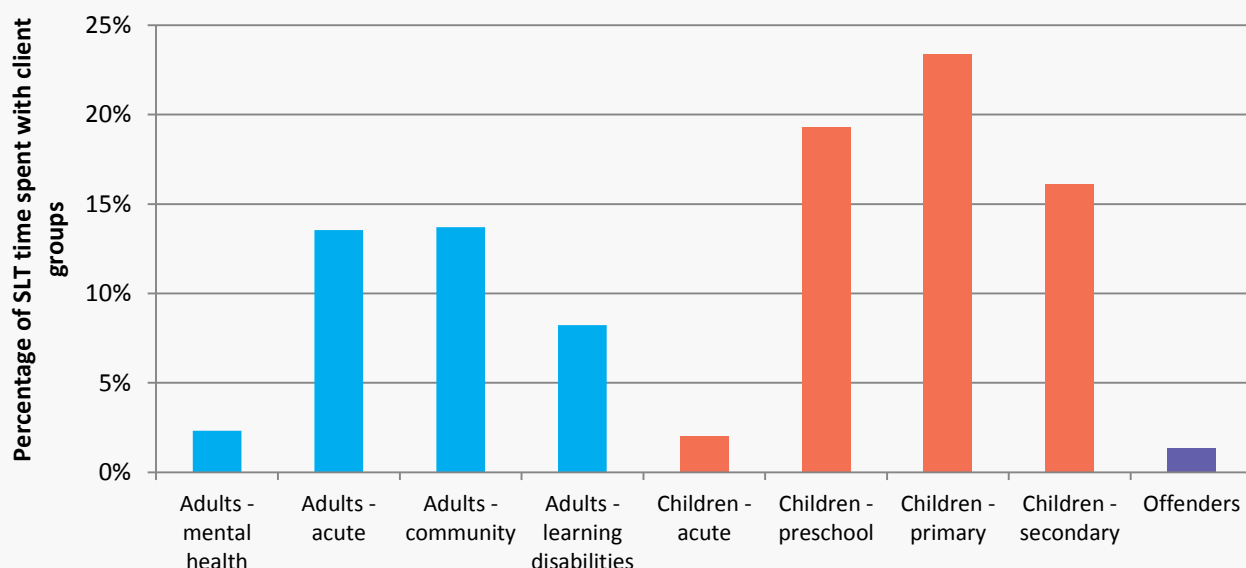
Source: RCSLT (2014a) membership census

The diversity of the client group is a feature of the profession. Figure 1 shows how many SLT-contracted hours are spent with each client group, according to the recent RCSLT (2014a) membership census.[1] Children account for the majority of SLT time, with around **61 per cent** of contracted hours spent working with children. Primary school age children (aged 5-11) constitute the largest client group, accounting for around **23 per cent**, though many SLTs also work with pre-school children aged 0-4 (**19 per cent**) and secondary school aged children (**16 per cent**). The adult categories are largely broken down by the setting for care, with the largest group of adult SLTs working in the community (**14 per cent**). The 'offenders' category applies to young people (those under 18, normally in Young Offenders Institutes (YOIs)) and adults in the criminal justice system.

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[1] Census responses are from 2,173 RCSLT members across England, surveyed by the Royal College in December 2013 to February 2014.

2.2   Who employs SLTs?

Figure 2: SLT employment by job role*

SLTs are often employed in a variety of roles.

SLT employment - primary job role

- National Health Service
- Independent practice
- Independent school / academy / free school
- Local authority
- University or other Higher Education Institution
- Not for profit organisation
- Social enterprise / public sector mutuals
- Voluntary sector
- Undertake occasional private work
- Private healthcare
- Social care
- Justice
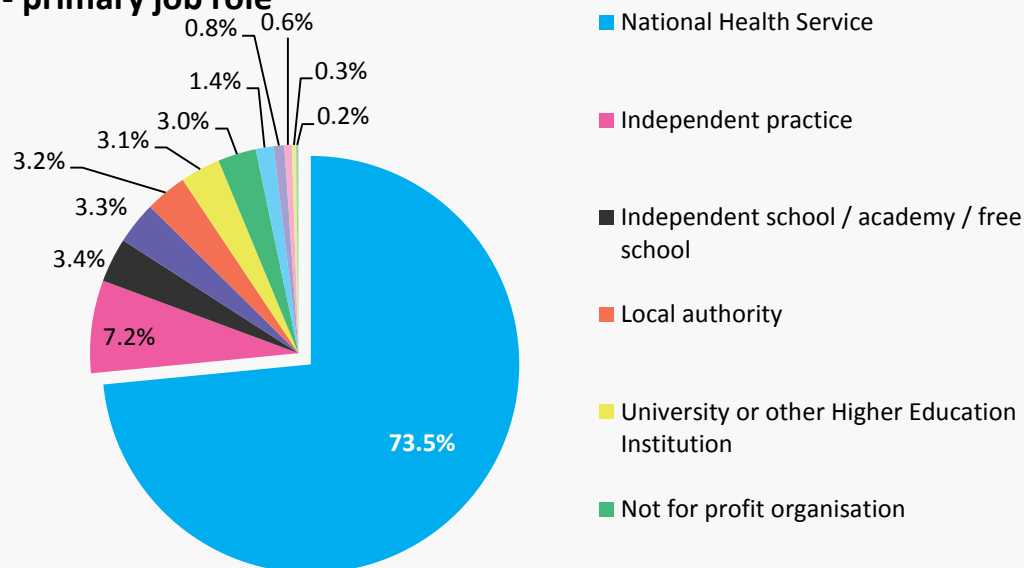
SLT employment - all job roles
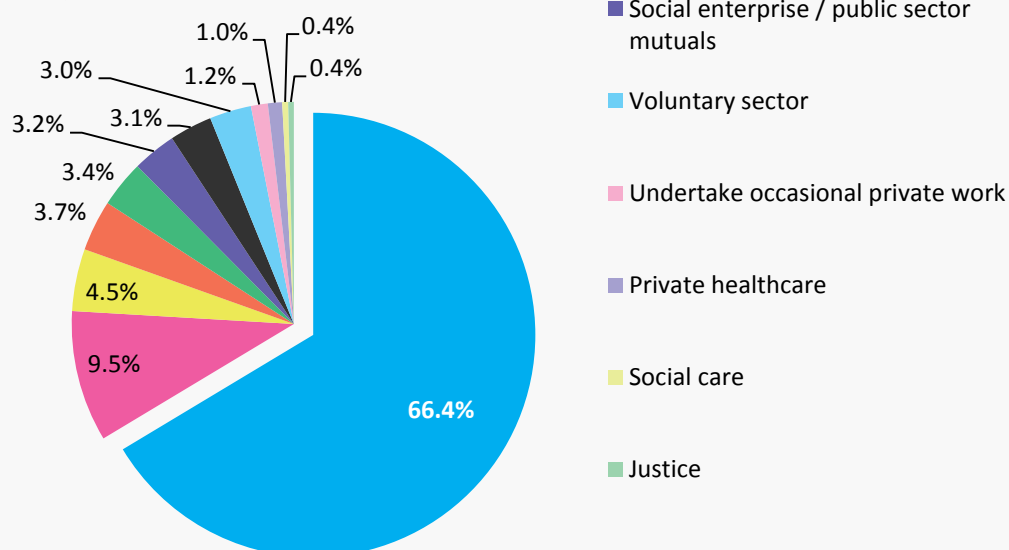
Source: RCSLT (2014a) census *Percentages are based on an un-weighted sample and hence are approximate

Many SLTs are employed across a number of roles, with the recent RCSLT membership census (2014a) showing that some hold up to five different positions, often with different client groups. It is important to note that there are no prerequisites for SLTs working with different client groups. Once qualified, SLTs are free to (and

often do) work with many different client groups in various settings. Although the workforce is diverse, SLTs are not limited to a particular sector by training paths.

The clear majority (around 66 per cent) of SLT contracted time is spent working in the NHS, with around 73 per cent of SLTs' primary job roles being in the NHS. However, compared to other healthcare professions, (such as medicine and nursing), SLT has a relatively high proportion of non-NHS workers. The disparity between primary and total employment for SLTs in both the independent and voluntary sectors suggests there is a cohort of primarily NHS-employed SLTs with secondary job roles in these sectors, such as tutoring in the academic sector. The academic sector accounts for around 3 per cent of primary SLT employment, but 4.5 per cent of all SLT contracted time.

The RCSLT membership census (2014a) also found that around 30 per cent of SLTs are employed in more than one job role. This highlights that portfolio working is a common career path. Many of the census respondents' multiple roles involved working with more than one client group.

2.3   SLT training

Figure 3: MPET – NMET SLT training commissions, 2002-03 to 2013-14, England*

SLT training commissions have fluctuated over the last decade.
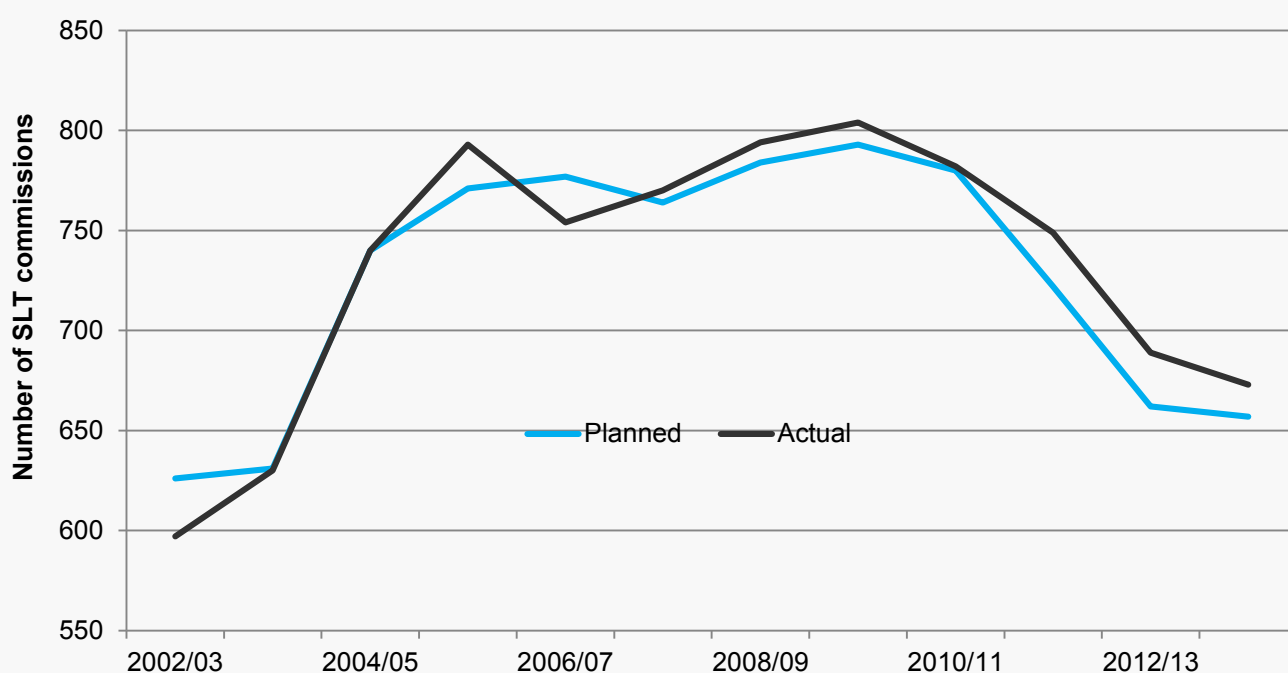
Source: HEE (2014) * Multi Professional Education and Training (MPET) – Non Medical Education and Training (NMET) commissions

Registration as a SLT is obtained by completing either an undergraduate degree course or a postgraduate degree course and meeting the Health and Care Professions Council (HCPC) eligibility requirements. The

undergraduate degree course takes three to four years[2]. The accelerated postgraduate courses are available for graduates with an appropriate first degree (such as psychology, social sciences or linguistics – though the nature of the previous degree is not always specified), and typically lasts two years[3], resulting in a postgraduate diploma or master's degree (NHS Careers, 2014b). Both courses consist of a balance of both theoretical and practical components. In the practical components, students work under a qualified SLT with a variety of clients in a range of settings.

In England, SLTs fall under the MPET NMET (Multi Professional Education and Training – Non Medical Education and Training) budget allocations, formerly allocated through the SHAs. This budget funds SLT university places. Although the budget is planned according to NHS workforce needs, it is not guaranteed that SLTs will work in the NHS. This means a change in training commission levels does not automatically translate into an eventual change in the NHS workforce.

In 2013-14, there were 657 planned training commissions, with 673 actual commissioned SLT training places (HEE, 2014). This is the figure used in our workforce modelling, and any findings regarding a change in level of commissions will use the 2013-14 intake data as the starting point. The 2013-14 figures are in line with the downward trend in training commissions over the past five years.

Looking further back, training commission levels for SLT places have fluctuated (as illustrated in Figure 3). After a steady rise in actual training commissions from 2002-03 to 2005-06, commission rates levelled off, peaking at 804 in 2009-10 and then declining by around 16 per cent by 2013-14.

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[2] Analysis of the RCSLT census (2014a) returns shows that of undergraduates, 31 per cent of students take three years to complete the course and 59 per cent take four years to complete the course.

[3] For the postgraduate qualification, 95 per cent take two years to complete the course and the remaining five per cent take three years (RCSLT 2014a).

3. The current workforce

3.1   How many SLTs are there in England?

3.1.1 Registered therapists

The number of HCPC-registered SLTs in England has shown a steady increase in the last decade[4]. In November 2013 there were 11,140 registered SLTs in England (HCPC, 2013). This is about a 91 per cent increase from 2001 numbers. HCPC registrants are not necessarily practising clinicians. They could work in the academic sector or in management, but still maintain their registration and continuing professional development (CPD) portfolio.

For this reason, we analysed the respondents from the RCSLT (2014a) membership census, and noted the proportion that described themselves as 'practising'[5], 'returning to practice' or 'newly qualified practitioner' (97 per cent) – rather than 'non-practising' or 'retired' – and applied this proportion to the HCPC figure. This has resulted in the CfWI using an estimate of **10,710** (headcount) SLTs working in England across all sectors in our modelling.

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[4] We have data regarding the number of SLTs in England for 2009 to 2013. For the other years, we have applied an average of the proportion of SLTs in England compared to the UK for these years (79.25 per cent) to the other years in the series.

[5] The term 'practising' is not necessarily limited to those working in clinical practice. SLT managers and academics, for instance, are included in this figure.

Figure 4: Registered SLTs, 2001 to 2013, England*

The number of SLTs in England has increased steadily over the last decade.
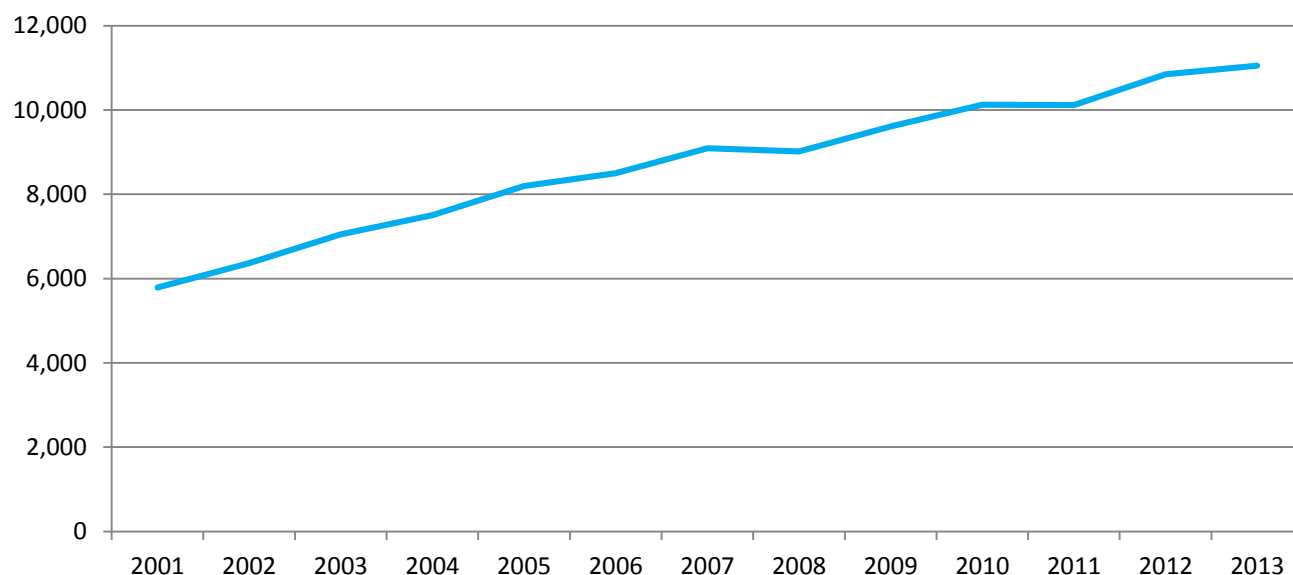
Source: HCPC (2013) *Figures from 2009 to 2013 are actual. Prior to that they are extrapolations from the UK HCPC registration data.

3.1.2 SLTs employed by the NHS

We have already observed how the SLT workforce works in a range of settings and is flexible. For our report, we have also accounted for several data sources in our calculation of the number of SLTs currently working in England.

The first additional source to analyse is from the Health and Social Care Information Centre (HSCIC). HSCIC data only covers the NHS SLT workforce, which, as discussed in Section 2.2, accounts for around 73 per cent of SLTs (RCSLT, 2014a).

Figure 5: SLTs employed in the NHS, 2003 to 2013

After a steady increase in numbers from 2003 to 2010, NHS SLT numbers have levelled off.
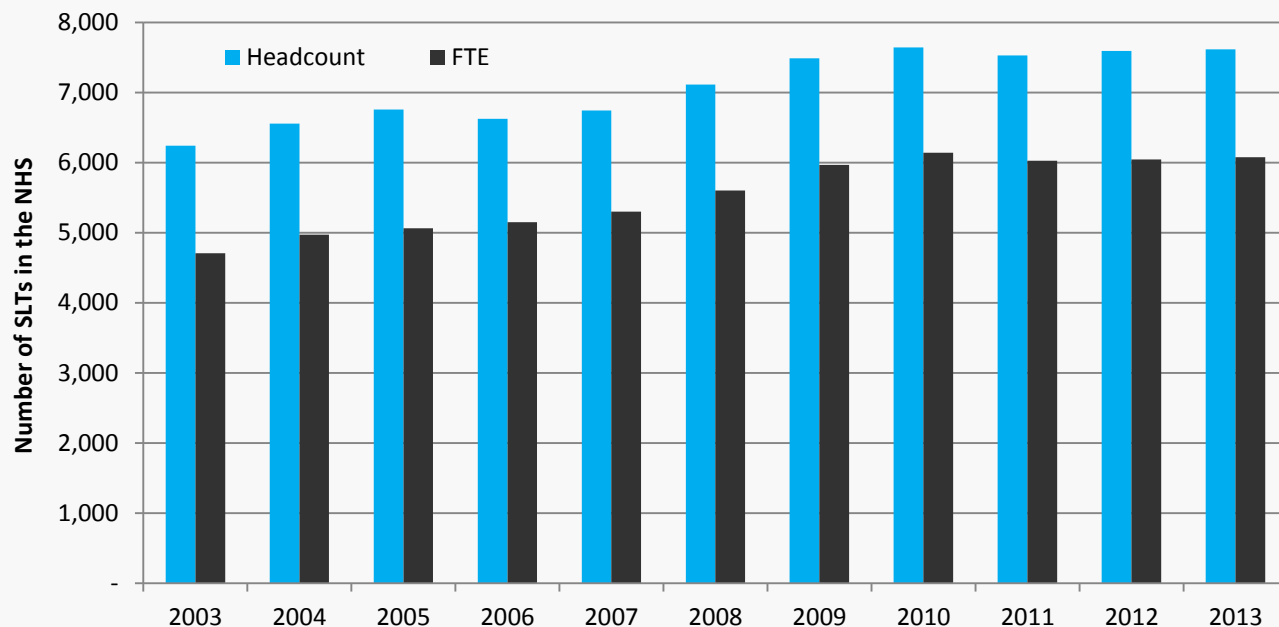
Source: HSCIC (2014)

According to the latest HSCIC census (2014) there were 7,618 SLTs working in the NHS in 2013, which translates to 6,075 full-time equivalent posts (FTEs). There was a 22 per cent increase in headcount between 2003 and 2013 and a 29 per cent rise on a FTE basis.

As Figure 5 shows, SLT numbers in the NHS experienced steady growth from 2003 to 2010, increasing at a compound annual rate of 2.9 per cent (headcount) over this period. Since 2010, this growth has been checked, with a small decline over the last three years. This is likely to reflect both the temporary fall in commissioned SLT training places in 2006-07 and the impact of the NHS' real-term funding freeze (UK Parliament, 2010).

Figure 4 showed that the registered SLT workforce has increased every year since 2009. However, given the recent levelling off in NHS SLT workforce numbers shown in Figure 5, SLTs may be increasingly looking for work outside the NHS, either through choice or circumstance.

3.2   Age and gender profile

We have used two measures of the workforce age profile in our analysis. The NHS age profile (HSCIC, 2014) shows that a large proportion of SLTs working in the NHS are in their early 30s. This measure is represented by the red line in Figure 6. The NHS workforce 'bulge' in the early 30s may be a result of the rise in commissioned SLT training places in 2004-05. After the peak in workforce numbers at age 32, there is a steady decline in the age profile. Only 1.9 per cent of the NHS SLT workforce is 60 or older, indicating either an early retirement age, or older SLTs choosing to work outside the NHS. The NHS SLT workforce is therefore relatively young, and the age profile indicates there is little danger of a 'retirement bulge' forming in the near future.

The data from the RCSLT survey (2014a), covering the whole SLT workforce, shows a slightly different picture. This is represented by the blue line on Figure 6. This data set shows a larger cohort of SLTs in their early 50s. This suggests that during their careers many SLTs may start off working in the NHS and then seek alternative employment once more experienced. With experience, SLTs may see the attraction of a 'portfolio career' (as discussed in Section 2.2), and take on multiple roles outside the NHS. Once again, the data shows that the NHS and total SLT workforces have slightly different characteristics.

Figure 6: Age profile of the SLT workforce, England

The NHS workforce shows a younger age profile than the workforce as a whole.
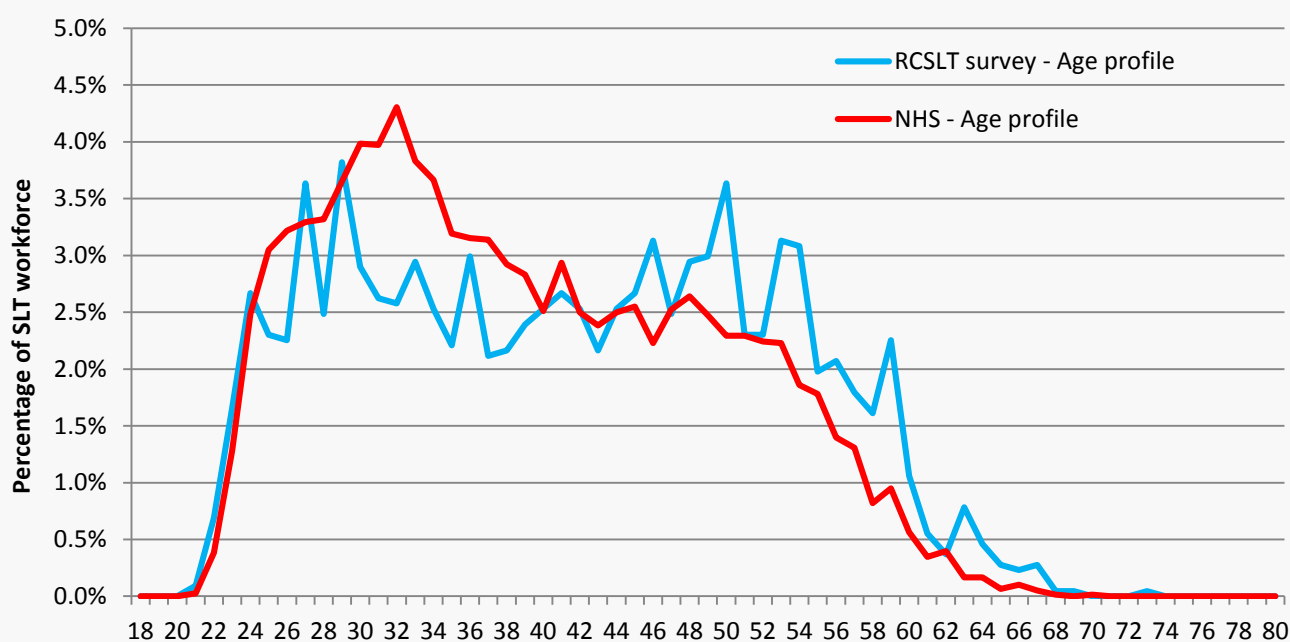
Source: HSCIC (2014), RCSLT (2014a)

We have used the NHS age profile in our workforce modelling, as it used a larger sample[6] than the RCSLT survey, and has mandatory reporting. We also have age data for the registered SLT workforce in England from the HCPC. However, as the datasets are presented in grouped age bands, it is less suitable for our system dynamics modelling.

The HCPC (2013) data broadly corresponds to the age structure shown by the RCSLT and HSCIC data in Figure 6, with the largest age band being 30-34 years (18 per cent of registrants), followed by 25-29 years (17 per cent of registrants and 35-39 years (15 per cent of registrants).

SLT is a profession dominated by women. The HCPC register (2013) shows that 97.1 per cent of SLT registrants are women, while the latest NHS workforce data it is 97.5 per cent (HSCIC, 2014). This has historically been the case and there are no indications the situation will change. We have therefore not factored a gender split into our workforce modelling.

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[6] The NHS sample size is 7,618, while the RCSLT survey self-reported sample is 2,173.

3.3   Participation rate

The 'participation rate' of a workforce is a key indicator to observe when workforce planning. The participation rate is the amount of time a workforce spends in work with a value of 1.0 meaning full-time employment, and a value of 0.6 meaning three days' work per week. A decrease in the participation rate may indicate a need to train more SLTs, for example. The average participation rate for the NHS SLT workforce has not shown a great deal of fluctuation in past decade, with average values ranging from 0.749 (2005) to 0.804 (2010).

Figure 7: SLT participation rate by age

The participation rate for SLTs generally decreases with age.
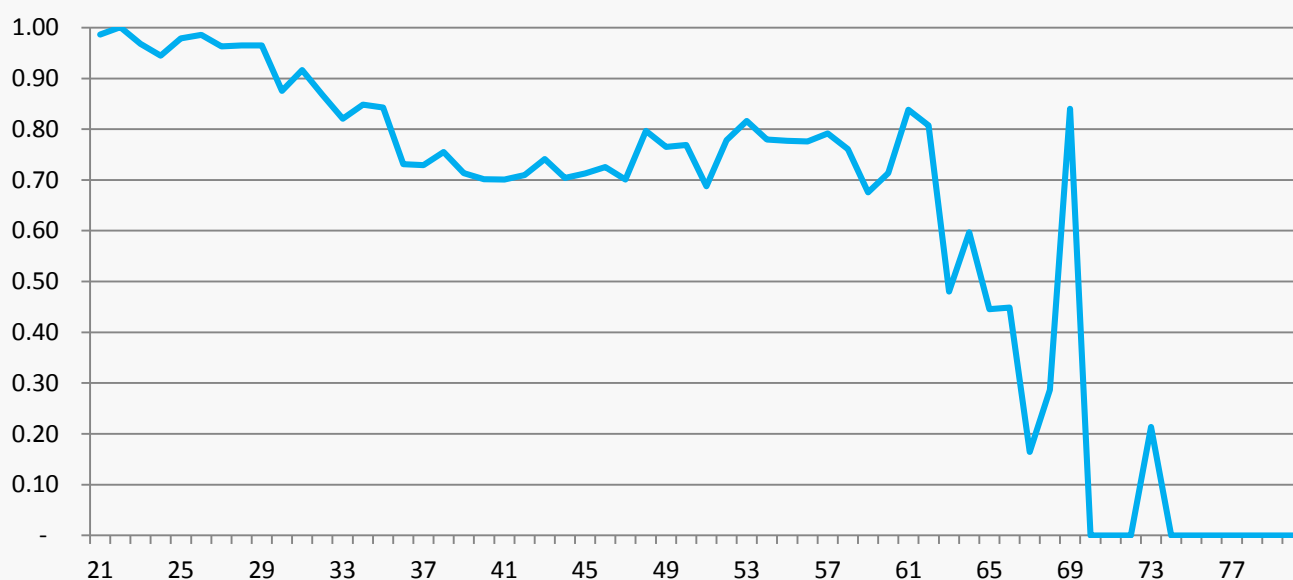
Source: RCSLT (2014a)

Figure 8: Average participation rate of NHS SLTs, 2003 to 2013, England

There has been little fluctuation in the average NHS SLT participation rate.

Source: HSCIC (2014)

The participation rate of the RCSLT survey respondents has also been analysed. As this was a (so far) one-off exercise, there is no historical comparison element to this analysis. Figure 7 indicates that generally, the SLT workforce participation rate decreases with age. There is a small rise in participation rates from ages 48 to 62, with a steep decline in participation from ages 62 to 67. We should not read too much into the high participation rate observed at the age of 69, as this result is influenced by a small number of respondents.
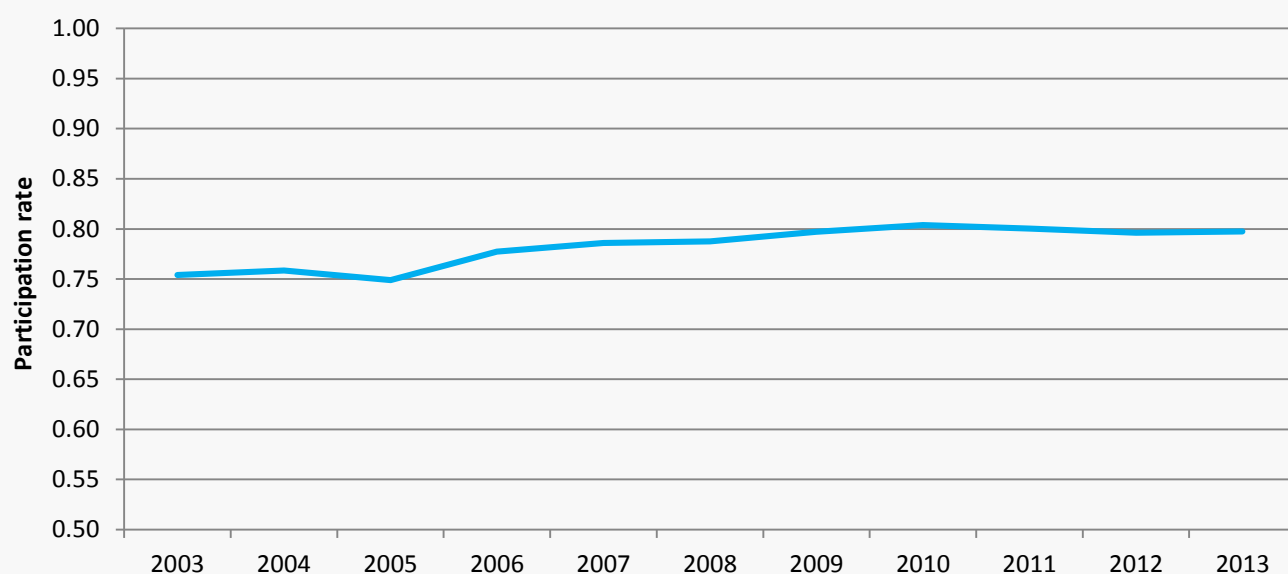
3.4 Retirement age

Average retirement age is a key variable in workforce modelling, and here we detail our working assumptions on retirement in the SLT workforce. We have analysed data from both the HSCIC (2013) and the RCSLT survey (2014a) to arrive at our assumption. For our baseline assumption, we have used HSCIC data (as no equivalent data on the whole workforce was available).

There are workforce leavers at every age for varying reasons (such as for maternity, a career change or redundancy), and an age cut-off is required. For SLTs, we have used 54 as the lower cut-off age. Based on HSCIC (2013) data for individual staff records, we have calculated the probability of each age band leaving the workforce by looking at year-to-year transitions between 2008 and 2012. There is a significant jump in probability from age 53 (2.6 per cent) to 54 (4.9 per cent). After 54, the probability of leaving the workforce increases with each year. The mean age of retirement is 59 and the mode (most common) is 60. The model assumes that SLTs leave the NHS to retire at a variety of ages, so there isn't a single age assumed for retirement, but rather a profile developed with input from our Delphi panel (see Appendix C).

4. The stocktake process

4.1 The CfWI approach to workforce planning

To forecast and analyse future demand and supply for the SLT workforce – looking ahead to 2025 – we used our robust workforce planning framework, outlined in Figure 9. Recognising the complex set of interrelated factors that may influence demand and supply, our stocktake approach consists of horizon scanning, a 'clustering' workshop to identify high-impact, high-uncertainty drivers, a Delphi panel exercise to quantify key uncertainties, and the use of system dynamics modelling.

We also worked with key stakeholders and our commissioners to better understand the impact of certain policies and to explore possibilities for bringing supply and demand into balance. The clustering workshop outputs are available in **Annex B** and the Delphi questions and results in **Annex C**.

The key benefits of the CfWI stocktake approach are:

- supporting medium-term workforce planning
- accounting for the intrinsic uncertainty of the future
- alerting decision-makers to emerging risks as the future unfolds.

Figure 9: The CfWI workforce planning approach for stocktakes

For stocktake reviews, the CfWI does not undertake the areas faded out in this diagram.
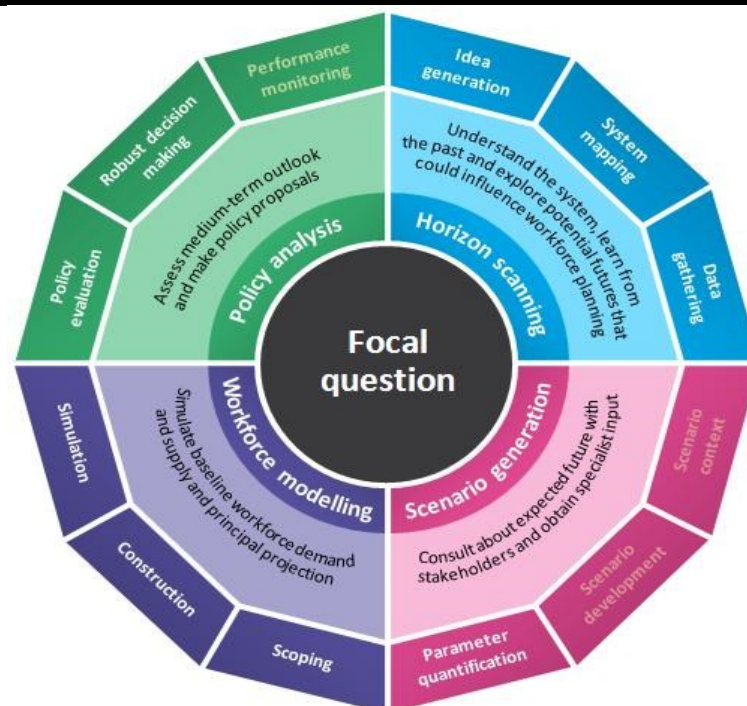
Source: CfWI

4.2   Horizon scanning and 'clustering' workshops

Horizon scanning represents the first stage in the CfWI robust workforce planning framework, and involves interviewing a range of stakeholders in order to identify key driving forces which may affect the demand and supply of the future speech and language therapy workforce.

In summer 2013, the CfWI conducted 11 telephone interviews to identify these driving forces. Specifically, we asked interviewees to consider the possible technological, economic, environmental, political, social and ethical (TEEPSE) influences on the following question.

Thinking up to the year 2025, what drivers will influence:

- **the requirements of the future speech and language therapy workforce?**
- **the future speech and language therapy workforce numbers and deployment?**

On 23 January 2014 we held two clustering workshops, one focusing on the SLT workforce working in the adult sector, and the other focusing on SLTs working with children. The results of the initial interviews were collated, analysed, and written up. This horizon scanning report was sent to participants ahead of the workshops to help stimulate their thinking.

The purpose of the workshops was to **frame the uncertainty surrounding future workforce requirements**. At the workshops, the groups collected driving forces and clustered them into themes by considering the interactions and causal links between the driving forces. Between them, the two groups created 17 clusters. By way of example, one of the clusters from the adult SLT workshop is pictured in Figure 10. Two 'challenging but plausible' outcomes were determined for each cluster, and the clusters were then ranked by participants according to their level of uncertainty and the impact they could have on the SLT workforce. The scores were plotted on a graph, detailed in **Annex B**. The clusters with the highest impact and uncertainty are circled in red.

The clusters produced at the workshops were written up and circulated to the Delphi panellists to help inform their answers.

Figure 10: Example of SLT cluster: Diversity of service users

Source: CfWI cluster workshop, 23 January 2014

4.3 Delphi panel exercise

The Delphi method used a panel of experts to help quantify key uncertainties such as future average need. The purpose of the Delphi panel exercise was not to predict the future but rather to improve workforce planning by combining the judgements of panellists in relation to key 'unknowable' factors. The exercise took the form of a two-round online survey. For this project we ran two surveys in parallel, one for the adult SLT workforce and the other for the children's SLT workforce. We encouraged panellists to complete both surveys.

We fed the final (median) judgements of the panel into the CfWI model to inform our principal projection. The median value is used rather than the mean value as it is less likely to be biased. The Delphi questions and responses are in **Annex C.**

A Delphi panel is most effective when it contains a range of people. The panel for this project consisted of individuals with a range of professional backgrounds, including SLTs working in sectors such as community healthcare, secondary care, independent, academia and third sectors. We also involved individuals from professions working with SLTs, such as ear, nose and throat (ENT) doctors, nurses and health visitors, in addition to service commissioners and employers.

4.4   Workforce modelling

4.4.1 System dynamics modelling

System dynamics modelling is most appropriate for complex systems such as the health and social care workforce. It represents changes to a system over time by using the analogy of stocks accumulating and depleting over time, and can be extended or revised to address additional issues as they arise. For workforce planning, 'stocks' of people can be segmented by age and gender where data exists.

Due to the complexity of factors influencing demand and supply, and the intrinsic uncertainty of the future, the CfWI used Vensim DSS© to model the flow of SLTs to forecast future demand and supply. The CfWI has formally tested and validated this model.

Vensim is able to handle the complexity of modelling supply, including the ageing of the workforce, and also offers sophisticated sensitivity and uncertainty analysis, an important feature given the variable quality of data and assumptions available.

Our modelling is inherently uncertain, and this should be taken into account when reading and interpreting the projections. For this workforce, the lack of demand data further added to the uncertainty in the model. The projections are by no means intended to be interpreted as the only way the future will play out. Part of the value of this exercise is to identify drivers of workforce change and gain an idea of the shape of the workforce, and our system dynamics modelling helps gain insight into a complex, multidimensional issue.

4.4.2 Data sources

Data for the SLT workforce (and particularly demand for SLT services) has significant gaps.

Data regarding demand for SLT services and SLT activity is not collected on a national basis. Hence, much of the demand side of our model uses assumptions gathered during the Delphi panel. The RCSLT census (2014a) has also helped to support our calculation of demand across different client groups for the whole workforce, accompanied by data gathered through further consultation with service managers. Demographic data used in the demand projection was based on the Office of National Statistics (ONS) projections.

On the supply side, data from the RCSLT census (2014a) was used to support our calculation for factors including length of training, workforce numbers, participation rates, and levels of commissioned service. Data collected by the Health and Social Care Information Centre (HSCIC) only captures SLTs working in the NHS, and thus misses the 29 per cent (HSCIC 2014, HCPC 2013) of SLTs working outside the NHS. We have tested data from the survey against the collections by the HSCIC and HCPC, and are confident it is reasonably representative of the SLT workforce.

As well as the HCPC and HSCIC data we used NMET training commission numbers in the supply model.

A full list of the data sources and values used for the model is available at **Annex D**.

4.4.3 Assumptions

The workforce model used a series of assumptions when data was not available or of the required quality. These assumptions were reached by analysing past trends, discussions with professional representatives and by the collective judgments of our expert Delphi panel.

A full list of the workforce modelling assumptions used in this project is available at **Annex D**.

5. Future client demand

5.1   Key drivers of client demand

5.1.1 Demographic changes

Different age groups have different dependencies on SLT services, so the CfWI considers not just overall population growth but change to the population age profile. The Office for National Statistics' (ONS) central projection is for the population in England to grow by 8.5 per cent between 2013 and 2025, to around 58.4 million people (ONS, 2013).

When the age groups[7] are broken down, the projections reflect the ageing nature of England's population. Figure 11 indicates that the 75+ age group is set to rise 43.5 per cent from 2013 to 2025, with the 65 to 74 year old group rising by 12.7 per cent. This is in contrast to a rise of 3.2 per cent in the working age (20 to 64) age group and an increase of just 1.6 per cent increase for young children up to 4 years of age. Therefore, each age group will have different impacts on future workforce demand projections.

Figure 11: Current and projected 2025 population by age band, England

Projected population growth varies significantly across age bands.
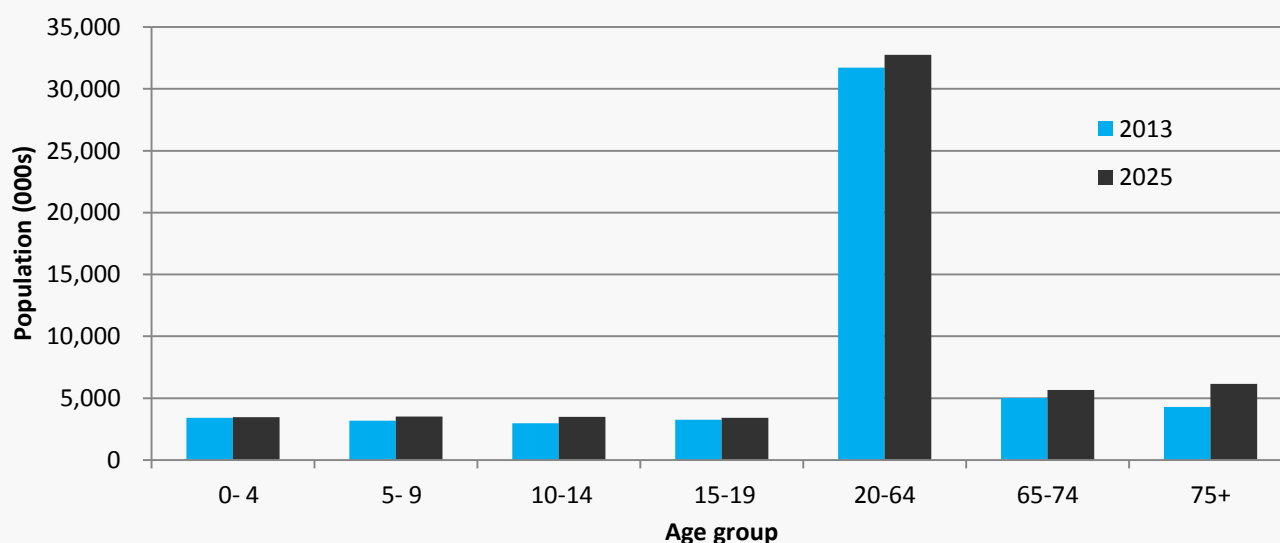
Source: ONS (2013) central projection

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[7] The age groups used in the chart are (close to) the age groups used during our Delphi process and demand modelling. Age groups used in the demand projection are 0-4, 5-11, 12-18, 19-64, 65-74 and 75 and older.

A significant increase in the elderly population is likely to result in increased demand for SLT services arising from conditions such as dementia, stroke and chronic obstructive pulmonary disease (COPD).

Difficulties in language and communication needs occur in all forms of dementia, and the condition can eventually lead to dysphagia (RCSLT, 2013a). Higher demand for SLT services, due to factors such as the ageing population or higher life expectancies for those with cerebral palsy, Down's syndrome and other complex conditions, may mean more community-based SLT provision is needed. It is also likely to affect the balance between adult and child SLT demand and workforces.

5.1.2 Policy changes

Several recent policy developments have influenced demand for SLT services, such as the growing role for SLTs in public health and in the community. A recurring theme in research and policy is the role SLTs can play in training other professionals. The 2013 All Party Parliamentary Group (APPG) (2013) report on speech and language difficulties recommended comprehensive training in children's communication needs for all relevant practitioners. This includes fellow health professionals (such as nurses, occupational therapists and paediatricians) and other professionals SLTs come into contact with (including teachers, teaching assistants, probation staff and social workers).The expansion of the health visitor programme (Department of Health, 2011) is expected to have an impact on referrals up to 2025, especially with regards to preschool children. This means that there will be higher demand and a larger caseload for children's SLTs.

The implementation of the Children and Families Act 2014 (UK Parliament, 2014) also has implications for demand and the organisation of children's SLT services. Parents will have the right to buy in specialist care to meet the special educational needs (SEN) of their children, which can include SLT provision. SEN statements and separate learning difficulty statements will be replaced by a birth-to-25-years statement, with the aim of a better link between children's and adult services. However, the impact on future demand for SLT services is uncertain.

SLTs work in a variety of areas and with a wide variety of clients. This means there are policies specific to certain conditions that can stimulate demand for their services. For example, the National Stroke Strategy gave SLTs a key role in acute stroke units and early rehabilitation (Department of Health, 2007).

5.1.3 Economic factors

Across the board, NHS services have had to adapt and redesign the way care is delivered in light of budgetary constraints. A three-year real-term funding freeze (UK Parliament, 2010) has affected SLT services, with an RCSLT survey reporting that 62 per cent of services experienced a cut in service (RCSLT, 2013b). About 56 per cent experienced cuts to posts in their service, 46 per cent downgraded posts and 25 per cent frozen posts[8]. Potential effects of downgrading and 'down-banding' include increased workforce attrition rates (particularly of experienced staff), driven by lower remuneration and fewer promotion opportunities. There are also indications that funding cuts are causing problems with access to service for children, with reported waiting times of up to a year for referrals (Cassidy, 2014).

The APPG report (2013) recommended extra targeted support for children from disadvantaged backgrounds. Socially disadvantaged children are more likely than other children to be diagnosed as having SLCN (APPG, 2013), and poverty in childhood has a negative effect on an individual's life chances (Law et al., 2009).

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[8] These are posts which are vacant, but are not being actively recruited to.

Projections indicate a slowdown to 2020 in progress made to reduce child poverty (Social Mobility and Child Poverty Commission, 2014). The link between poverty, health and outcomes is well established, and the demand for SLT services may be affected by any changes in poverty levels.

5.1.4 Sectoral issues

Changes to the structure of the education system continue to have an impact on SLT demand. Our horizon scanning exercise identified the introduction of personal budgets and the empowerment of parents as commissioners as possible drivers of demand. The academy school policy is also transforming SLT services in the education sector because these types of school are free from local education authority (LEA) control. The introduction of Education, Health and Care (EHC) plans, replacing Special Educational Needs and Disabilities (SEND) statements and Learning Disability Assessments (LDAs) on 1 September 2014, is expected to increase access and demand for SLT services. This CfWI publication was completed before the reforms came into place, but SLT is now classed as 'educational provision', which means there is a legal obligation for provision (The Telegraph, 2014). This change in policy may raise awareness of SLCN and thus increase demand for SLTs in the long-term.

SLTs have increasingly found a role in the justice system, both in YOIs and in adult prisons. SLT work with offenders constitutes a small amount of total workforce time (around 1.5 per cent) (RCSLT, 2014a). The link between communication needs and offending is now well established, with many young offenders having a high incidence of undiagnosed communication needs (Gregory and Bryan, 2011). Communication problems in children are often misdiagnosed as behavioural issues, and an early intervention by a SLT could help avoid future offending and improve life chances for clients.

5.2 Current need

We asked our Delphi expert panel 'what percentage of today's need is met by today's SLT service provision, by client age group'[9]. The median results (shown in Table 1) ranged between 50 and 70 per cent of today's need, indicating that current levels of unmet need vary from 30 to 50 per cent by age band. The highest level of unmet need was amongst teenagers (children aged 12-18), while the lowest was for children aged under 5.

A weighted average[10] of the Delphi panel median values suggests that around 60 per cent of current need for SLT services is being met, implying unmet need of around 40 per cent. This is a relatively high level of unmet need compared to other workforces reviewed by the CfWI.

This question was not factored into our modelling calculations as the CfWI remit was to assess whether there will be an undersupply or oversupply of SLTs by 2025 if **current levels of service per client are maintained**.

For this reason, the CfWI has assumed current demand is equal to current supply for modelling purposes, while recognising that there is always likely to be some unmet need. **We are not suggesting there is no unmet need at present.**

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[9] A full list of Delphi questions and responses can be found in Annex C.

[10] The weights used in the weighted average are represented by the number of people belonging to each client group in 2013, according to ONS population projections figures.

Table 1: What percentage of need is met by today's SLT service provision?

Client age group	Delphi median value	Range of Delphi values
0-4	70 per cent	30 per cent – 90 per cent
5-11	65 per cent	35 per cent – 85 per cent
12-18	50 per cent	10 per cent – 70 per cent
19-64	60 per cent	20 per cent – 90 per cent
65-74	60 per cent	20 per cent – 85 per cent
75+	60 per cent	20 per cent – 90 per cent
Total*	**60 per cent**	**n/a**

Source: CfWI Delphi panel (see Annex C) *Weighted average

Delphi respondents gave a range of reasons for the potential high level of unmet need, with misdiagnosis, lack of awareness of SLCN and access problems frequently cited. Some of the justifications are shown below:

> Many initiatives have signposted access to SLT services available, such as children's centres, but incomplete awareness of the profession's existence and role is certainly present. Parents in some areas are looking for independent SLTs for this age group more than any other. (**0-4**)

> A number of children in this age group will be wrongly diagnosed as having behavioural problems when speech/language is the cause. (**5-11**)

> Community provision is poor; time limited interventions [are] based on money not individual need. Limited use of SLT assistants. (**65-74**)

Further reasons mentioned included economic factors, such as funding cuts and 'downbanding'[11], as well as a lack of specialist SLTs to work with the ageing population. Access issues are a further reason given for the high amounts of suggested unmet need amongst the 65-74 and 75+ categories, with a perceived lack of SLT coverage in locations such as nursing homes and the community. Reasons given for the particularly high figure for the 12-18 age group include a lack of NHS access meaning many go to independent services, where available. Coverage in secondary schools is seen as patchy, and SLCN are often misdiagnosed as behavioural problems. The expansion of SLT provision into the justice sector (including YOIs, and in the prison and

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[11] 'Downbanding' means moving a role to a lower pay band, while retaining similar responsibilities.

probation service for adults) is helping to address some of this unmet need, but this is an area still under development.

5.3 Demand modelling assumptions

This stocktake provides two projections of expected client demand for the period 2013 to 2025. Our projections are for **the entire SLT workforce in England**, not just those employed by the NHS, and are expressed on a full-time equivalent (FTE) basis unless stated.

The **'baseline' demand projection** is estimated by combining demographic change and productivity growth. While population growth will boost expected client demand, productivity growth should reduce the size of the workforce necessary to deliver SLT services. The modelling assumptions are as follows:

- current demand is taken to equal current supply (as explained above)
- a 13 per cent increase in demand to 2025 due to population growth and changing age composition
- a 4.7 per cent decrease in demand by 2025 due to average productivity growth of 0.4 per cent per annum.

The baseline demand projection assumes no change to average client need for SLT services over the projection period, and assumes that SLT workforce productivity improves by 0.4 per cent per year, in line with the average growth in NHS productivity over the last 15 years (ONS, 2012).

The **demand 'principal projection'**, by contrast, is informed by the Delphi expert panel. It uses the same demographic assumptions as the baseline projection, but also takes into account changes to the average individual client need for SLT time by 2025. It also uses the Delphi estimate of changes to the productivity of the SLT workforce. The CfWI's Delphi results (at **Annex C**) suggest that by 2025, demand for SLT time will be:

- 12 per cent higher due to average individual client need (over and above the impact of demographics)
- 4.2 per cent higher due to declining SLT workforce efficiency and productivity.

More details on the demand modelling assumptions can be found in Table D1 in **Annex D**.

5.4 Baseline and demand principal projections

Figure 12 shows the CfWI's demand baseline and principal projection for the SLT workforce to 2025.
We project baseline demand for SLT services to grow by around 7.7 per cent by 2025 (0.6 per cent per annum). This would see the SLT workforce to increase from an estimated 8,631 FTE staff in 2013 to around 9,295 FTEs. This might be sufficient to maintain SLT per capita ratios around present levels, but not to tackle any unexpected increase in patient demand.

The demand principal projection is forecast to increase by around 32.1 per cent over the same period (2.3 per cent per annum). This equates to a SLT workforce of around 11,400 (FTE) by 2025, an increase of 2,770 FTE from 2013. Although the demand principal projection is significantly higher than the baseline, we consider it to be a more realistic forecast of expected client demand over the 12 years to 2025. This is because the principal projection includes the projected changes in individual client need and productivity in addition to the demographic factors used in the demand baseline.

Figure 12: Baseline demand and principal demand projections to 2025, England

The change in the level of commissioned services raises the demand projection.
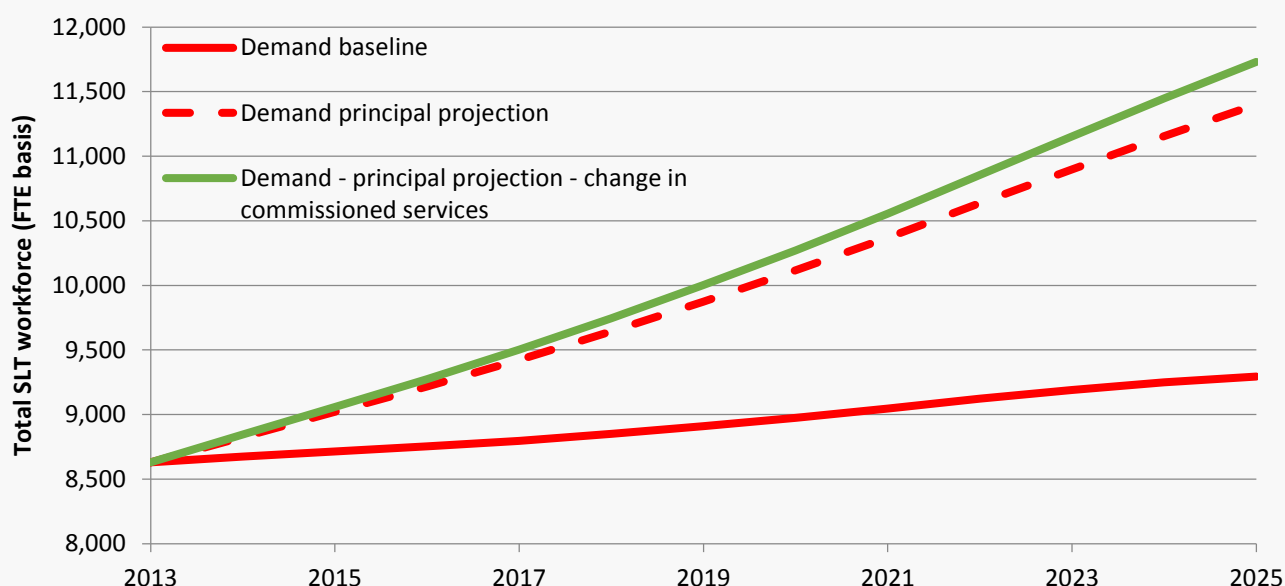
Source: CfWI SLT workforce system dynamics model for England

The Delphi panel also considered the potential **level of commissioned services** in the future (see Annex C). Delphi panellists were asked how the level of SLT service commissioned would differ in 2025, compared to today. The average weighted estimate for NHS services was a modest increase in commissioning of 0.1 per cent by 2025, while commissioning of non-NHS services was expected to increase by 10 per cent. Across the whole system, the level of SLT service commissioned was expected to increase by 2.7 per cent by 2025.

This was not included in the main principal projection because it overlaps with the supply factors used in the modelling.

5.5   Demand projections for adult and children's SLT services

Having considered the whole workforce up to 2025, we were able to further break this down and analyse the change in balance between adult and child SLTs services. This is based on the research gathered during our two clustering workshops and two Delphi processes. An overall demand baseline and principal projection for these two services are included in Figure 12.

Based on the RCSLT (2014a) census data, the current estimated split between adult and children's SLTs is around 38.4 per cent versus 61.6 per cent. Using the Delphi results, we estimate this would increase to around 42.1 per cent for adult SLTs but decrease for children's SLT to 57.9 per cent for children's SLTs by 2025.

It is not just the demographic changes that influence the increased demand for adult SLTs. Our Delphi results consistently indicated a rise in demand for adult SLT services. A decrease in adult SLT productivity and higher

relative rises in individual client need for adults over children drove the relative increase in demand for adult SLTs.

We did not separately model supply baselines or supply principal projections for the two sectors of the workforce. This is because we did not feel it would add value, and is not in the remit of this project.

Figure 13: Principal demand projections for adult and child SLT services to 2025

Demand for both adult and child SLT is projected to increase by 2025.
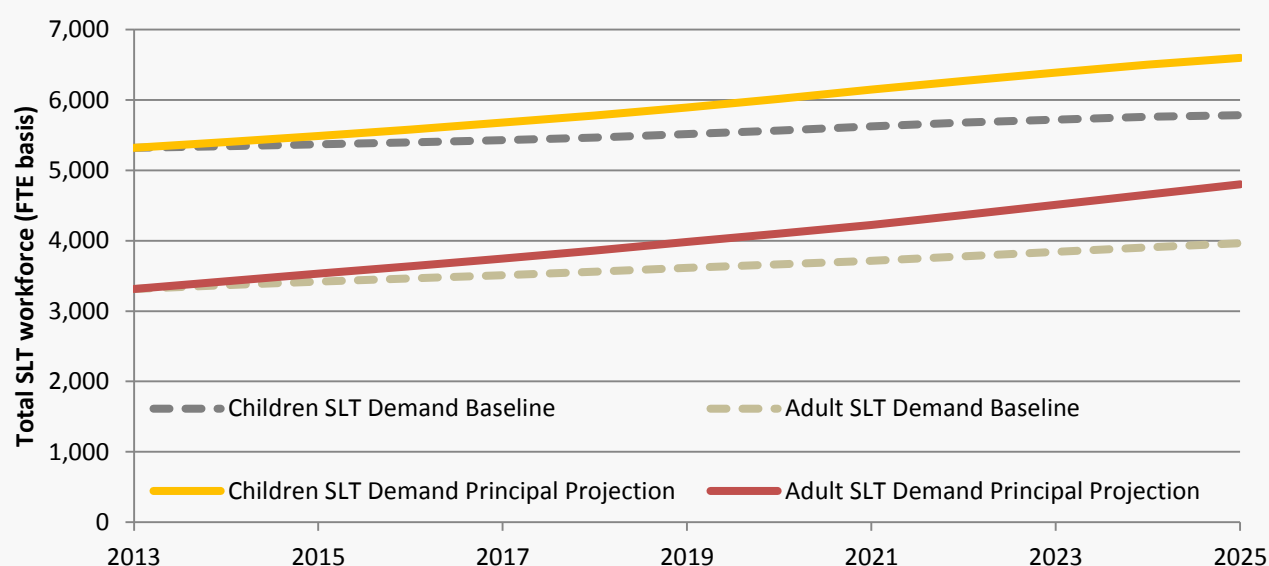
Source: CfWI SLT workforce system dynamics model for England

5.5.1 Adult demand projections

Our adult demand projections (shown in Figure 13) consider only demographic changes to observe possible changes in relative proportions of the workforce. We are projecting demand for adult SLTs to rise 44.9 per cent from 2013. This represents an average annual increase in demand of 3.1 per cent for adult SLTs.

5.5.2 Children's demand projections

The children's SLT demand projection (also shown in Figure 13) indicates a rise in demand, but at a slower rate than for the adult sector. The increase from 2013 to 2014 is 24.1 per cent for children's SLTs (compared to 44.9 per cent for adults). This represents an average annual increase in demand of 3.1 per cent for adult SLTs and an average annual increase in demand of 1.8 per cent for children's SLTs.

6. Future workforce supply

6.1 Supply modelling assumptions

The CfWI's future supply calculation is informed by three broad components: SLT training arrangements, the current workforce, and expected future changes to training and the workforce over the projection period (either by extrapolating from the current workforce or using estimates from the Delphi expert panels).

6.1.1 Training assumptions

For modelling purposes the CfWI made the following assumptions about SLT training, derived from analysing past data and trends, engaging with the profession, and the Delphi exercise results.

- There were 2,373 SLT trainees in 2013.
- Future SLT training post commissions are held constant at their 2013-14 level of 637 per year.
- Time taken to complete SLT BSc course averages 3.66 years.
- Time taken to complete SLT MSc course averages 2.14 years.
- There is an overall training attrition rate of 2.5 per cent.
- The age profile of students in SLT training is factored into the model.

More details on the training modelling assumptions can be found in Table D2 in **Annex D**.

6.1.2 Workforce supply assumptions

For modelling purposes the CfWI made the following assumptions about SLT workforce supply, derived from analysing past data and trends, engaging with the profession, and the Delphi exercise results.

- The SLT workforce in 2013 was 10,710 (headcount), which equates to 8,631 (FTE).
- The actual SLT age profile is factored into the model.
- For participation rate, we use the RCSLT 2014 census estimate rate of 0.81.
- The average workforce attrition for SLT was those aged 53 years and younger, estimated at 2 per cent per annum.
- For the baseline projection, we use a mean retirement age of 60.
- For the principal projection, we use a mean retirement age of 65 (5 years increase), informed by the Delphi.
- There are no unemployed SLTs and every new SLT graduate is employed within 12 calendar months of completing their course.
- The only joiners to the SLT workforce are through accredited UK training courses.
- There is no intake into the SLT workforce from non-EEA countries.

More details on the workforce supply modelling assumptions can be found in Table D3 in **Annex D**.

6.2 Baseline and principal supply projections

Figure 14 shows the CfWI's supply baseline and principal projections for the SLT workforce to 2025. Our projections are for the entire SLT workforce in England, and are expressed on a full-time equivalent (FTE) basis unless stated. The supply baseline indicates what would happen if key workforce characteristics (such as retirement age, participation rate) and training commissions did not change from current levels or rates.
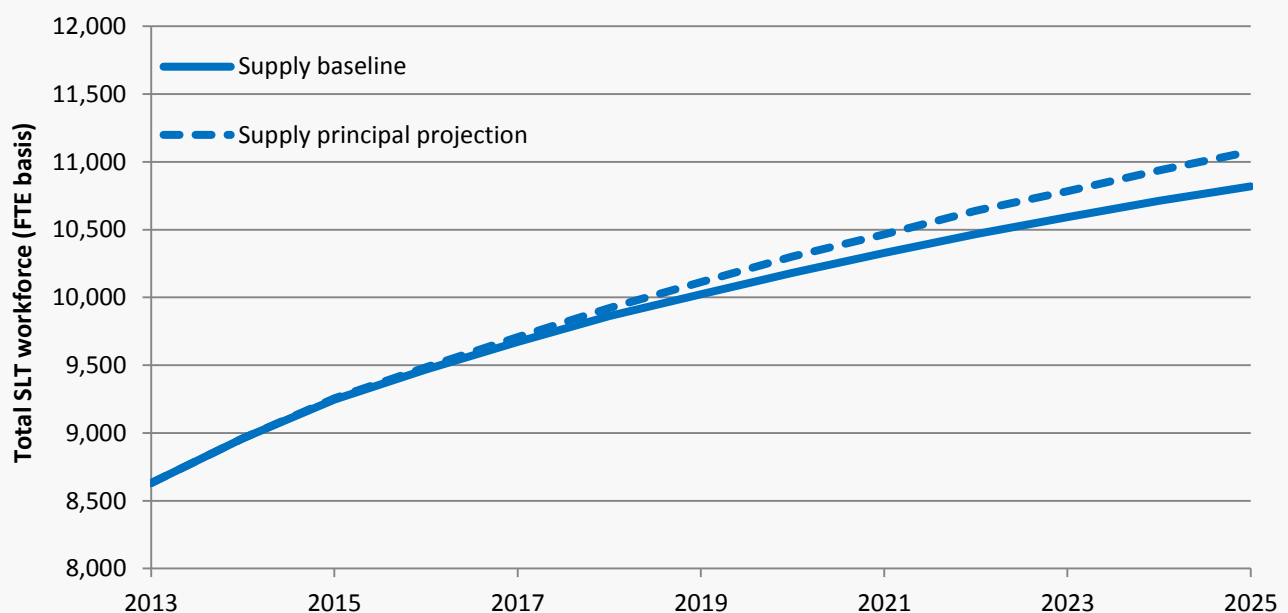
Baseline supply for the SLT workforce is projected to grow by around 25.4 per cent between 2013 and 2025 (1.9 per cent per annum). This means the estimated SLT workforce will increase from an estimated 8,631 staff (FTE) in 2013 to around 10,820 FTEs. The rate of growth is slower than the 2.6 per cent compound annual growth rate seen in the NHS SLT workforce between 2003 and 2013 (HSCIC, 2014), largely reflecting a lower level of training commissions than in the past.

In our supply principal projection, the SLT workforce is forecast to increase by about 28.3 per cent over the same period (2.1 per cent per annum). This equates to a SLT workforce of around 11,075 (FTE) by 2025, an increase of about 2,445 FTE from 2013. The supply principal projection is higher than the baseline because the projected mean retirement age for SLTs is four years higher than in 2013. As explained in Section 3.4, we have used a retirement profile, rather than an age at which all SLTs will retire in 2025. We have moved this profile for the projection according to the Delphi judgment. This is the only change in the supply assumptions used in our principal projection, but changes in workforce attrition are modelled in Section 7.3.

We have not modelled what would happen to SLT numbers if the recent downward trajectory in training commissions continued, but believe it could lead to significant workforce undersupply over the medium term.

Figure 14: Baseline supply and principal supply projections to 2025, England

The supply principal projection is higher than the supply baseline due to SLTs retiring later in future.

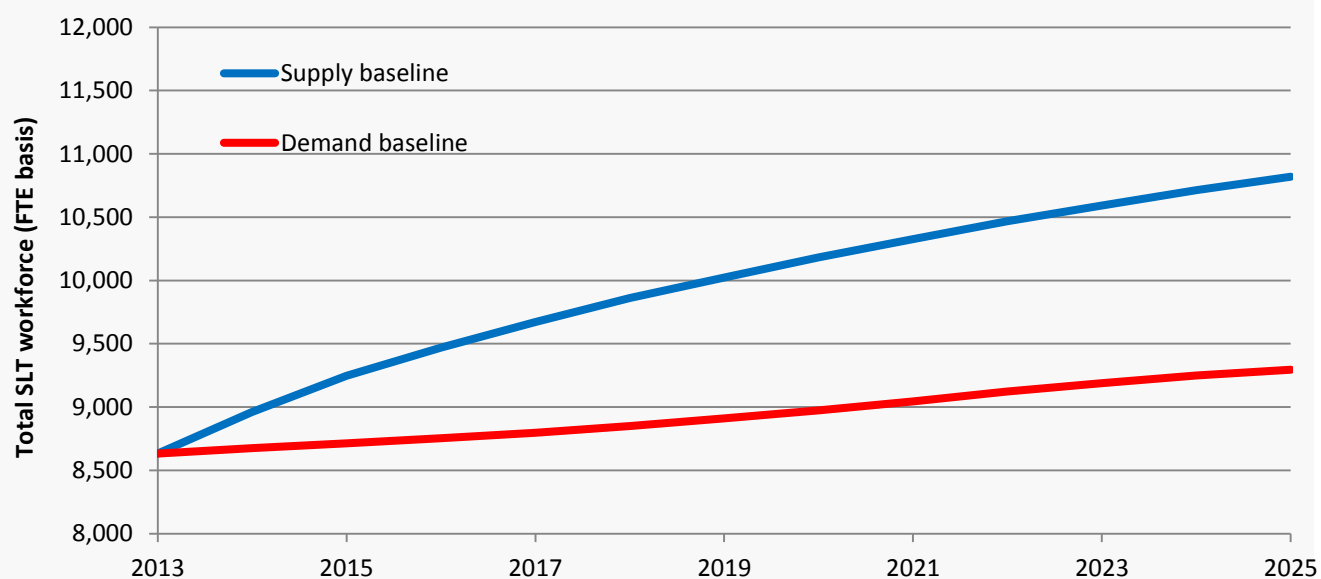**Source:** CfWI SLT workforce system dynamics model for England

7. Demand and supply

7.1   Baseline projections

Before comparing our demand vs. supply principal projections for the SLT workforce, our baseline demand and supply projections are discussed. As outlined in Section 5.2, the demand baseline calculation factors in demographic and productivity changes, but assumes no change to the average person's need for SLT services. It assumes modest (+0.4 per cent) average annual growth in the productivity of the SLT workforce, in line with ONS (2012) estimates. The baseline supply projection shares most of the assumptions of the supply principal projection (see Section 6.1), but uses current retirement ages rather than those estimated by the Delphi panel. Further details on the data sources and modelling assumptions used can be found in **Annex D**.

Figure 15: Baseline demand and supply projections to 2025, England

Our baseline projections suggest stronger growth in workforce supply than client demand for SLT services.

Source: CfWI SLT workforce system dynamics model for England

The demand baseline in Figure 15 shows a 7.7 per cent rise in client demand for SLT services over the 12 years to 2025 (based on demographic changes alone), which equates to an increase in the workforce of around 660 (FTE basis). The supply baseline shows a substantially larger increase of around 25.4 per cent over the projection period, an additional 2,190 (FTE basis). However, the demand baseline does not take into account changes in individual client needs and is likely to underestimate expected client demand.

7.2   Principal projections

The advantage of the principal projections over baseline projections is that rather than simply holding key assumptions at current levels, they attempt to show the impact of expected changes over the projection period, with key assumptions informed by the Delphi panel.

As discussed in Section 5.2, the principal projections do not include a calculation of the amount of unmet need for SLT services. Further details of the Delphi questions and results can be found in **Annex C**, and the data sources and modelling assumptions used can be found in **Annex D**.

Figure 16: Principal projections and baselines for demand and supply to 2025, England

Workforce supply is broadly in balance with expected client demand over the projection period.
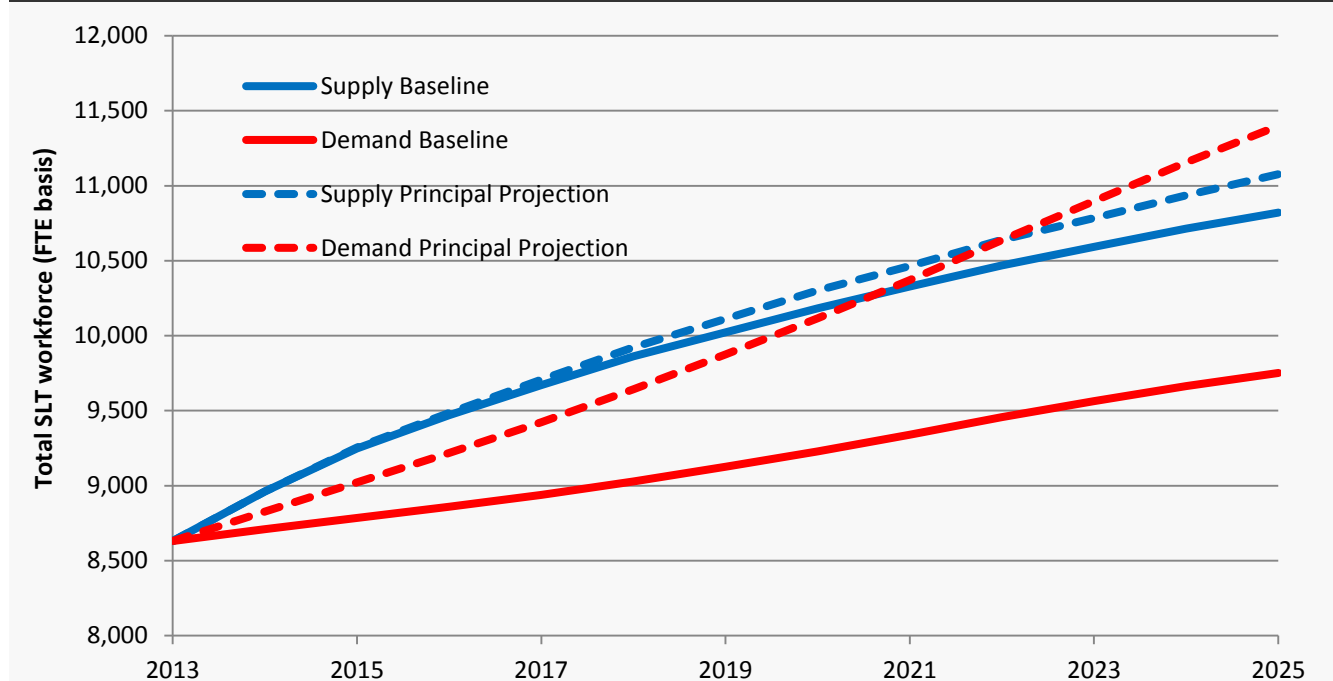
Source: CfWI SLT workforce system dynamics model for England

Figure 16 shows that for most of the projection period, workforce supply is slightly higher than expected client demand. Projected demand and supply are in balance in 2022 (signified by the dashed lines crossing at this point), but by the end of the projection period demand is forecast to be a little higher than supply. However, there are no significant demand-supply imbalances.

The demand principal projection is forecast to increase by around 32 per cent over the projection period to 2025, compared with a 28.3 per cent increase in supply over the same period. These equate to increase in the SLT workforce of around 2,445 (FTE basis) by 2025.

The CfWI's assessment is that if SLT training commissions are held at 2013-14 levels there should be a sufficient supply of SLTs working in England to keep supply and client demand broadly in balance over the whole projection period to 2025 (assuming the same level of services per capita as today).

7.3   Sensitivity analysis

The modelling results presented so far have compared our 'nothing changes' (baseline) projections with our 'expected' (principal) projections. However they mask some key uncertainties underlying our modelling. In this section we assess the impact of the uncertainty surrounding two key modelling assumptions: net workforce attrition and productivity growth.

The CfWI baseline and principal projections assume average annual **net workforce attrition rate** of 2 per cent for those aged 53 and under. However there is some uncertainty about the exact figure[12], due to considerable variation over time in the numbers of leavers/joiners in the examined data (HSCIC 2008-2012), potentially because of the flow of SLTs moving from NHS to non-NHS sectors (and vice versa).

Productivity growth is also difficult to forecast accurately. For the baseline demand projection we used the ONS (2012) long-term average estimate for the healthcare sector of +0.4 per cent growth per annum. However it is not known if this average applies to SLTs, and the Delphi panel expected a modest decline in workforce productivity of around 0.34 per cent per annum[13].

Figure 17 highlights the impact that changes in workforce attrition and productivity growth could have on our projections. It shows a spread of SLT supply principal projections ranging from around 11,504 (1.5 per cent attrition) to 10,667 (2.5 per cent attrition) on a FTE basis. This equates to a workforce increase of between 23.6 and 33.3 per cent by 2025.

The three demand principal projections in Figure 17 are based on different productivity assumptions:

- Demand principal projection (solid red line): Demand baseline including all Delphi factors.
- Demand principal projection, zero productivity change (dotted pink line): Demand baseline including all Delphi factors but productivity, which value has been set to zero.
- Demand principal projection, 0.4 per cent productivity increase (dotted dark orange line): Demand baseline including all Delphi factors but productivity and assuming a 0.4 per cent increase in productivity each year.

The values range from an increase of 21.4 to 32.1 per cent since 2013.

A projection with 1.5 per cent net workforce attrition would exceed the range of demand projections, while a projection with a 2.5 per cent net workforce attrition rate would fall between the lower two demand projections. However, the demand and supply projection ranges are not that different. If one compares the midpoints of the demand range with the midpoint of the supply range, the difference in 2025 is miniscule (1.32 per cent).

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[12] This relates to those leaving the workforce under the age of 54 (i.e. not retiring). Due to a wide variation in the data, we initially estimated a range of 1.5 to 2.5 per cent net attrition, which is in line with attrition rates for other non-medical workforces we have studied. We have used 2 per cent as the middle of this range. The net attrition rate factors in returners to the workforce, overseas leavers and joiners, as well as those leaving the workforce for other reasons. Further detail can be found in the modelling assumptions in Annex D.

[13] Further detail on our productivity calculation is available at Annex D.

These results do not point to a marked risk either of workforce oversupply or undersupply over the projection period, and reinforce our previous assessment that demand and supply are likely to remain broadly in balance over the projection period.

Figure 17: Sensitivity analysis of principal projections to 2025, England

This chart shows the impact of varying our workforce attrition and productivity growth rate assumptions.
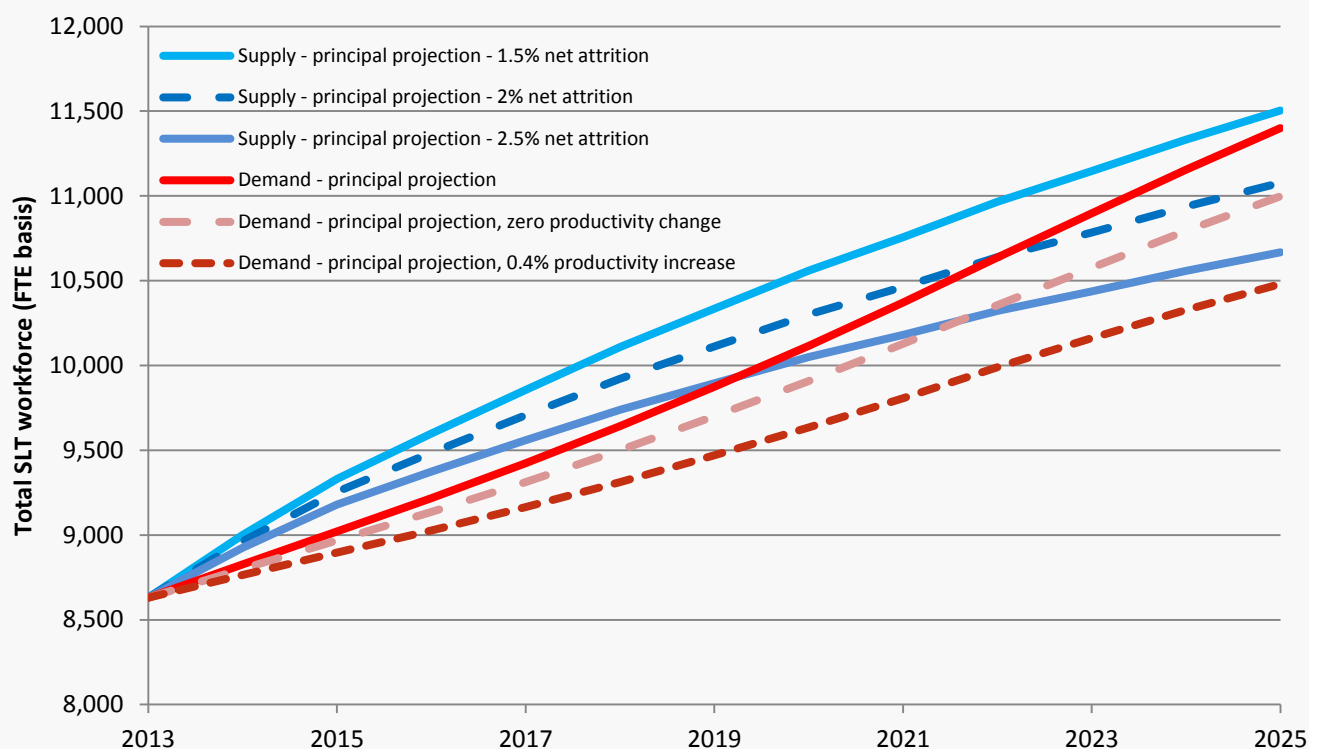
Source: CfWI SLT workforce system dynamics model for England

8. Key findings and next steps

8.1 Key findings

The key findings of the report's demand and supply modelling can be summarised as follows:

- We project baseline demand for SLT services to grow by around 8 per cent by 2025. The demand principal projection for client demand is forecast to increase by around 32 per cent over the same period.

- We project baseline supply for the SLT workforce is projected to grow by about 25.5 per cent by 2025, while our supply principal projection forecasts an increase of around 28 per cent over the same period.

The CfWI's assessment is that if SLT training commissions are held at 2013-14 levels, there should be a sufficient supply of SLTs working in England to keep supply and client demand broadly in balance over the projection period to 2025 (assuming the same level of services per capita as today).

We have analysed a number of implications for workforce planners, employers and organisations who interact with the SLT workforce. This section outlines how the findings will have an impact, and who can help implement them.

Training commission levels and modelling results

Our analysis has forecast that the national picture is broadly in balance, but by 2025, the demand projection falls into the range of our supply projections, and therefore we advise maintaining the current level of training commissions, but with several caveats – including reviewing the level of unmet need.

The projections generated are inherently uncertain. The CfWI's own analysis of the split between the adult and children's SLT workforces indicates a growing demand and role for SLTs working with adults. Although we do not have data regarding the historical split between the two sectors, the ageing population is one factor likely to increase demand for adult services. SLT training may be needed to deal with the possible increased adult client caseload. Service managers and commissioners will also need to be aware of the changing shape of the profession in order to help address the potential unmet need.

Who collects the data?

We have identified several gaps in data for the SLT workforce in compiling this report. Although the majority of SLTs are members of the RCSLT, the HCPC is the only organisation that has mandatory data collection regarding every SLT. The HCPC do not publish data regarding the workforce any more detailed than numbers for the UK. We have been fortunate to acquire data regarding the age and gender breakdown of the workforce, but this data is not longitudinal or readily available. Workforce planners should consider this when preparing future training commission strategies.

8.2   Next steps

The CfWI suggests that HEE considers maintaining SLT training commissions at or around their 2013-14 level, as this is consistent with medium-term demand and supply being broadly in balance.

The CfWI considers that maintaining the current level of SLT training commissions is the best course of action, as it is likely to keep demand and supply for SLT services broadly in balance over the whole projection period to 2025. Any significant reduction in training commissions from current levels could put the SLT workforce at a risk of undersupply, particularly if demand for non-NHS services continues to grow.

The CfWI proposes that a further workforce review be conducted in five years' time, or sooner if training commissions are reduced.

Periodic reviews (approximately every five years) of the SLT workforce will help better inform training commissioning and workforce planning over the medium to long term. However, should there be a significant further reduction in SLT training commissions, it would be prudent for the next workforce review to be conducted sooner.

The viability of regular workforce reviews partly hinges on the collection of better data, and a review updating and expanding the areas this report has investigated may not be possible without an improved range of data. There are also areas of investigation regarding the profession that would help develop a better understanding of the unique dynamics of the profession, such as the flow of SLTs between different sectors of employment and changes to attrition rates.

The CfWI also proposes that another whole-profession census be conducted in time for the next SLT workforce review.

This workforce stocktake has been greatly facilitated by the recent RCSLT membership census, which provided timely whole-profession data of great depth. A comparison against data with mandatory reporting (HCPC and HSCIC) indicates the survey data is representative. However, the survey was a one-off event, and identifying trends and changes over time is not possible without further editions of the survey. This does not necessarily have to be carried out by the RCSLT, but future SLT workforce surveys (as well as enhanced data collection regarding data on demand for SLT services) should make every effort to cover the whole profession.

Annex A: People we have consulted during this project

The CfWI sought input from a wide range of individuals as part of the scoping and consultation for this review. The following stakeholders spoke to us individually, participated in one of the horizon scanning interviews or clustering workshops, or participated in the Delphi panel exercise. We wish to thank the following for their contributions to the project:

David Amos
Lorna Bailey
Eve Baird
Sarah Beazley
Jane Biddulph
Shelagh Brumfitt
Kathryn Cann
Julie Carr
Rachel Cohen
Karen Davies
Sian Davies
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Claire McLaughlin
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Kath Smalley
Reena Sookhraz
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We would also like to thank our commissioners, Alison Raw and Cris Scotter (DH) and John Stock (HEE) along with officials from the Royal College of Speech and Language Therapists for their advice and support throughout the project.

Annex B: Cluster write-ups and ranking

On 23 January 2014, the CfWI held two cluster workshops for the SLT stocktake. These events were kindly hosted by the RCSLT. The morning session focused on the adult SLT workforce, and the afternoon on the children's SLT workforce. The purpose of the workshops was to **frame the uncertainty surrounding future workforce requirements**. In all, 17 challenging but plausible cluster stories were developed at that workshop (and outlined below) and these formed the backdrop to our workforce modelling for this stocktake. These stories and their narratives are owned by the stakeholders who attended on the day. They are expressed in their own terms and are not representative of the views of the CfWI. A list of the workshop participants is in Annex A, and the project methodology in Section 3.

We would once again like to thank the participants for their attendance and the RCSLT for hosting the events.

Adult SLT workforce clusters

Cluster A1: Public health

The first cluster focused on the interplay between political and public health priorities. The promotion of public health may be at risk due to government relations with the food industry. This influences public health messages and the possible lack of joined-up messages, coupled with the changing nature of disease could increase demand and ultimately cost.

This cluster produced the following two challenging, but plausible, outcomes:

1. Through promotion of the SLT public health role, the profession is able to demonstrate a good return on investment and capitalise on this by expanding their role and helping to train and support the wider workforce. The impact of prevention on cost is articulated, and SLTs help with early identification of conditions (such as dysphagia and through work in the criminal justice system) to make a full contribution to the wider healthcare system.

2. This outcome results in the failure of the profession to respond to the public health agenda. The profession does not recognise its public health role and becomes focused on a specific narrow agenda, and is not able to prove its worth to the multi-disciplinary team (MDT). SLTs become 'siloed', which partly contributes to an unhealthy population driving up demand, with SLTs unable to help reduce health inequalities.

Cluster A2: Technology

The wider introduction of technology to the delivery of SLT services is the main driver in this cluster. The growth of technology requires investors who can help promote the use of technology and help negotiate issues such as information governance. The use of technology manifests itself in several ways, including therapy accessible via cloud services, and the ability to address SLT needs in languages other than English. Any technological developments would require appropriate safeguarding and research, and training of the workforce.

This cluster produced the following two challenging, but plausible, outcomes:

1. Technology infiltrates practice and leads to an increase in the specialist roles of SLTs. The introduction of technology is properly monitored and the information governance procedures are sensitively handled. The development of technology in the SLT role would also help to raise the profile of the profession. Technology will be introduced that is quality assured and research-based in order to avoid unregulated practice. The research into communication technology is partly undertaken at regional centres of excellence.

2. Compared to other sectors, health services remain behind in terms of their adoption of technology. A lack of an evidence base has hampered development, and the apps and devices that are available vary in quality and reliability. There is a lack of investment in technology assisting SLTs, and patients go elsewhere (such as IT companies) to receive therapy. Poor coordination of the profession means that what access there is remains uneven. The profession does not make the most of the opportunities that technology offers.

Cluster A3: Quality and diversity

The quality and design of training helps to drive this cluster. Evidence-based practice and enhanced training helps to improve workforce quality, thus changing the public perception of SLTs and the perceived value of services. This heightened awareness impacts upon the attractiveness of the career and the accessibility of the training.

This cluster produced the following two challenging, but plausible, outcomes:

1. Low public awareness of the work of SLTs means fewer applications to SLT courses. This has the knock-on effect, with courses and training places being cut. Fewer applicants means a lower quality of graduate (and therefore the workforce) and eventually, a less diverse workforce that does not accurately reflect the population being served. The smaller, less diverse workforce would mean a limited service could be offered and career progression would stagnate.

2. A higher profile of SLT as a career means a higher number of applicants for university courses and a diverse range of young people interested in speech and language therapy as a career. This diversity and high quality of graduates means a wider skill base, allowing a flexible workforce able to work across several sectors and respond to the changing needs of the population. This successful outcome perpetuates the high public profile of SLTs.

Cluster A4: Economic and political

The main driver in this cluster is a change in demand from the public, which influences political agendas. Political decisions lead to changes in funding sources and delivery models. SLTs need to be savvy in order to respond to the political challenge, with decisions made affecting the funding sources and development of the profession, as well as the perception of SLTs.

This cluster produced the following two challenging, but plausible, outcomes.

1. The profession is able to react to the political challenge and demonstrate a positive return on investment, and strengthen the relative position and prominence of the profession. This leads to greater security in the profession, the development of SLT career paths and improved patient feedback and outcomes. SLT leaders successfully lead multidisciplinary teams and make a positive impact on the wider healthcare system. The positive influencing of the political agenda leads to SLCN

being recognised as a disability, enabling greater rights and recognition of those with communication difficulties.

2. A poor political case for SLT is made and hence SLT becomes an isolated profession, unable to integrate its leadership into the wider healthcare workforce. Ambitious SLTs find themselves having to leave the profession and clinical work in order to advance their career in the wider system. Continued improvement of the profession is not seen as a priority among professionals and commissioners, and consequently, motivation, job security and patient feedback suffers.

Cluster A5: Workforce

The diversity of the population is the starting point for this cluster, as it influences the diversity of the public sector workforce and the career choices made. A diverse workforce influences more part-time working requiring flexible employment practices, as well as changes in retirement ages. The provision (or lack) of flexible employment terms influences the stability of the workforce, as well as the motivation.

This cluster produced the two following challenging, but plausible, outcomes.

1. The public sector adapts and innovates to help satisfy renewed SLT expectations. Portfolio careers are enabled, with SLTs able to work across public and private sectors. This flexible workforce is able to address changing needs and regional health inequalities. One method of addressing rising demand is to bolster and reshape pre-registration training as well as to extend the roles of those who are not yet registered in addition to speech and language therapist assistants (SLTAs).

2. SLTs increasingly seek entrepreneurial and flexible modes of employment, and the public sector does not meet this challenge. Many SLTs become self-employed to pursue a portfolio career. The private sector increases its share of SLT employment, and is able to cater for the changing demands of SLTs. This means more flexible working conditions enabling a happy and dynamic SLT workforce, able to meet the changing expectations of a diverse patient base.

Cluster A6: Diversity of workforce

The diversity of the general population is reflected by the SLT workforce in this cluster. Changes in migration rates, life expectancy and survival rates help transform the population, with further factors such as a change in retirement age and awareness of work/life balance issues driving workforce change.

This cluster produced the following two challenging, but plausible, outcomes.

1. Employment conditions adapt to take account of the diverse SLT workforce, and, after a period of expansion and change, this leads to a wide range of skills and many opportunities available for individuals to develop their careers. This leads to a contented, diverse workforce with good clinical leadership, but also to fewer opportunities for newly qualified SLTs. Posts become 'blocked', partly due to an increased retirement age and to the stable workforce with high retention rates. The lack of career progression may affect the public image of the profession and thus recruitment.

2. Continued cost improvement plans (CIPs) lead to a loss of clinical leadership and experienced SLTs. The workforce profile is 'flattened', with newly qualified SLTs lacking senior leadership and mentoring. Without strong leadership in place, the motivation of the workforce decreases. SLT and multidisciplinary teams suffer as a result, and the development of the SLT research base stagnates.

Cluster A7: Diversity of service users

This cluster looks at the lifestyle choices of service users, with life expectancy, co-morbidities, survival rates and migration driving changes to the scope of the SLT. Different demographics, increased patient involvement and an increase in demand drive decisions in commissioning, marketing and training.

This cluster produced the following two challenging, but plausible, outcomes.

1. The diversity in service users is reflected in the range of services available. Competition for services (both within SLT and with other professions) is increased, which reflects diverging patient demands. This creates opportunities for SLTs to develop in new sectors. Services are commissioner-led, though there is a range of commissioners driving service provision. SLTs become increasingly savvy regarding marketing and their use of evidence to promote their service. Risks to this outcome include quality and competencies being diluted due to the focus on competition and a profession spread that is increasingly thinly.

2. SLTs successfully reflect their new demands by increasing access to services. SLTs offer professional input into ever-more-diverse areas, and respond to evidence-based demand by adapting the service to meet user needs. SLTs are able to influence commissioners by providing evidence of an efficient, responsive service. The new service is well-coordinated, with good access across the country.

Cluster A8: Effect of public health on SLT provision

The group working on this cluster also used lifestyle factors as a driver, with the ageing population, public responsibility for health and changing demographics all present, as well as a change in social inequality. Increased public involvement influences commissioning intentions, ultimately changing access to SLT services and the choice of service for patients.

This cluster produced the following two challenging, but plausible, outcomes:

1. The public become more aware of the their health and the impact of their lifestyle choices, which could lead to either an increase (due to the public being more aware of the need of SLT) or a decrease (due to a healthier population) in the need to access SLT services. The public are more aware of the role of SLTs, and demand more choice in their health provision, requiring an increase in the workforce. SLTs help perform a role in training other members of the multidisciplinary team (MDT), thus promoting recognition of SLCN.

2. This outcome ultimately leads to the 'death' of the NHS SLT, as commissioned services decrease and there is less patient choice. Morbidity of communication disorders increase, and the public become less involved in their health service choices. Due to decreased commissions, funding for research is lower, and the profession becomes less attractive. Recruitment and retention of the workforce become issues. The lower commissions and lack of research lead to a generic workforce that has trouble addressing demand.

Cluster A9: Changing nature of SLT provision

Career paths and professional choices help drive this cluster, with a range of career choices and the enabling of portfolio careers helping drive a motivated, highly skilled and competent workforce. The changing level of training and ability to enable different career choices has an impact upon outcomes and scale of service provision and patient safety.

This cluster produced the following two challenging, but plausible, outcomes:

1. To respond to increased patient choice, SLT becomes a more flexible and diverse career option. There is a rise in portfolio careers and a wider range of specialisms in speech and language therapy, delivered through revamped training. SLTs develop commercial skills that enable them to market and promote the profession more to the public and to other healthcare professionals. A more diverse workforce is attracted to the profession (partly due to the flexibility offered) and a career ladder is extended to help attract ambitious SLTs.

2. SLT fails to evolve, and becomes isolated as a profession. The economic value of SLT work is not articulated, and services are scaled back. This reduces the attractiveness of the profession, which means recruitment and retention of the workforce becomes a problem. Opportunities for specialising and creativity are scarce, and the lack of flexibility and innovation prevents individuals from developing portfolio careers to suit their professional choices.

Cluster A10: Delivery model

Changes to the delivery models in which SLTs work were crucial to this cluster. Integrated care provided by a multidisciplinary team, coupled with technological developments and improved triage systems, help to change a system and affect professional silos.

This cluster produced the following two challenging, but plausible, outcomes:

1. The locations in which SLTs traditionally deliver care changes, with more deployed in the community. This helps to reduce the burden on the GP workforce, among other impacts. SLTs have more of a preventative role, thus saving money and improving population health. The workforce undertakes investment and development, with increased supply, training and role development. More specialist roles are developed as the profession's evidence base is expanded, and an efficient service with the right people in the right place is enabled.

2. Services experience poor coordination, with silo working a frequent problem. Patients find services are duplicated and confusing to navigate. The profession is underutilised and is not able to respond to patient demands. Demand is continually loaded onto an overstretched GP workforce. SLTs fail to both undertake public health responsibilities and increase patient access. This means diseases are picked up at a later stage, with downstream cost impacts. The opportunities offered by technology are also not explored.

Children's SLT workforce clusters

Cluster C1: Migration

Migration is the key driving force in this cluster. Migration rates affect caseload size and the level of multi-lingual services demanded. A larger caseload due to a booming population may affect morale of the workforce, and impact upon quality of care and service delivery. Changing demand for multilingual SLT services impacts upon recruitment of SLTs, both from abroad and from all communities in the UK. Technology may have a role to ensure access for all.

This cluster produced the following two challenging, but plausible, outcomes.

1. SLT courses become more standardised across the world, and employers in England are able to recruit internationally to better service the diverse population. A workforce reflecting the linguistic and cultural diversity of the patients means better diagnosis, better therapy and consequently better outcomes. This may mean more bilingual support workers, rather than SLTs. The profession is then able to 'sell' the inclusive and diverse workforce that is able to serve the population to commissioners.

2. Little research is undertaken into language diversity and population trends, which means the profession is unable to reflect the population's diversity. Unhappy with the shape of the workforce, many SLTs become disillusioned and leave the country. The remaining SLTs are left with a high caseload. The stretched workforce has trouble coping, and results in poor diagnoses (due to lack of understanding regarding language) and outcomes. This approach fails to convince commissioners to invest in the SLT workforce.

Cluster C2: The hidden workforce

This cluster focussed on the workforce that helps to support SLTs, including SLTAs, teaching assistants, key workers and play workers. This workforce is currently poorly developed, with very little information on workforce numbers or organisations at present. Issues explored in this cluster include developing training, competencies and career pathways of support workers, as well as economic imperatives to possibly drive change in this sector for multidisciplinary teams.

This cluster produced the following two challenging, but plausible, outcomes.

1. The support workforce undergoes a large change, entailing a standardisation of roles and job titles. Training schemes are developed in order to make best use of this pool of labour. CPD and career progression opportunities (including the possibility of SLTAs becoming SLTs, through vocational training) are developed, with a coordinated and developed support workforce improving recruitment and retention. Standards are also raised, and the support workforce sees an increase in numbers. The increased contribution of the support workforce means that skill mix is redesigned and patient access is increased.

2. Little work is done to develop the support workforce, and wages and job security remain low. This makes recruitment and retention a recurring problem. With little support and CPD available, the support workforce does not reach its potential and many skills are lost due to the low wages and poor career prospects. Skill mix does not develop, with SLTs unable to delegate the more routine tasks to

assistants. The poor coordination and organisation of support workers mean access to service and the scope of service is uneven across the country.

Cluster C3: Commissioning

This cluster focused on the impact that a range of different commissioners could have on the profession. This includes changes in education policy, such as the expansion of free schools, academy schools and independent schools, as well as the impact of education healthcare plans (EHCs) and the healthy child programme (HCP). The increased range of commissioners means there are competing demands for services and increased uncertainty over the coordination of the workforce.

This cluster produced the following two challenging, but plausible, outcomes**.**

1. Services become fragmented due to the large number of commissioners, and the profession is unable to pull in a single direction. Many of the new commissioners are commercially minded (often being from a business manager background), with choices frequently undertaken on cost alone. Clinical input in decision-making is reduced. The diversity of commissioners results in a short-termist culture resulting in little strategic planning.

2. To address the diverse commissioning arrangements, SLTs develop commercial skills and are able to articulate their value and return on investment to commissioners. Creative solutions to commissioning are developed. Part of this offering is an increased role in public health, which helps to reduce health inequalities and offers a long-term return on investment. SLTs are also successful in spreading best practice among their networks, and the profession continues developing.

Cluster C4: The instant society

Increased patient expectations and societal changes drive this cluster. The patients of today and up to 2025 expect to access a responsive service that is available at times to suit fast-paced lifestyles. This is partly driven by increased mobility, both of patients and of the workforce. The changed expectations necessitate increased access to SLT services through technology and social media.

This cluster produced the following two challenging, but plausible, outcomes**:**

1. The profession recognises the societal attitude changes and utilises social media to develop more responsive services. Technology is used to improve access and develop a different approach to working with clients. These developments help enhance in the portrayal of SLT as a dynamic profession, and thus attracts a diverse range of new entrants to the profession, with competition for places on degree courses. The profession is able to develop international links with others in the industry to help ensure the latest technological developments are adopted and the profession can maintain its forward momentum.

2. The profession does not adapt sufficiently to the change in expectations and fails to explore the possibilities of technology. The public regards speech and language therapy as an old fashioned profession that is resistant to change, thus reducing the attractiveness of the profession to students who have grown up in 'the instant society'. SLTs become 'hidden', and their services fail to attract investment.

Cluster C5: Workforce and funding priorities

This cluster takes in several factors, including professional powerbase, the relative size of the profession and NHS priorities that will influence the shape of the workforce. A plurality of commissioners and the integration of services also feature, with a response being to enhance the diversity of the workforce and develop career pathways and opportunities.

This cluster produced the following two challenging, but plausible, outcomes**.**

1. The role of SLTs narrows, with a strong focus on medical treatments. Support for the wider population may not be forthcoming, as the role changes. There is less of a focus on prevention and other professions take on work previously undertaken by SLTs. The diminishment of the SLT role means the profession becomes less attractive to potential entrants, and the political influence of SLTs reduces. This means policies are produced that are detrimental to the profession.

2. The profession is adept and adapts by diversifying roles to service the expanding population. This diversification and flexibility means SLTs are well positioned to respond to local needs. Responsibilities are well defined, and this improves productivity, efficiency and outcomes. SLT careers become more flexible, SLT becomes more attractive as a profession, and SLTs are able to influence policy.

Cluster C6: Research

Research and evidence-based practice helping to drive improvements is at the core of this cluster. This would take the form of a national offer (under national guidelines), to help reduce inequalities between services. With evidence-based interventions and outcome measures, the profession can influence commissioners by demonstrating a return on investment and the value of research to the profession.

This cluster produced the following two challenging, but plausible, outcomes**:**

1. The profession refines its range of therapy in order to be able to offer every client a tailored, evidence-based and client-led course of therapy. Strong national direction means more equitable access is achieved, and the profession is cohesive. Accountability through outcome measures reduces tension between providers, and the introduction of the outcomes enable accurate planning and forecasting.

2. The service offered becomes unrelated to the (small) evidence base, as research funding is not made available. The poor evidence available fails to convince commissioners to expand or develop SLT services, and money is diverted to other areas of healthcare that have a more compelling evidence base. The lack of investment and development results in a fragmented and demoralised workforce that cannot guarantee high-quality therapy to the patients.

Cluster C7: Funding

Several drivers are factored into this cluster, including funding for training, diversity of providers, funding sources affecting skill mix, service integration, use of technology and the development of the SLT workforce. The development of career pathways and availability of CPD also influenced the direction of the profession.

This cluster produced the following two challenging, but plausible, outcomes**.**

1. Funding for SLT services is greatly reduced, with very few SLT training places commissioned. The knock-on effect is huge, with a negative impact for families with children suffering from speech,

language and communication needs. There is also a downward trend in educational outcomes and an unmet need. The lack of skills in the workforce means contracts cannot be met. This situation is only realised too late, with 20 years of development ahead in order for the profession to return to its peak years and fully service the high levels of demand.

2. The funding for the SLT workforce is maintained, and it continues to develop. Commissioning services meet their budgets, and the positive results of SLT interventions are clear to the commissioners. Skill mix is adjusted and a content workforce is a productive one. Over the long term, there are reductions in mental health needs and offenders needing SLT due to the stable services available, and an increase in academic achievement.

Ranking of the clusters

After creating the clusters, participants ranked the clusters in regards to their uncertainty and impact. The results of this ranking are illustrated in Figure 17 and 18 on the next pages.

Figure 17: Adult SLT clusters, ranked by impact and uncertainty

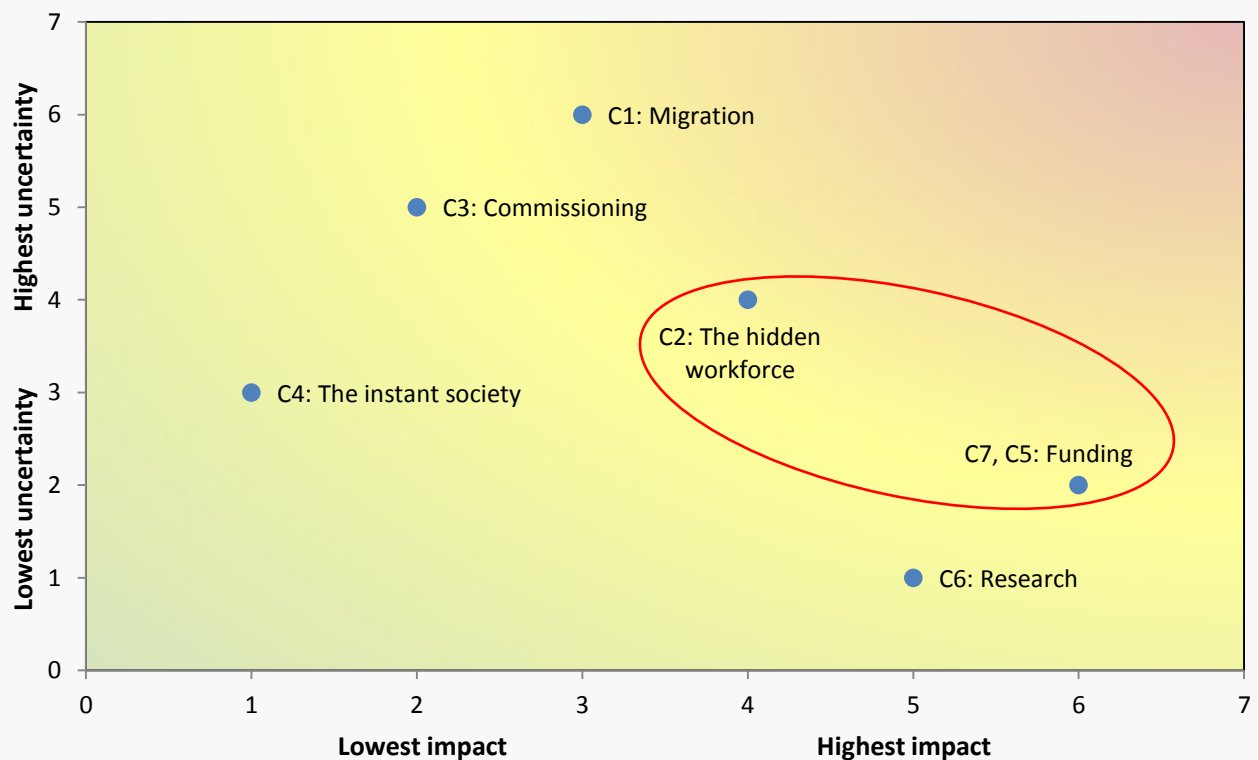The two clusters ranked highest impact and uncertainty are A7 and A2.
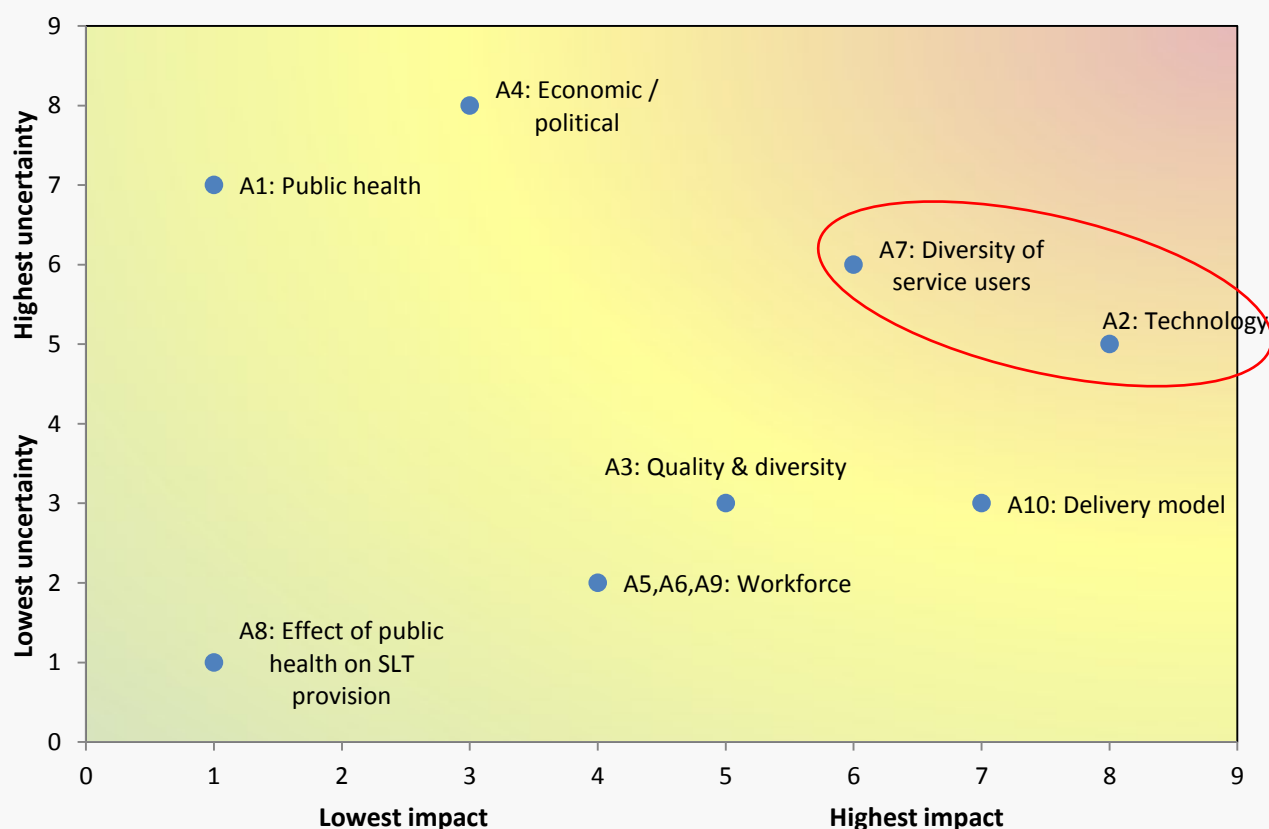
Source: CfWI analysis of cluster workshop outcomes

Figure 18: Children's SLT clusters, ranked by impact and uncertainty

The two clusters ranked highest impact and uncertainty are C5/C7 and C2.

Children's SLT clustering workshop ranking of clusters by impact and uncertainty

Source: CfWI analysis of cluster workshop outcomes

Annex C: Delphi questions and results

In April and May 2014, we conducted a Delphi exercise to quantify assumptions used in our model. We ran two Delphi exercises in parallel, one for the adult SLT workforce and one for the children's SLT workforce, with each survey lasting two rounds. In the first round, the panel gave their initial answers, along with justifications for these figures. The (anonymised) results were then shared with the other panellists, and in the second round the participants were encouraged to review their initial answers after reading the answers from the rest of the panel. We used the median figure to put into our model, and these are the figures listed below. We aimed to have a panel with a diverse mix of experiences and perspectives on the SLT workforce.

Delphi questions and results

We asked the following questions to our Delphi expert panels. We supplied supporting material with survey invites, which is available upon request. The **median** answers given in round 2 are shown in **(red)**.

Q1: **Please enter your participant number.**

Q2: **What percentage of today's need is met by today's SLT service provision?**

- Child clients aged 0-4 **(70%)**
- Child clients aged 5-11 **(65%)**
- Child clients aged 12-18 **(50%)**
- Adult clients aged 19-64 **(60%)**
- Adult clients aged 65-74 **(60%)**
- Adult clients aged 75+ **(60%)**

[Weighted average total: **60% met**]

Q3: **Please give the rationale for your answer.**

- Child clients aged 0-4
- Child clients aged 5-11
- Child clients aged 12-18
- Adult clients aged 19-64
- Adult clients aged 65-74
- Adult clients aged 75+

Q4: **By 2025, how will INDIVIDUAL client need for SLT time change, ON AVERAGE, relative to today?**

- Child clients aged 0-4 **(+10%)**
- Child clients aged 5-11 **(+10%)**
- Child clients aged 12-18 **(+10%)**
- Adult clients aged 19-64 **(+10%)**
- Adult clients aged 65-74 **(+20%)**
- Adult clients aged 75+ **(+20%)**

[Weighted average total: **+12% need**]

Q5: **Please give the rationale for your answer.**

- Child clients aged 0-4
- Child clients aged 5-11
- Child clients aged 12-18
- Adult clients aged 19-64
- Adult clients aged 65-74
- Adult clients aged 75+

Q6: **By 2025, as a result of workforce efficiency and productivity, will MORE or LESS SLT time be needed to meet the same amount of client need, relative to today?**

- Child clients aged 0-4 **(0%)**
- Child clients aged 5-11 **(5% MORE)**
- Child clients aged 12-18 **(5% MORE)**
- Adult clients aged 19-64 **(5% MORE)**
- Adult clients aged 65-74 **(0% MORE)**
- Adult clients aged 75+ **(5%)**

[Weighted average total: **4.2% MORE time**]

Q7: **Please give the rationale for your answer.**

- Child clients aged 0-4
- Child clients aged 5-11
- Child clients aged 12-18
- Adult clients aged 19-64
- Adult clients aged 65-74
- Adult clients aged 75+

Q8: **By 2025, how will the level of child/adult SLT service commissioned change, relative to today?**

- Child NHS clients aged 0-4 **(-5%)**
- Child NHS clients aged 5-11 **(-5%)**
- Child NHS clients aged 12-18 **(0%)**
- Child non-NHS clients aged 0-4 **(10%)**
- Child non-NHS clients aged 5-11 **(10%)**
- Child non-NHS clients aged 12-18 **(10%)**
- Adult - NHS clients aged 18-64 **(0%)**
- Adult - NHS clients aged 65-74 **(0%)**
- Adult – NHS clients aged 75+ **(10%)**
- Adult – non-NHS clients aged 18-64 **(10%)**
- Adult – non-NHS clients 65-74 **(10%)**
- Adult – non-NHS clients 75+ **(10%)**

- [Weighted average total: NHS clients **+0.1%**]
- [Weighted average total: Non-NHS clients **+10%**]
- [Weighted average total: All clients **+2.7%**]

Q9: **Please give the rationale for your answer.**

- Child NHS clients aged 0-4
- Child NHS clients aged 5-11
- Child NHS clients aged 12-18
- Child non-NHS clients aged 0-4
- Child non-NHS clients aged 5-11
- Child non-NHS clients aged 12-18
- Adult - NHS clients aged 18-64
- Adult - NHS clients aged 65-74
- Adult – NHS clients aged 75+
- Adult – non-NHS clients aged 18-64
- Adult – non-NHS clients 65-74
- Adult – non-NHS clients 75+

Q10. **Considering planned and possible changes to statutory retirement ages, what do you think the change in the AVERAGE RETIREMENT AGE (those that completely stop working in the profession) for SLTs will be in 2025?**

- Mean answer: +4 years
- Median answer: +5 years

Annex D: Data sources and modelling assumptions

Table D1: Demand modelling assumptions

Model element/ variable	Data confidence rating[14]	Source of data/assumption	Validation	Data/assumption
Initial workforce contribution to each demand source	M	RCSLT 2014 Survey (Percentage of time worked by SLTs with each client groups)	Calculations based on percentage of time worked by SLTs with each client groups: 62 per cent children, 38 per cent adults. Children's age split by age bands is based on RCSLT survey question on SLT time spent with this client group. Adults' age split for age bands could not be identified from the RCSLT survey. Calculations based on the judgments of a panel of Delphi and workshop participants who work and manage teams in the adult SLT sector (with representation from sectors including hospital and community based cases,	Demand A Demand B Demand C Child 0-4 Child 5-11 Child 12-18 17 per cent 21 per cent 23 per cent Demand A + Demand B + Demand C = 62 per cent current contribution of SLTs to children Demand D Demand E Demand F Adult 19-64 Adult 65-74 Adult 75+ 14 per cent 11 per cent 13 per cent Demand D + Demand E + Demand F = 38 per cent current contribution of SLTs to adults Used: Workforce currently employed in England, membership category of newly qualified practitioner, practicing, and returning to practice.

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[14] VH= very high; H=high; m=medium; L=low

Model element/ variable	Data confidence rating[14]	Source of data/assumption	Validation	Data/assumption
			independent and learning disability (see Annex C).	
Future workforce contribution to each demand source	M	RCSLT 2014 Survey (Percentage of time worked by SLTs with each client groups)	n/a	No changes to the initial contribution see above.
Demand source activity	M	RCSLT 2014 survey – number of hours worked per week by SLTs across all roles/sectors and client groups. Adults' number of hours calculations based on the same assumption used for 'Initial workforce contribution to each demand source'		Children [0-4]: 10,391 Children [5-11] : 12,609 Children [12-18]: 8,810 Adults [19-64]: 7,281 Adults [65-74]: 5,721 Adults [75+]: 6,761
Workforce productivity growth	M	**Baseline demand:** Average change in health productivity 1995-2010 (ONS, 2012) **Principal projection:** Delphi panels' median estimates by age-group (see Annex C).	**Baseline demand:** ONS productivity estimates are the best available, but there are NHS averages **Principal projection:** Calculations based on the judgments of two Delphi and workshop participants who work and manage teams in the SLT sector (see Annex C).	**Baseline demand:** +0.4 per cent per annum, which equates to +4.9 per cent growth from 2013 to 2025. This reduces demand by 4.7 per cent. **Principal projection:** Weighted Delphi average estimate is for 4.2 per cent more time needed to meet the same amount of client need by 2025. This equates to a total decline in productivity of 4.05 per cent from 2013 to 2025.

Model element/ variable	Data confidence rating[14]	Source of data/assumption	Validation	Data/assumption
Average individual patient need for SLT time	M	**Baseline demand:** n/a **Principal projection:** Delphi panels' median estimates by age-group (see Annex C).	**Baseline demand:** n/a **Principal projection:** Calculations based on the judgments of Delphi and workshop participants who work and manage teams in SLT sector (see Annex C).	**Baseline demand:** Assumed to be zero (no change) **Principal projection:** Weighted estimate is for a total increase in average patient need of 12 per cent from 2013 to 2025.

Source: CfWI SLT workforce system dynamics model for England

Table D2: Training modelling assumptions

Model element/ variable	Data confidence rating[15]	Source of data/assumption	Validation	Data/assumption
Annual number of students starting SLT course in England	VH	NMET commissions for England (total number of students starting per year) from 2002 onwards to 2013.	n/a	2013/14 NMET commissions: Actual posts: 673
Annual age profile of students starting SLT course in England	VH	RCSLT 2014 Survey (age of students currently in education)	Students' age profile by training course, BSc and MSc.	The age profile has been built using the age of students in all years of education in order to increase the statistical quality of the profile.
Time taken to complete SLT course	M	RCSLT 2014 survey (Length of study by course type)	Historical figures of how long it took to complete the course, based on	BSc: 3 years – 34 per cent 4 years – 64 per cent 5 years – 1 per cent MSc: 2 years – 87 per cent 3 years – 12 per cent 4 years – 1 per cent 6 years – 1 per cent

[15] VH= very high; H=high; m=medium; L=low

Model element/ variable	Data confidence rating[15]	Source of data/assumption	Validation	Data/assumption
			the number of respondents in the RCSLT survey (UK students not currently graduated): BSc sample: 2,200 MSc sample: 641	
Percentage of students that leave at some point during their course	L	n/a	Semi-expert judgment. It was suggested that this percentage is less than 5 per cent. We chose 2.5 as the mid-point between 0 and 5.	2.5 per cent
Percentage of leavers following successful completion of SLT course	n/a	n/a	No data available for making a reasonable assumption	0

Source: CfWI SLT workforce system dynamics model for England

Table D3: Workforce supply modelling assumptions

Model element/ variable	Data confidence rating[16]	Source of data/assumption	Validation	Data/assumption
Current number of SLTs in the workforce	M	RCSLT 2014 survey (percentages of practicing and non-practicing/retired SLTs)	n/a	10,710 - Assumption using percentage of practicing (excluding non-practicing/retired) members from RCSLT survey applied to HCPC figure. 97 per cent of members were

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[16] VH= very high; H=high; m=medium; L=low

Model element/ variable	Data confidence rating[16]	Source of data/assumption	Validation	Data/assumption
		HCPC (current number of registered SLTs)		practicing, HCPC registrants were 11,051
Current age profile of SLTs in the workforce	H	RCSLT 2014 survey (age of SLTs currently in the workforce)	n/a	Members of RCSLT, with employment status 'currently employed' and country of Employment as 'England'.

Membership categories used: Newly qualified practitioners, practicing, and returning to practice. |
| Annual number of SLTs entering the workforce from overseas | n/a | n/a | No data available, the effect of joiners is accounted for in the attrition value. | 0 |
| Annual number of SLTs returning having previously left | n/a | n/a | No data available, the effect of joiners is accounted for in the attrition value. | 0 |
| Net workforce attrition rate for SLT workforce | L | HSCIC (attrition rate for SLTs in NHS; no equivalent rate available for the entire SLT workforce) | The CfWI continues working using past trends due to a lack of specific evidence | Historical probability of leaving the workforce based on net attrition (number of leavers offset by number of joiners) of SLTs aged 53 years and over.

Percentage of SLTs below the age of 53 leaving each year – assumption based on average attrition rate per year for the age group from 2002 to 2011.

Due to wide variations in the numbers of leavers/joiners in this data, potentially because of the flow of SLTs moving from NHS to non NHS sectors (and vice versa). A range between |

Model element/ variable	Data confidence rating[16]	Source of data/assumption	Validation	Data/assumption
				1.5% and 2.5% has been Estimated for the net attrition of leavers for reasons different than retirement. This range is similar to what has been used in other CfWI non-medical reviews (e.g. pharmacists).
Retirement age	M	**Baseline demand:** HSCIC workforce data for SLTs in NHS. (No equivalent rate available for the entire SLT workforce)

Principal projection: Delphi panels' median estimate (see Annex C). | **Baseline demand:** Established CfWI methodology.

Principal projection: Calculations based on the judgments of two Delphi surveys and workshop participants who work and manage teams in SLT sector (see Annex C). | **Baseline demand:** 2008 to 2012 data is used to calculate the likelihood of a SLT leaving the workforce. The model assumes SLTs leave the NHS to retire at a range of ages; the mode (most common) age to retire is on turning 60, and the mean is 59.

Principal projection: Estimated five years increase on the average retirement age; most leave on turning 65. |
| SLT participation rate | M | RCSLT 2014 survey (Percentage of time spent in delivering SLT services) | Calculations based on RCSLT 2014 survey respondents using the number of hours worked per week to establish the ratio for full time/part time of the workforce. | Average participation of 81 per cent in 2014. Value based on about 40 per cent response rate in the UK survey.

Used: Workforce currently employed in England, membership category of newly qualified practitioner, practicing, and returning to practice. |

Source: CfWI SLT workforce system dynamics model for England

References

All Party Parliamentary Group on Speech and Language Difficulties (2013) *The links between speech, language and communication needs and social disadvantage.* Available at http://www.rcslt.org/governments/docs/all_party_parliamentary_group_on_slcn_inquiry_report [Accessed September 2014]

Barry, F (2014) *Putting special educational needs reforms to the test*. The Telegraph, Available at http://www.telegraph.co.uk/education/educationadvice/11064728/Putting-special-educational-needs-reforms-to-the-test.html [Accessed November 2014]

Cassidy, S. (2014) *Cuts make children wait up to a year for vital speech and language therapy.* The Independent, Available at http://www.independent.co.uk/news/education/education-news/cuts-make-children-wait-up-to-a-year-for-vital-speech-and-language-therapy-9571594.html [Accessed June 2014].

Centre for Workforce Intelligence (CfWI) (2012) *Speech and language therapists: Workforce risks and opportunities*. Available at http://www.cfwi.org.uk/publications/speech-and-language-therapists-workforce-risks-and-opportunities-education-commissioning-risks-summary-from-2012/attachment.pdf [Accessed July 2014].

Department of Health (DH) (2007) *National Stroke Strategy*. Available at http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_081062 [Accessed June 2014].

Department of Health (DH) (2011) *Health visitor implementation plan: a call to action, February 2011*. Available at https://www.gov.uk/government/publications/health-visitor-implementation-plan-2011-to-2015 [Accessed June 2014].

Gregory, J. Bryan, K. (2011) *Speech and language therapy intervention with a group of persistent and prolific young offenders in a non-custodial setting with previously undiagnosed speech, language and communication difficulties*. International Journal of Language & Communication Disorders, 46:2, pp 202-215.

Health and Care Professions Council (HCPC) (2013) *FW: Demographic reports for home countries as discussed.* Via private correspondence 27/11/2013.

Health Education England (HEE) (2014) *FW: Q4 Activity*. Via private correspondence 14/05/2014.

Health and Social Care Information Centre (HSCIC) (2013) Workforce data set, 1997-2012. Data sharing protocol with the CfWI. [online] Unpublished. [Accessed July 2014].

Health and Social Care Information Centre (HSCIC) (2014) *NHS Hospital and Community Health Service (HCHS) Workforce Statistics in England, Non-medical staff – 2003-2013, As at 30 September*. Available at http://www.hscic.gov.uk/catalogue/PUB13741 [Accessed June 2014].

Law, J. McBean, K. Rush, R. (2011) *Communication skills in a population of primary school-aged children raised in an area of pronounced social disadvantage*, International Journal of Language and Communication Disorders, 46(6), pp 657-64.

NHS Careers (2014a) *Speech and language therapist*. Available at http://www.nhscareers.nhs.uk/explore-by-career/allied-health-professions/careers-in-the-allied-health-professions/speech-and-language-therapist/ [Accessed June 2014].

NHS Careers (2014b) *Entry and training requirements for speech and language therapy*. Available at http://www.nhscareers.nhs.uk/explore-by-career/allied-health-professions/careers-in-the-allied-health-professions/speech-and-language-therapist/entry-and-training/ [Accessed July 2014].

Office for National Statistics (ONS) (2012) *Public Service Productivity Estimates: Healthcare, 2010.* Available at http://www.ons.gov.uk/ons/rel/psa/public-sector-productivity-estimates--healthcare/2010/art-healthcare.html [Accessed July 2014].

Office for National Statistics (ONS) (2013) *National Population Projections, 2012-based projections*. Available at http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-318453 [Accessed June 2014].

Royal College of Speech and Language Therapists (RCSLT) (2013a). *The RCSLT Dementia Campaign*. Available at http://www.rcslt.org/governments/dementia_campaign [Accessed September 2014].

Royal College of Speech and Language Therapists (RCSLT) (2013b) *Bulletin: the official magazine of the Royal College of Speech and language therapists*, February 2013. Available at http://www.rcslt.org/docs/bulletin/2013/feb_2013 [Accessed July 2014].

Royal College of Speech and Language Therapists (2014a) *RCSLT census data* 2014. Private correspondence 26/02/2014.

Social Mobility and Child Poverty Commission (2014) *Response to the consultation on the Child Poverty Strategy 2014-2017*. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318062/2b_Poverty_Response_-_Final.pdf [Accessed June 2014].

The Telegraph (2014), *Putting special educational needs reforms to the test*. Available at http://www.telegraph.co.uk/education/educationadvice/11064728/Putting-special-educational-needs-reforms-to-the-test.html [Accessed November 2014].

UK Parliament (2010) *Value for money in the NHS*. Available at http://www.parliament.uk/business/publications/research/key-issues-for-the-new-parliament/value-for-money-in-public-services/value-for-money-in-the-nhs/ [Accessed June 2014].

UK Parliament (2014) *Children and Families Act 2014*. Available at http://www.legislation.gov.uk/ukpga/2014/6/contents/enacted [Accessed July 2014].

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