



CENTRE
FOR
WORKFORCE
INTELLIGENCE

In-depth review of the psychiatrist workforce

Main report



November 2014

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1. Executive summary

The Centre for Workforce Intelligence (CfWI) was commissioned by the Department of Health (DH) and Health Education England (HEE) to conduct an in-depth review of the psychiatrist workforce in England, with a particular focus on fully trained psychiatrists with a certificate of completion of training ('CCT holders') who typically are employed as consultants.

The review considered demand and supply for CCT holders in the six psychiatry specialties:

- general adult psychiatry
- psychiatry of old age
- child and adolescent psychiatry
- forensic psychiatry
- psychiatry of learning disability, and
- medical psychotherapy.

We looked ahead 20 years to 2033, adopting a scenario planning approach in recognition of the complexity of the health system and the intrinsic uncertainty of the future. The scope of the review included identifying key drivers of demand and supply for psychiatrists, defining plausible future scenarios and producing scenario-based projections of psychiatrist workforce numbers.

Please note that a *Technical report* (CfWI, 2014) is being published alongside this main report. This provides additional information concerning the wider mental health workforce, psychiatry training, the psychiatrist workforce, and the data and assumptions the CfWI used in its modelling of the psychiatrist workforce.

Previous findings

This report builds on CfWI reviews of the six psychiatry specialties in England in 2011 (CfWI, 2011a, b, c, d, e, f). The CfWI medical fact sheet and summary sheet (CfWI, 2011a or 2011f) recommended:

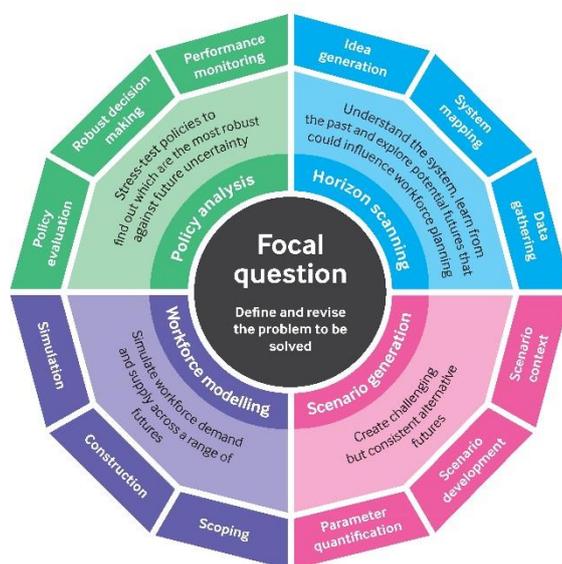
...no change is made to the number of training posts... No geographical changes are recommended but there remains evidence of geographical inequality, which may need addressing. Addressing recruitment and retention of doctors in training should remain the priority. It is important that any gathering of evidence on recruitment levels occurs as soon as is possible to prevent a 'no change' approach being automatically adopted year upon year.

At that time, the CfWI also recommended a further review of the psychiatry specialties with an initial focus on general adult and old age psychiatry followed by the other psychiatry specialties.

Our approach

For this review, we followed our robust workforce planning framework, as outlined in Figure 1. This enabled us to draw on the expertise of more than 70 stakeholders, including those who participated in our horizon scanning and scenario generation workshops. Stakeholders helped identify the potential challenges, opportunities and likely future developments which could influence the planning of this workforce. They helped develop four challenging but plausible scenarios, which we modelled to illustrate how the future may evolve. We also worked with stakeholders to better understand the impact of certain policies and to explore possibilities for bringing supply and demand into balance. Please see section 4 of this report for more details on our methodology.

Figure 1: The CfWI workforce planning approach



Source: CfWI

Key findings

The psychiatrist workforce

Consultant psychiatrists (CCT holders) comprise 4.5 per cent of the mental health workforce and 10.5 per cent of the total NHS consultant workforce in England (HSCIC, 2014). Of all NHS consultants (including GPs), psychiatry is the fifth largest medical specialty. There has been substantial growth in the number of consultant psychiatrists during the last decade – up more than 40 per cent on a full-time equivalent (FTE) basis from 2,920 in 2003 to 4,084 in 2013 (HSCIC, 2014). This rate of increase is nearly 10 per cent lower than the 48 per cent growth in the total number of NHS consultants during the same period.

By 2013 there were 7.6 consultant psychiatrists (FTE) per 100,000 people, compared with 5.9 per capita in 2003 (HSCIC, 2014). However, there was considerable variation in the per capita ratio across England (HSCIC, 2012c).

Of the 4,084 consultant psychiatrists working in the NHS – on a FTE basis (HSCIC, 2014) – 54 per cent specialise in general adult psychiatry, 15 per cent in old age psychiatry, 16 per cent in child and adolescent psychiatry, 8 per cent in forensic psychiatry, 6 per cent in learning disability and 1 per cent in medical psychotherapy.

There has been significant growth in the psychiatrist workforce; however, this trend is unlikely to continue at current levels of postgraduate training. The number of CCTs awarded in England was 348 per year on average during the period 2006-13 (GMC, 2013). The available national recruitment data 2013-14 and 2014-15 (RCPsych, 2014) shows that the average number of newly appointed posts for higher specialty training (HST) was 296.

Consultant psychiatrist attrition of those aged 53 and under is substantially higher than the attrition of NHS consultants as a group.

Annual workforce attrition from those aged 53 and under is at 3.3 per cent (CfWI, 2013b).

Postgraduate training

Nearly 1 in 5 doctors in training fail to progress from core psychiatry training into higher specialty training.

The Royal College of Psychiatrists (RCPsych) reports an increase in overall recruitment to the first year of core training (CPT1) in England from a 'fill rate' of 86 per cent of advertised vacancies in 2012-13 to 97 per cent in 2013-14 (RCPsych, 2014). The average number of and accepted offers at CPT1 was 361 during 2009-14 recruitment intakes. The average number of accepted offers at HST was 296 in 2012-13 and 2013-14 recruitment intakes – about 18 per cent less than CPT1 offers.

Old age psychiatry, and child and adolescent psychiatry have the lowest fill rates of the six main psychiatry specialties.

The number of doctors progressing into HST in year four (ST4) is still low when compared to the number of available posts at this level (RCPsych, 2014). The overall fill rate at ST4 was 80 per cent in the 2013-14 recruitment round, slightly lower than the 82 per cent fill rate of the 2012-13 recruitment round (RCPsych, 2014). In 2014 at ST4, old age psychiatry had the lowest fill rate (67 per cent) of all the six psychiatry specialties followed by child and adolescent psychiatry with a 72 per cent fill rate. In 2012-13 dual general adult and old age psychiatry and medical psychotherapy had the highest fill rates of 107 and 100 per cent, respectively (RCPsych, 2014). However, the 2012-14 training data shows a 12.5 per cent decrease in dual old age psychiatry and general adult psychiatry accepted offers and a lower fill rate of 78 per cent in 2013-14 recruitment round.

Regional distribution of doctors in training and consultants

There are significant geographical variations in the number of doctors in training and consultants across England. Consultant psychiatrists tend to work in the place where they trained.

The CfWI found considerable variation in the geographical distribution of psychiatrists in training. Regional inequality in the distribution of training places occurs at both CPT1 and ST4 level (HEE, 2013a, DH, 2012a).

By HEE local education and training board (LETB) region, the South West and North East regions have the lowest number of ST4 doctors in training per capita (0.15 and 0.19 per 100,000 people) based on 2012-13 ST4 training numbers, with the London and Kent, Surrey and Sussex (KSS) regions having the most ST4 doctors in training per 100,000 population (0.67 and 0.57 respectively) (HEE, 2013a, DH, 2012a). By HEE LETB region, the South West has the lowest number of consultant psychiatrists per 100,000 population (5.9), whereas the North East has the highest at 11.6. This was followed by North West London with 10.7, North Central and East London with 10.4 and South London with 10.1 consultants per capita. As consultants tend to work in, or close to, the locality where they trained (Knapton, 2009, Fraher and Knapton, 2010, CfWI, 2011a, f, Goldacre, et al. 2013), this has clear implications for the geographical distribution of fully trained psychiatrists across England and the provision of equitable access to psychiatric care.

The CfWI's analysis of regional variation in numbers of doctors in training and consultants per capita shows a strong correlation between the regions where psychiatrists train and where consultant psychiatrists work

(HSCIC, 2012c). This means the regional distribution of trainees could explain almost half the variation in consultant per capita ratio. However, it is important to note that a correlation does not imply causation.

Activity and models of service delivery

Mental health services and models of service delivery have undergone a number of important changes during the last decade, and vary widely across the country.

There has been a significant increase in the number of people in contact with services – many of whom have long-standing disorders – and a shift towards community-based provision. Services have also been reconfigured with the introduction of specialist teams, and a number of innovative care models have emerged across England e.g. specialist teams such as crisis resolution, early intervention and assertive outreach (NHS Confederation, 2011).

Changing role of the consultant psychiatrist

There is widespread agreement that the role of the consultant psychiatrist is changing, with more emphasis on providing leadership, specialist advice and support to the wider mental health team (RCPsych, 2010b). However, there is a lack of consensus about how this change will impact on future demand for consultant psychiatrists (CfWI, 2013c).

This uncertainty is reflected in our four intentionally challenging but plausible future scenarios and in the results of the CfWI's Delphi panel exercise, which fed into our modelling. The Delphi panel – consisting of a wide range of expert stakeholders – helped us to quantify intrinsically uncertain demand and supply variables (CfWI, 2013c).

As well as leading the mental health team, the consultant psychiatrist adds value to safe and effective patient care through:

- medical knowledge and skills
- clinical diagnosis
- the prescription of medication or other therapeutic interventions
- risk management, and
- education and training, both within the specialty and for other members of the multi-professional team.

Psychiatric need and levels of service

National surveys of both child and adult psychiatric morbidity have identified that a significant number of people with a diagnosed mental health disorder do not receive treatment or timely intervention for their condition.

This is particularly the case for those with less severe conditions (Christiana et al., 2000, Green et al., 2005, McManus et al., 2009). The *Mental health of children and young people in Great Britain, 2004* survey found that 28 per cent of parents of children with conduct disorder received help from a mental health specialist, and 24 per cent from special educational services such as psychologists (Green et al., 2005). The CfWI's discussions with key stakeholders corroborated these findings.

Some evidence suggests the assertion that primary care practitioners are less inclined to make referrals where very long waiting lists exist, so the demand for services is artificially suppressed (O'Donnell, 2000, Foreman and Hanna, 2000). The CfWI's Delphi panel of expert stakeholders judged that around 25 per cent of need for

psychiatric services is currently unmet (CfWI, 2013c). According to the panel the highest levels of unmet need are for child and adolescent and old age psychiatry, at 35 per cent and 30 per cent respectively, while the lowest is medical psychotherapy (5 per cent) (CfWI, 2014). Poor recognition by many healthcare workers and the population at large are the main reasons cited by the Adult Psychiatric Morbidity Survey (McManus et al., 2009) for so few people with a mental health disorder receiving any intervention. Moreover, due to the limited availability of psychological interventions, the most frequent method of therapy for common mental health disorders in primary care remains the prescription of psychotropic drugs (NICE, 2011).

In 2008, the Department of Health launched a new programme: Improving Access to Psychological Therapies (IAPT), to increase the availability of psychological interventions for people with common mental health problems. Just under two fifths (39 per cent) of respondents to a recent adult community mental health survey said they had received talking therapy from NHS mental health services in the last 12 months (CQC, 2013). Of these, 52 per cent ‘definitely’ found it helpful and 37 per cent found it helpful ‘to some extent’ (CQC, 2013).

Additionally, 89 per cent of respondents have received medication for their mental health condition in the 12 months between 2011 and 12 (CQC, 2013). This is a substantial change in the level of unmet need when compared to results from the 2007 Adult Psychiatric Morbidity Survey (APMS) (McManus, et al., 2009) when only 32 per cent of respondents with neurotic symptoms were receiving some form of treatment (therapy or medication) for their condition.

There is evidence that the Improving Access to Psychological Therapies (IAPT) initiative is beginning to change treatment outcomes for individuals and their families and to achieve economic savings to the NHS and welfare system (DH, 2012b, JCP-MH, 2012, 2013). However, a large proportion of service users still do not receive talking therapies (CQC, 2013).

Modelling results

Our modelling produced ‘baseline’ and scenario-specific projections of workforce supply and patient demand for the psychiatry workforce over the next 20 years to 2033. These projections, along with other evidence and intelligence, help us determine whether there is a sufficient supply of CCT holders to provide the same level of service per capita as today, and to understand whether workforce supply is in line with expected demand.

Table 1: High-impact, high-uncertainty clusters from the scenario generation process

		Cluster B – models of mental health services	
		B1: Consultant psychiatrist-delivered model for mental health services	B2: Peer-supported model for mental health services
Cluster A – societal attitudes to mental health	A1: Progressive societal attitudes towards mental health	Scenario 1	Scenario 2
	A2: Regressive societal attitudes towards mental health	Scenario 3	Scenario 4

Source: CfWI scenario generation workshop

The four scenarios shown in Table 1 are summarised in section 4.3, with more details in our Technical Report (CfWI, 2014). These driving forces and scenarios were developed via a tried-and-tested process by a range of expert stakeholders. They do not, therefore, represent the views of any single organisation such as the CfWI, the DH, HEE, or any professional body.

As shown in Figure 13, our baseline workforce supply projection is initially higher than baseline demand, but over the medium term it falls behind, opening up a demand-supply gap. The baseline demand projection sees total demand for psychiatry CCT holders grow by 7 per cent by 2033 (to around 4,300 FTEs). The baseline supply projection is projected to increase by 2 per cent to around 4,160 (FTE) by 2033. This would see the psychiatrist per capita ratio fall by 11 per cent from 7.6 in 2012 value to around 6.8 psychiatrists (FTE) per 100,000 population by 2033.

Forecasting the future numbers of psychiatry CCT holders

We then compared these baseline supply projections with our four challenging but plausible future scenarios. As Figure 2 indicates, baseline supply projections and **all four scenarios modelled show a large demand-supply gap by 2033.**

This suggests that if recent trends in trainee numbers continue, consultant psychiatrist workforce supply may not be sufficient to meet future patient demand.

Demand and supply projections: summary

If workforce supply decreases as projected, there is likely to be a significant undersupply of CCT holders across most psychiatry specialties over the medium to long term.

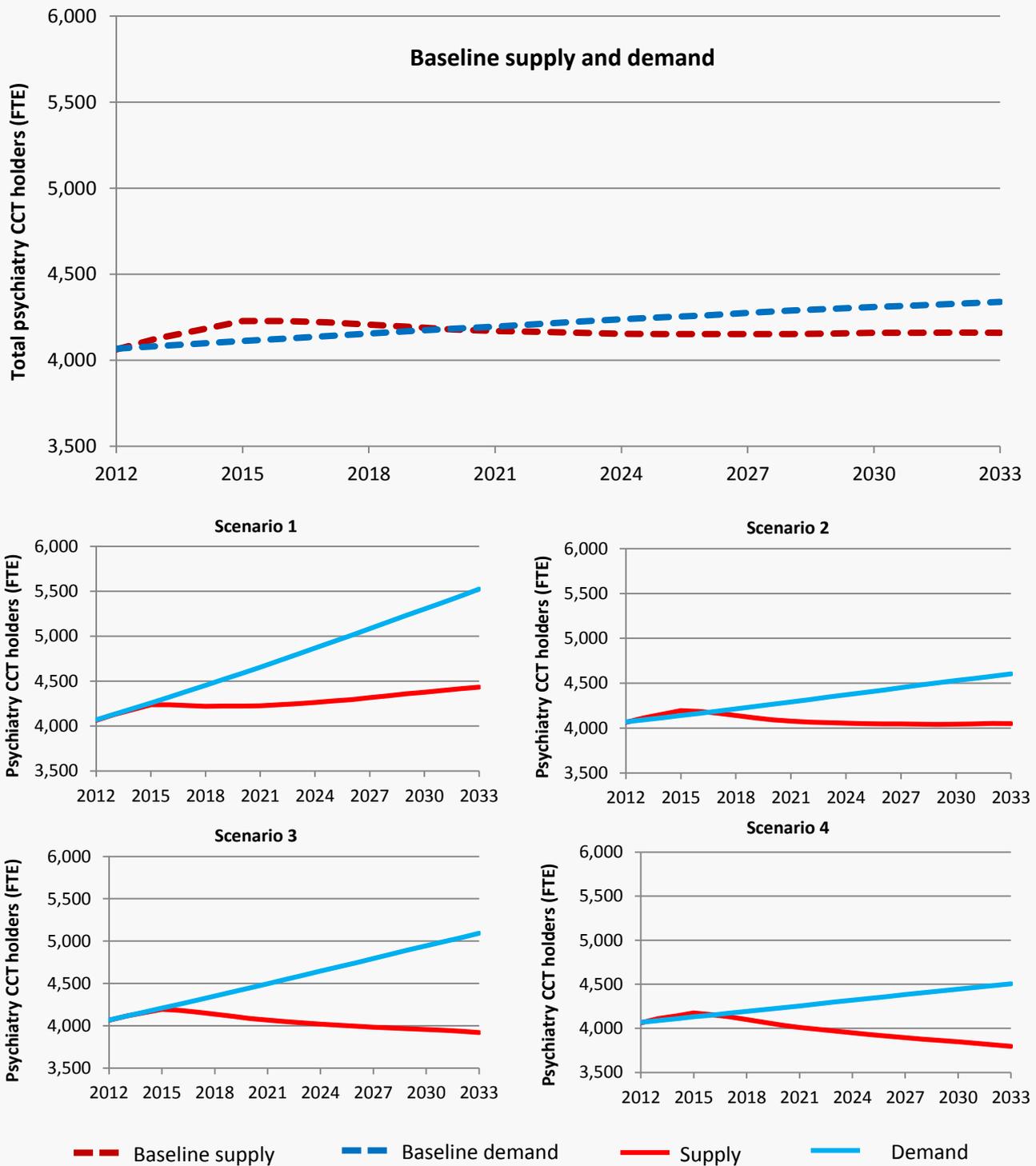
Of all six psychiatric specialties, psychiatry of old age faces the greatest risk of a large demand-supply shortfall, with weak workforce growth failing to keep up with the strong growth of this patient age group.

The other three specialties at risk of workforce undersupply over the medium term are general adult psychiatry, child and adolescent psychiatry and psychiatry of learning disability. However there may be workforce oversupply over the medium to long term in forensic psychiatry and medical psychotherapy.

Detailed analysis of the demand and supply gap for the six psychiatry specialties is outlined in Section 6. The forecast undersupply for psychiatry CCT holders highlights a need for Health Education England to consider options to:

- increase the number of doctors in training taking up psychiatry posts at CPT1
- improve progression into HST posts
- improve retention of consultant psychiatrists.

Figure 2: Supply and demand projections for psychiatry CCT holders, England



Source: CfWI system dynamics model of the psychiatrist workforce for England

Next steps

The CfWI proposes that Health Education England (HEE), working with the RCPsych, consider appropriate strategies such as run-through training programmes for old age, general adult and child and adolescent psychiatry to improve national recruitment rates at CPT1, progression into HST and retention of the psychiatrist workforce.

Our evidence suggests the future supply of consultant psychiatrists could improve if the fill rate at CPT1 is sustained at around 95 per cent, HST numbers are increased and the trainees retained to match historical General Medical Council (GMC) CCT awards in psychiatry of around 348 doctors in training per annum.

Reducing the high trainee attrition rate associated with doctors progressing from core to higher specialty psychiatry training would do much to improve HST fill rates. It would help if the factors underlying high attrition rates in core training and relatively low progression rates to HST were better understood. Likewise, the high rates of pre-retirement workforce attrition among CCT holders has a large impact on future workforce supply.

Other appropriate strategies to improve national recruitment rates could include piloting a run-through specialty training programme in the South West, North East and the East Midlands regions where recruitment rates of trainee psychiatrists are the lowest.

The CfWI suggests that Health Education England consider the case for an increase in the total number of CPT1 and ST4 training posts in psychiatry to address the risk of significant undersupply.

There is a risk of an overall undersupply of psychiatry CCT holders. If workforce supply decreases in line with the demand and supply projection, we are likely to see an undersupply of psychiatrists across all six specialties over the medium to long term. **Our modelling and analysis points to the need for an increase in total training numbers in both core psychiatry training (CPT1) and higher specialty training (HST4).** If recent trends in national recruitment and training attrition continue, we are likely to see a substantial decrease in the number of psychiatrist CCT holders.

The CfWI also proposes that HEE consider old age psychiatry a priority for additional trainee recruitment.

Efforts to improve recruitment and retention of trainees should focus, in particular, on old age psychiatry as this specialty faces the greatest imminent risk of workforce undersupply. Unless trainee recruitment is increased there is high risk of a large demand-supply shortfall. Significant workforce undersupply over the medium to long term is also projected in three other specialties: general adult psychiatry, child and adolescent psychiatry and psychiatry of learning disability.

The CfWI suggests that HEE considers, in the short-term (at the next recruitment round), focusing specialty training towards those LETB regions with the lowest trainee-per-capita ratios, to reduce geographical inequality and help ensure more equitable access to psychiatric services across England.

There are large variations in the numbers of doctors in training per capita across the country with HEE regions in London having four times as many trainees per capita than regions in the South West, North East and the East Midlands. Research suggests doctors typically seek work in the region where they trained. A review of training and long-term planning around local recruitment is needed to encourage psychiatrists in training to take up posts in regions where recruitment rates are lowest.

The CfWI also proposes that HEE consider a review of the current psychiatry training programme to ensure psychiatrists are adequately trained to look after physical health of patients.

Providing a high quality core and specialty training may help to increase the attractiveness of psychiatry and is a crucial factor in the effective development of clinical skills, knowledge, and expertise. The training should ensure that psychiatrists are also adequately trained to look after physical health of patients.

The CfWI suggests HEE considers conducting another review of the psychiatrist workforce in three years' time. The scope of the next review should encompass the wider mental health clinical team.

The CfWI suggests a further review of the psychiatrist workforce in three years' time, when more data will be available to assess the impact of the Psychiatry Task Force and the RCPsych's recruitment strategy on the recruitment and retention of UK medical graduates into psychiatry training. The impact on the psychiatry specialties of the Shape of Training Review and moves to seven-day working should also be clearer by then.

Given the range of mental health service delivery models currently in use, the next review should have a broader remit, looking at the wider multi-professional mental health clinical team – with a particular focus on the contribution of psychologists and mental health nurses, as well as psychiatrists.

It is evident that still much needs to be done to raise the profile of psychiatry in medical schools and amongst foundation doctors if recruitment and retention at higher specialty level and workforce attrition are to improve significantly.

The CfWI suggests HEE considers establishing a stronger evidence base on the mental health clinical workforce, service delivery models and 'skill mix' in time for the next workforce review.

It would be helpful, ahead of the next workforce review, if HEE and other key stakeholders were to consider initiating work to establish a stronger evidence base. The CfWI suggests that this includes collection of annual data on the number of ST4 psychiatry trainees and CCT holders practising in England, mapping different service delivery models and 'skill mixes' in use by mental health teams, and a census of the applied psychologist workforce.

There would also be merit in developing approaches to the collection of data on the independent and Third Sector mental health workforces. The CfWI also supports the commissioning of another Mental Health of Children and Young People Survey in England, given the last such survey was conducted in 2004.

Finally, the CfWI would like to thank the many psychiatrists, Royal College of Psychiatrists, other health professionals, employers and patients who made a contribution to this in-depth workforce review, and welcome all responses to this report. The project team can be contacted at: medical@cfwi.org.uk

2. Introduction

2.1 Why this review?

This review is driven by the need to provide sustainable and high-quality mental health services in a complex and evolving healthcare environment. Specifically, the work is set in the context of concerns about the level of recruitment of UK graduates into psychiatry specialty training, as highlighted in the *Annual Specialty Report 2010-2011* (GMC, 2012) and about the progression of doctors in training from core psychiatry training (CPT) to higher specialty training (HST).

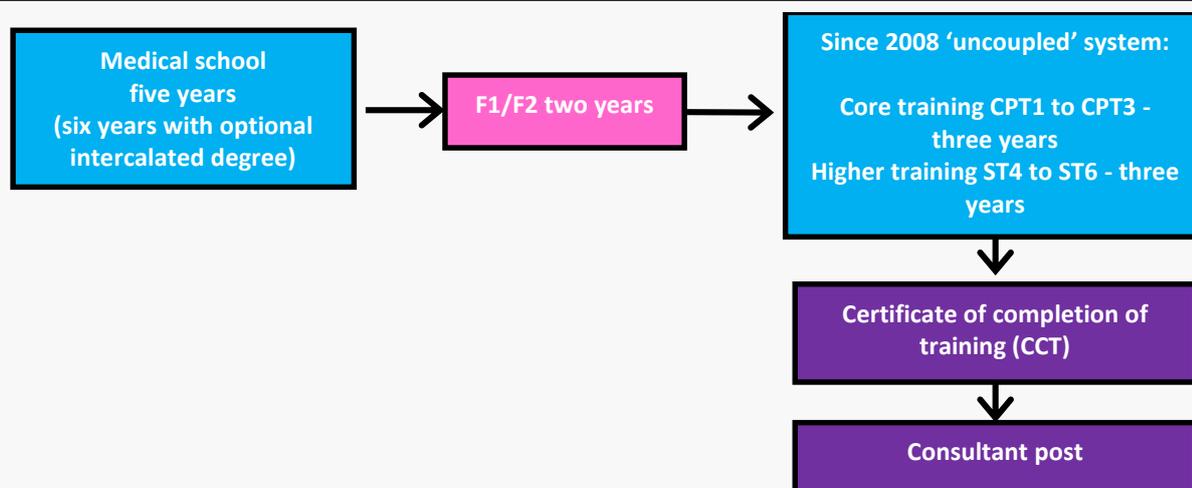
2.2 The aim of this review

From entry to medical school, it takes a minimum of 13 years to train a psychiatrist to CCT holder level (see Figure 3). The purpose of this review is to ensure a sustainable psychiatrist workforce for the long term to match patient demand. The main areas of investigation for the project are:

- identifying demand and supply drivers for the psychiatrist workforce
- assessing likely impact of mental health service changes on demand and supply of psychiatrists to 2033
- reviewing contributions made by the psychiatrist workforce and workforce capacity issues
- investigating models of service delivery which demonstrate efficient practice
- identifying and modelling four scenarios and key policy options (e.g. to close the treatment gap) to better understand potential future impacts on demand and supply for the psychiatrist workforce, and
- estimating how many doctors in core psychiatry training at year one (CPT1) and CCT holders (as seen in Figure 3) may be required in the future.

Figure 3: An overview of the current psychiatry specialty training programme

Doctors enter foundation year 1 and 2 (F1/F2). Core training includes experience in general adult, child and adolescent and old age psychiatry and medical psychotherapy. Higher training includes experience in general adult, child and adolescent, forensic, old age, intellectual disability psychiatry or medical psychotherapy depending on the specialty chosen.



Source: Adapted from Oakley et al., (2009).

We were also asked to investigate:

- the unique and changing contribution of psychiatrists (including liaison and academic psychiatrists) within multi-disciplinary mental health teams
- new and innovative mental health service delivery models
- the key interface between psychiatrists and primary care, and
- the regional distribution of both consultants and trainees.

Please note that the current psychiatry specialty training programme as shown in Figure 3 was introduced in 2008 (Tooke, 2007). The national recruitment training data that is available is limited to the past five years for CPT1 (2009-2014) and two years for higher specialty training (2012-13 and 2013-14) (HST) (RCPsych, 2013a; RPsych, 2014; HEE, 2013a).

2.3 Previous CfWI reviews

This report builds on 2011 CfWI reviews of the six psychiatry specialties in England (CfWI, 2011a, b, c, d, e, f). The CfWI medical fact sheet and summary sheet (CfWI, 2011a or f) recommended:

...no change is made to the number of training posts... No geographical changes are recommended but there remains evidence of geographical inequality, which may need addressing. Addressing recruitment and retention of doctors in training should remain the priority. It is important that any gathering of evidence on recruitment levels occurs as soon as is possible to prevent a 'no change' approach being automatically adopted year upon year.

At that time, the CfWI also recommended a further review of the psychiatry specialties with an initial focus on general adult and old age psychiatry followed by the other psychiatry specialties.

3. Context

3.1 Psychiatry Task Force and recruitment strategy

Throughout this review, the CfWI has collaborated with stakeholders interested in sustaining and improving the quality of mental health services in the future. The CfWI has engaged with a range of stakeholders, including the Psychiatry Task Force, which was set up in 2011 by the then Medical Programme Board to secure the supply of CCT holders in psychiatry specialties. The Task Force is investigating recruitment, progression, and retention of UK doctors in training, which involves identifying factors that could boost these three areas. Historically, psychiatry has faced difficulties with recruitment to CPT1 and progression from CPT3 to ST4. The Psychiatry Task Force has been working since 2011 to encourage more UK graduates to choose psychiatry at CPT1 and to improve trainees' progression from CPT3 to ST4.

In addition to the Psychiatry Task Force, the RCPsych published a recruitment strategy (RCPsych, 2011) with the aim of increasing recruitment into core psychiatry training and achieving a 50 per cent increase in applications and a 95 per cent fill rate by the end of the five-year campaign. The primary focus of this strategy is the recruitment of high-calibre UK medical graduates through various initiatives, including increased exposure to psychiatry at pre-medical and medical school and a greater number of psychiatry 'taster' placements for foundation doctors. Evidence suggests doctors who do a psychiatry placement during the UK Foundation Programme are more likely to choose psychiatry as a career (Shah et al., 2011, Kelley, et al., 2013).

3.2 Key policy drivers

This review was set in the context of the following key policy drivers:

Government mental health strategy

In 2011, the DH published the Government's mental health strategy, *No health without mental health*, (DH, 2011) to establish parity of esteem between services for people with mental and physical health problems. The mental health strategy was recently refreshed and reinforced in *Closing the Gap: Priorities for essential change in mental health* (DH, 2014). This new policy sets out the challenge of ensuring that:

- patients have sufficient support within communities
- patients have access to hospital beds
- mental health funding does not get impacted by the economic 'squeeze'
- treatment gaps and long waiting times are reduced
- clear waiting time limits are established for mental health services for the first time
- a national liaison and diversion service is introduced to intervene sooner and provide appropriate mental health support to offenders, and
- inequalities around access to mental health services are tackled.

Improving Access to Psychological Therapies

In 2008, the DH launched the Improving Access to Psychological Therapies (IAPT) programme to increase the availability of 'talking therapies' for people with common mental health problems. Expansion of the IAPT programme is fundamental to the implementation of the Government's mental health strategy, *No health without mental health*.

Whilst access to talking therapies has increased, the National Audit of Psychological Therapies (RCPsych, 2013b) identified that:

- waiting times have reduced, but service users still think these are too long
- older adults' access needs to be improved
- service users are not always receiving the number of sessions approved by the National Institute for Health and Clinical Excellence (Nice)
- there are skills and training deficits in the workforce
- sometimes therapy is being delivered by therapists not adequately trained.

Dual training

Dual training enables doctors in training to gain wider experience, it also allows greater flexibility for consultant posts and service needs, and is popular among trainees (Allen and Butler, 2001). Today, the Royal College of Psychiatrists (RCPsych) offers dual training in:

- general adult and old age psychiatry
- general adult psychiatry and medical psychotherapy, and
- forensic psychiatry and medical psychotherapy.

The Shape of Training Review

The Shape of Training review (Greenaway, et al., 2013) – jointly sponsored by HEE, the Academy of Medical Royal Colleges (AoMRC), the GMC and others – has proposed a number of reforms to the structure of postgraduate medical education and training in the UK. Under the proposed reforms:

- doctors will enter broad-based specialty training
- some specialties or areas of practice will be grouped together, reducing their number
- these groupings will be characterised by patient care themes (such as women's health, child health and mental health).

The introduction of broad-based postgraduate training in mental health and the popularity of dual training are likely to significantly impact on the future role of consultant psychiatrists and service delivery models, with a possible reduction in the number of psychiatry specialties from the current six.

Greater focus on patient safety

The Mid Staffordshire NHS Foundation Trust Public Inquiry into lessons learnt from the failings at Mid Staffordshire (The Francis report, 2013) states that patients should be the first priority and recommends they receive effective care from caring, compassionate and committed staff working in a culture of openness and transparency (including performance and outcomes). With the publication of The Francis report and The Berwick review into patient safety in the NHS in England (DH, 2013b) alongside the Future Hospital Commission (RCP, 2013) review, there is a renewed push for improvement in quality and safety of care.

Integrated working between primary and secondary care

There has been a long-standing desire to better integrate primary and secondary care. As well as closing the gap between mental and physical health services, research suggests this approach also has cost-saving benefits (Mental Health Foundation, 2013).

Mental Health Officer (MHO) status

MHO status allows any individual who has worked in mental health for more than 20 years to retire from the age of 55 without a reduction in their pension entitlement. However, this only applies to those who are part of the NHS Pension Scheme Regulations 1995 and who started working in psychiatry before MHO status was discontinued in March 1995. The impact of MHO status will end around 2023 – after which psychiatrists will

not be able to retire at between 55 years of age and the state retirement age without a significant loss of pension rights. This is likely to result in an increase in the mean retirement age, currently at 60 years of age.

Payment by results (PbR)

Payment by results (PbR), the tariff-based funding system for care provided to NHS patients in England, is well-established in physical health areas and has been under development for mental health services as it is seen as a way of matching resources to need and outcomes. This approach is beginning to influence commissioning practices (DH, 2013a, Mental Health Payment by Results Guidance for 2013-14) but is not yet fully implemented. PbR is not yet an outcome -driven ('results') payment system but is designed to achieve better care delivered more efficiently according to need (DH, 2013a).

4. Our methodology

4.1 The CfWI approach to workforce planning

To forecast and analyse future demand and supply for the psychiatrist workforce – looking ahead to 2033 – we used our robust workforce planning framework. Our scenario-based approach (see Figure 1) involves:

- **Horizon scanning** – what are the future drivers of demand and supply?
- **Scenario generation** – what is the plausible range of future scenarios in which psychiatrists may work?
- **Workforce modelling** – how many psychiatrists are we on course to need and to have, and how might this vary across the scenarios?
- **Policy analysis** – what levers could the system pull to bring demand and supply more into balance?

Given the medium to long term outlook of this review, the key benefits of this approach are:

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

4.2 Horizon scanning

In September 2004, the Chief Scientific Adviser's Committee Office of Science and Technology (OST) defined horizon scanning as 'the systematic examination of potential threats, opportunities and likely developments including, but not restricted to, those at the margins of current thinking and planning'(Amanatidou et al., 2012).

In January and February 2013 the CfWI interviewed 24 expert stakeholders by telephone and held a focus group with 20 participants to identify the driving forces that may impact the future demand and supply for the psychiatrist workforce.

Specifically, the CfWI asked interviewees to consider the possible technological, economic, environmental, political, social (including education and training) and ethical (TEEPSE) influences on the following question:

Thinking up to the year 2033, what driving forces (both trends and uncertainties) may influence:

- **requirements for the future psychiatrist workforce?**
- **future psychiatry workforce numbers and proportions?**

By way of example, the most frequently mentioned driving forces were:

technological: patients' self-management with improved technology and the impact of genomics on personalised treatment

economic: the NHS drive for efficiency and demand for improved access to mental health services in primary care

environmental: changing demographic patterns and movement in population as people age

political: reduction in hospitalisation and increased demand for evidence-based practice

social: the future of psychiatry as a career and addressing the needs of an ageing population

ethical: the impact of dementia and other age-related disorders on mental health services, patient safety and an integrated approach to patient care

education and training: recruitment into the academic psychiatry workforce and the impact of revalidation on the quality of practice.

For the full list and explanation of horizon scanning drivers, please see the Horizon Scanning Hub at: <http://www.horizonsscanning.org.uk/projects/future-psychiatrist-workforce/>.

4.3 Scenario generation

Following horizon scanning, the CfWI gathered 28 stakeholders to develop four intentionally challenging but plausible scenarios for the psychiatrist workforce, looking ahead to 2033. See Annex A for a list of participants.

A scenario is defined as ‘an internally consistent view of what the future might turn out to be – not a forecast, but one possible future outcome’ (Porter, 1985). The scenarios, therefore, are not intended to describe expected, exhaustive or preferred states. They represent a plausible range of ways the future could unfold, and boundaries are set, which can then be used to test policy options for robustness.

Using all the driving forces identified during horizon scanning, participants were asked to look for causal and chronological relationships between the driving forces, and freely group these into ‘clusters’ or higher-level factors.

A line can therefore be drawn from each of the driving forces identified at interview, through a narrative describing a sequence of events as they unfold to 2033 – referred to here as a ‘cluster’.

The stakeholder group then evaluated each cluster, and rated the narratives for impact on the psychiatrist workforce and uncertainty of outcome. Rating future events according to impact and uncertainty is the cornerstone of risk management, and the same framework is adopted here. Scenario generation methodology maintains that participants need to consider all feasible driving forces, but should focus on those with the largest range of uncertainty and most significant consequences for the focal workforce. Stakeholders therefore identified those clusters which potentially have the highest impact and yet which are least predictable.

As a result of the iterative analytical process, two clusters were evaluated as having the greatest uncertainty and greatest impact. The stakeholders then combined these two clusters (A and B) to produce four scenarios (A1B1, A1B2 etc.), each describing an intentionally challenging but plausible outcome for the psychiatrist workforce by 2033, and the chain of events leading to that outcome. Table 2 shows the clusters deemed by the participants to be of greatest uncertainty and greatest impact, combined to create the four scenarios.

Two of the scenarios (1 and 2) describe a future in which there are progressive societal attitudes towards mental health, using either a consultant-delivered or peer-supported service delivery model. The other two scenarios (3 and 4) describe a future in which there are regressive societal attitudes towards mental health, using either a consultant-delivered or peer-supported service delivery model. A number of pre-determined drivers – such as the ageing population – are features of all four scenarios.

A summary of each of the scenarios is in Table 2. It should be noted that these four scenarios represent a shared assessment by expert stakeholders of four intentionally challenging but plausible high-impact, high-

uncertainty futures for the psychiatrist workforce. The scenarios are not intended to describe every possible future nor to predict the most likely. Collectively, they set a reasonable boundary within which the system can make informed decisions, and plan for the future demand and supply of doctors.

Table 2: Four challenging but plausible future scenarios

Scenario 1	Scenario 2	Scenario 3	Scenario 4
Key assumptions			
Progressive societal attitudes towards mental health (MH) and illness	Progressive societal attitudes towards MH and illness	Regressive societal attitudes towards MH and illness	Regressive societal attitudes towards MH and illness
Consultant psychiatrist-delivered model for MH services	Peer-supported model for MH services	Consultant psychiatrist-delivered model for MH services	Peer-supported model for MH services
Key trends			
MH teams begin to enjoy parity of esteem with physical healthcare providers and can influence commissioners	Research leads to better understanding of the biological and molecular basis of many MH problems, which increases the range and efficacy of medical interventions available	There is a drive to increase the workload of each consultant, including the expectation for psychiatrists to provide psychological therapies	Mental health services, medical education and training are low priorities
Genesis of severe mental illness is prevented by targeted treatments and evidence-based psychosocial interventions	Medical input is provided by GPs, neurologists and geriatricians, which is seen as positive by commissioners as fewer consultant psychiatrists are needed	Mental health services – though still consultant-delivered – are so compromised that a crisis occurs as recruitment declines and retention plummets	Poor MH becomes the norm. People who can afford MH care through insurance increasingly opt for psychological therapies over drugs.
The productivity of consultant psychiatrists has increased thanks to technology and legislative changes	Most care is delivered by peer-support workers and other non-medical members of the MH team	SAS doctor grades expand due to cost pressures	The profession reaches crisis. Psychiatrists retain a basic statutory role but little else.

Source: CfWI scenario generation workshop (2013)

4.4 Delphi panel exercise

The four scenarios were documented in narrative form. The next step was to quantify the scenarios for the purpose of modelling.

Delphi is a systematic method of gaining consensus on a range of unknowable future variables. Twenty-one stakeholders representing a cross-section of the psychiatrist workforce and others from related professions participated in two rounds of a Delphi panel exercise. See Annex A for a list of panellists.

The CfWI team used an online survey to administer the Delphi questionnaire. During the first round, participants were first asked to re-read the four scenarios. Our team then asked them to provide quantitative judgments about uncertain future variables, such as ‘for each scenario, one to four, what do you think will be the **average retirement age** of psychiatrists, by gender, in 2033?’

Between the first and second rounds of Delphi, participants received the anonymised judgments and rationales of the other panellists. During the second round, participants were asked to revise their initial predictions based on the reasoning of the other panellists. After the second round, median scores were calculated and used as inputs to the modelling process.

The Delphi panel exercise offers a method in which intrinsically uncertain values can be systematically generated and tested. However, it should be noted that these values (such as future changes to retirement age and future changes in participation rate) remain uncertain by their very nature. It is best practice in modelling to quantify the uncertainty that is inherent in any forecast of the future. Decision-makers need to understand this to inform their analysis of findings and to make effective decisions.

Here, the CfWI is forecasting up to 2033. It is not possible to predict the future with certainty, which is why the CfWI uses a scenario-based approach to bound this uncertainty and identify plausible future conditions.

4.5 Workforce modelling

Once the Delphi panel exercise was complete, all the inputs for the workforce model had been defined and quantified. The inputs were:

- **‘facts’** – baseline data to populate the model, such as current training and workforce numbers
- **assumptions we made** – predictable trends and assumptions made where data was not available or was of poor quality
- **assumptions derived from Delphi** – intrinsically uncertain variables that may vary by scenario, and were quantified using the Delphi panel exercise
- **parameters that can be controlled** – parameters that policymakers can use to adjust demand and supply so that they are in balance.

The purpose of the CfWI’s workforce modelling is to forecast demand and supply for psychiatrists in a range of intentionally challenging but plausible futures. The demand modelling uses a framework from a Canadian research programme on health human resources (Birch, et al., 2011). The framework separates out four key elements of demand:

1. **population** – the size of the population being served, by age and gender
2. **changes to level of need** – the needs of the population, given the distribution of health and illness, and future risk factors
3. **changes in productivity** – the ability of the workforce to deliver the necessary services, taking into account factors such as technology, and
4. **changes to level of service** – the service planned to be provided according to the population’s level of need, taking into account changes to skill mix.

The CfWI uses this framework because it provides a clear, logical separation of the key factors and enables the use of the Delphi panel described above to quantify them.

System dynamics modelling makes extensive use of simulation. It represents changes to a system over time by using the analogy of flows of stocks (people, money, materials) accumulating and depleting over time. In the CfWI models, 'stocks' of people can be segmented by age and gender, where data exists. See Annex B for the key data sources, data quality and modelling assumptions in the psychiatry supply model.

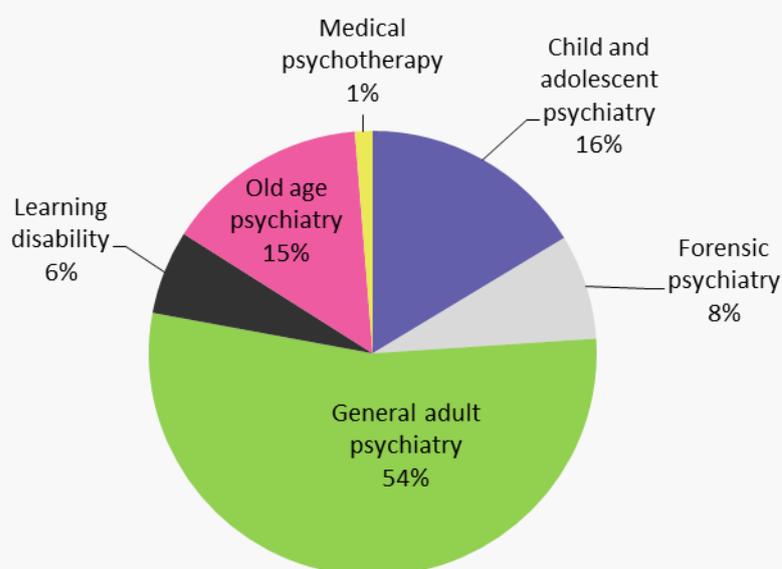
The CfWI chose Vensim DSS® to model the complex flows of psychiatrist training and workforce in order to forecast the future demand and supply of psychiatrists. The software is able to handle the complexity of modelling supply, including the ageing of the workforce, and also provides sophisticated uncertainty and sensitivity analysis functionality (CfWI, 2014), an important feature given the variable quality of data and assumptions available. The CfWI formally tested and validated the model – using software development methods – to ensure reliability.

5. The current workforce

Consultant psychiatrists (CCT holders) comprise 4.5 per cent of the mental health workforce and 10.5 per cent of the total NHS consultant workforce in England (HSCIC, 2014). Of all NHS consultants (including GPs), psychiatry is the fifth largest medical specialty.

Based on the most recent Health and Social Care Information Centre (HSCIC, 2014) data on the medical workforce, there are 4,084 consultant psychiatrists working in the NHS on a FTE basis. Of these, 54 per cent specialise in general adult psychiatry, 15 per cent in old age psychiatry, 16 per cent in child and adolescent psychiatry, 8 per cent in forensic psychiatry, 6 per cent in learning disability psychiatry, and 1 per cent in medical psychotherapy (see Figure 4).

Figure 4: Psychiatrist workforce (CCT holders), England*

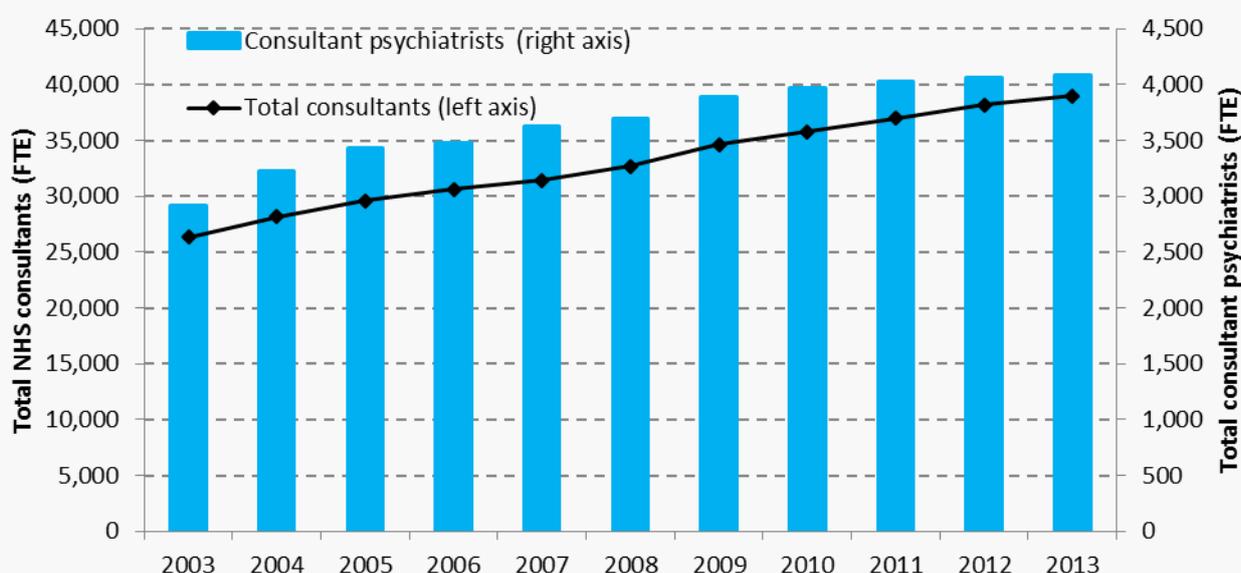


Source: HSCIC (2014). * Full time equivalent

5.1 Strong growth of psychiatry CCT holders

There has been growth in the number of consultant psychiatrists, up more than 41 per cent on a full-time equivalent (FTE) basis from 2,920 in 2003 to 4,084 in 2013 (HSCIC, 2014). This rate of increase is close to 10 per cent lower than the 48 per cent growth in the total number of NHS consultants (all specialties) during the same period (see Figure 5). However, the consultant psychiatrist workforce has been increasing marginally during the period 2007-13 (HSCIC, 2014).

Figure 5: The consultant psychiatrist workforce, England



Source: HSCIC (2014)

By 2014 there were 7.6 consultant psychiatrists (FTE) per 100,000 people, compared with 5.9 in 2003 (HSCIC, 2014). However, there was considerable variation in the per capita ratio across England (HSCIC, 2012c).

The psychiatry specialty attracts a high ratio of non-UK medical doctors in training. The number of consultant psychiatrists working in England who graduated from medical schools outside the European Economic Area (EEA) increased by 140 per cent, from 571 in 1998 to 1,370 in 2012. In 2012, more than two fifths of all consultant psychiatrists (44 per cent) in England had gained their primary medical qualification outside the UK (HSCIC, 2012c). Recent data on specialist registers (HSCIC, 2014) indicates that 66 per cent of all NHS consultants were UK graduates, 27 per cent were international medical graduates (non-EEA) and 7 per cent were EEA graduates. This means that 10 per cent more doctors are overseas trained doctors in psychiatry when compared to all NHS consultants.

Detailed information about workforce gender balance, participation rate, retirement and leavers, and trends in activity and demand for psychiatric services can be found in the *Psychiatrist workforce in-depth review: technical report*, which accompanies this report.

Historical trends in the six psychiatry specialties

There has been significant growth in the number of psychiatrists across all specialties since 2003 with the exception of medical psychotherapy (Table 3). The 43 per cent fall between 2003 and 2013 in the growth of medical psychotherapists may be due to the introduction of dual training, which offers medical psychotherapy training as part of the general adult and forensic psychiatry training, and allows greater flexibility for consultant posts.

Currently, general adult psychiatry has the highest number of consultants at 4.1 (FTE) per 100,000 people, compared with 1.24 FTE of child and adolescent consultants and 1.1 (FTE) of psychiatry of old age consultants. In addition, the growth in the workforce is not proportional to the population growth that fall into the

psychiatry specialties, in particular for the older population, which grew by 17.9 per cent between 2003 and 2013, nearly three times faster than the general adult population over the same period (see Table 3).

Table 3: Consultant psychiatrist workforce growth, 2003 to 2013, England.

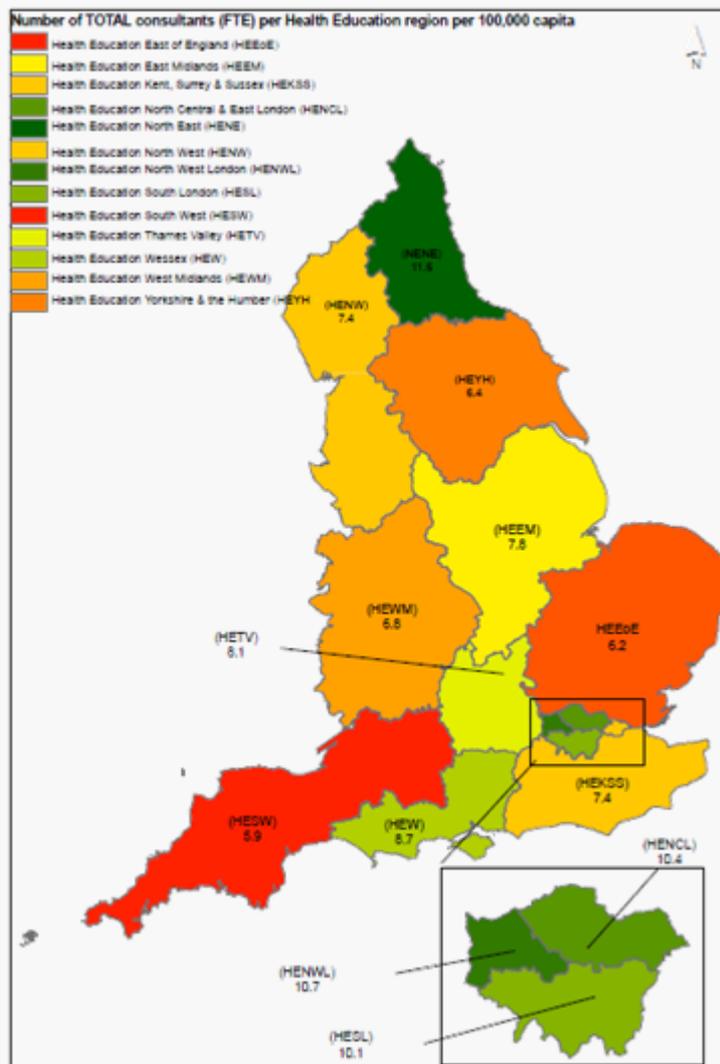
Psychiatry specialty	Workforce number FTE, (HC), 2003	Workforce number FTE, (HC), 2013	Workforce growth per 100,000 population between 2003-13 (FTE)	Workforce growth between 2003-13 (FTE)	Population growth of corresponding age groups between 2003-13
All specialties	2,920 (3,229)	4,084 (4,460)	5.4 - 7.6	40%	-
General adult	1,604 (1,778)	2,204 (2,415)	3.2 – 4.1	37%	6.1%
Child and adolescent	444 (505)	667 (763)	0.90 - 1.24	50%	3.6%
Old age	382 (414)	600 (653)	0.77 - 1.1	57%	17.9%
Forensic	212 (223)	311 (332)	-	47%	-
Learning disability	186 (199)	249 (272)	-	34%	-
Medical psychotherapy	91 (110)	52 (67)	-	-43%	-

Source: CfWI analysis based on HSCIC (2014).

Regional variations in the consultant psychiatrist workforce

Regional population statistics from the DH (2012a) combined with data from the HSCIC (2012c), suggests regional variations in the number of FTE consultant psychiatrists per 100,000 population (see Figure 6).

Figure 6: Total consultant psychiatrists (FTE) per 100,000 population per Health Education England region
The colour scales represent the ranking of LETBs by the number of FTE consultants per 100,000 people. Red indicates the LETB region with the lowest per capita ratio with green showing the highest.



Source: DH (2012a), HSCIC (2012c)

The map above illustrates Health Education South West (HESW) has the lowest number of consultant psychiatrists per 100,000 population (5.9), whereas Health Education North East (HENE) has the highest at 11.6. This was followed by Health Education North West London (HENWL) with 10.7; Health Education North

Central and East London (HENCEL) 10.4; and Health Education South London (HESL) with 10.1 consultants per capita.

Some areas may need higher levels of psychiatry services than others, and therefore consultants per capita alone cannot be used to determine regional inequality, but provide an indication of where inequality may exist.

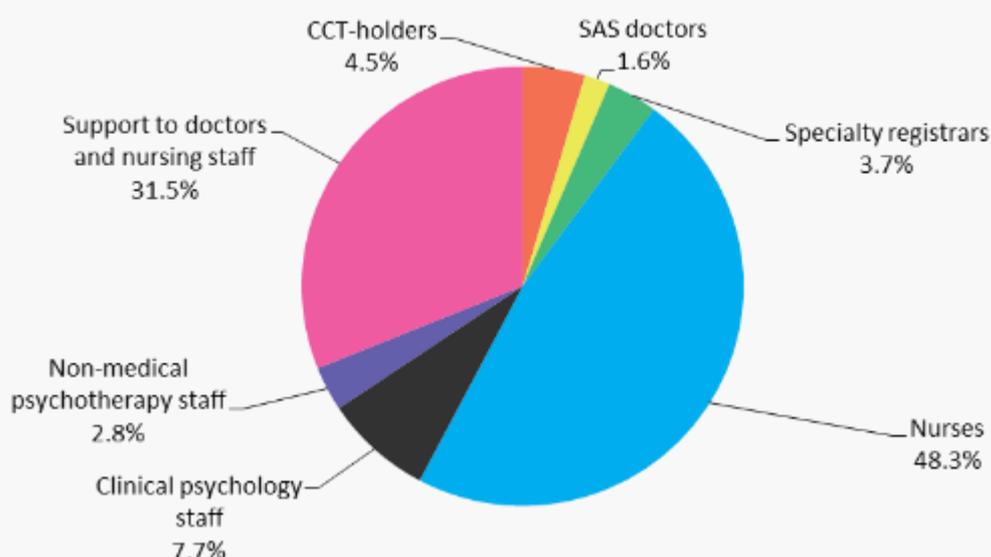
Psychiatrists typically work in multidisciplinary teams

Our commission was to look specifically at the psychiatrist workforce. However, we recognise the importance of the entire mental health workforce – including mental health nurses, nurse prescribers, support and peer support workers, clinical psychologists, psychotherapists – in delivering the spectrum of NHS mental health services. In addition, many other health professionals make a significant contribution including pharmacists, GPs, occupational therapists, physiotherapists, dieticians, speech and language therapists and art therapists.

Latest HSCIC data for 2014 reveal that psychiatrists comprise 9.8 per cent of the overall NHS mental health workforce (see Figure 7). The majority of these are CCT holders (4.5 per cent), while the remainder are ‘SAS’ doctors (associate specialists, specialty doctors and staff grades) who represent 1.6 per cent of the workforce and psychiatry trainees (also known as specialty registrars) who represent the remaining 3.7 per cent. Consultant psychiatrist numbers have increased from 3.7 per cent of the workforce in 2008 with a marginal increase in psychiatry trainees from 3.4 per cent over the same period. However, the proportion of SAS doctors has remained the same since 2008.

The largest workforce in mental health are qualified nurses (48.3 per cent), followed by support staff (31.5 per cent), which include nursing assistant practitioners, nursing assistants, healthcare assistants, support workers and nursery nurses. Clinical psychologists and non-medical psychotherapists comprise a smaller proportion of the workforce (7.7 per cent and 2.8 per cent respectively) (HSCIC, 2014). Additionally, although not generally employed by the NHS, social workers are also an important element of the wider mental health team.

Figure 7: NHS clinical mental health workforce, England, 2013



Source: HSCIC (2014)

There has been a 33 per cent growth in clinical psychologists (FTE) between 2003 and 2013, while the number of mental health nurses (FTE) fell by 2 per cent from 44,916 to 38,590 between 2002 and 2013 (HSCIC, 2014). The last four years have seen almost a 10 per cent fall in the mental health and learning disability nursing workforce down from 47,355 in 2009 to 42,762 in 2013, despite rising patient demand. This is linked with reductions in the number of beds, with only partial re-deployment of nurses into community teams. This is likely to put additional pressure on the rest of the mental health team, including psychiatrists.

How mental health services are organised

Configuration of services

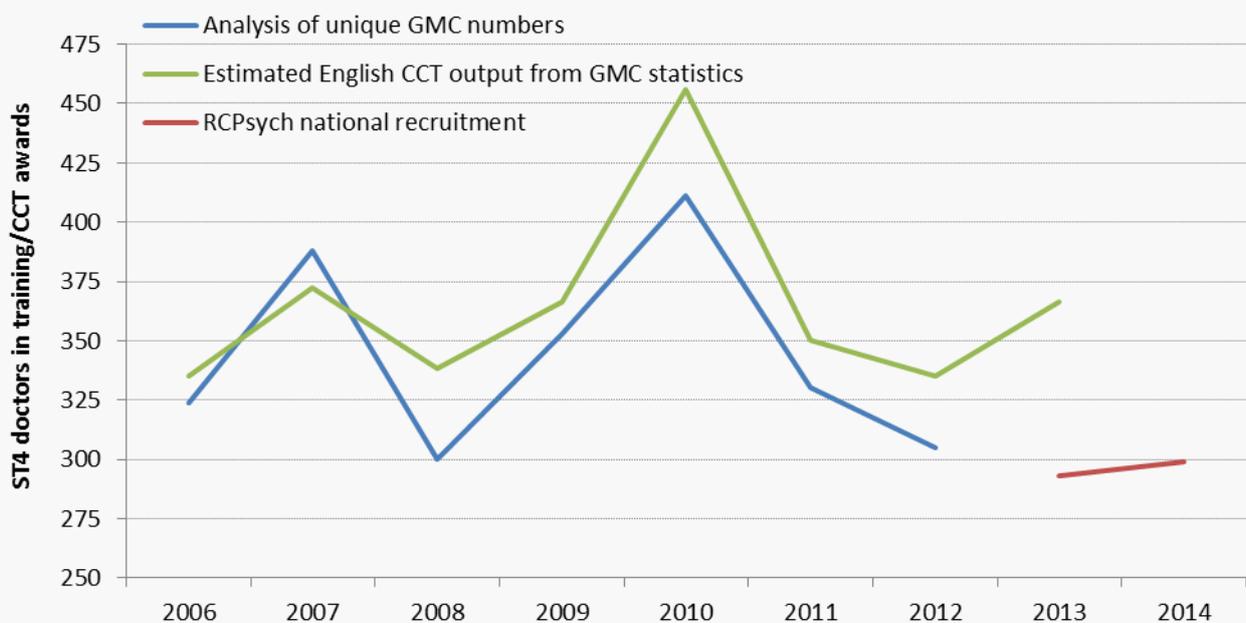
Mental health services vary greatly. Adult and older people’s mental health services are largely provided by specialist mental health trusts or community trusts. They include a range of services such as community, in-patient care, out-patient care and other therapy services.

In recent years there has been a move toward community-orientated models of service delivery with less focus on in-patient care (HSCIC, 2012 a, b). Subsequent to the new mental health outcomes strategy *No health without mental health* (DH, 2011), which promotes independence and personalised higher-quality care for service users, there is likely to be a further shift towards care in community settings. A multidisciplinary team (MDT) approach is widely adopted across all mental health services, so that a range of patients’ needs can be met with a varied workforce and skill mix.

5.2 Historical trends in postgraduate training

According to the GMC data estimates for England the number of psychiatry CCT awards has averaged around 348 per year during the period 2006 to 2013 (GMC, 2013). The national recruitment data for HST is only available for the last two annual recruitment rounds, 2012-13, and 2013-14 (RCPsych, 2014). This data shows that the number of higher specialty doctors in training appointed at ST4 averaged 296 per annum in the last two annual recruitment rounds. Assuming a modest level of HST trainee attrition, this means that from 2016-17 (possibly sooner) the number of new psychiatry CCTs awarded in England will be about 12-13 per cent lower than the historical average.

Figure 8: Historical number of psychiatry CCT awards and latest HST national recruitment



Source: GMC, (2013); RCPsych (2014)

Recent data indicates recruitment into psychiatry training in England is improving with fill rates at core training year one (CPT1) increasing from 87 per cent to 97 per cent between 2009 and 2013 (see Table 4). However, according to RCPsych data (2014), fill rates at higher specialty training (HST) have fallen from 82 per cent to 80 per cent between 2013 and 2014 (see Table 4 and Table 5).

Table 4: Recruitment numbers for core psychiatry training (CPT1) 2009 to 2013, England

Year	Advertised vacancies	Applications	Accepted offers	Fill rate	Competition ratio
2009-10	412	2025	358	87%	4.9
2010-11	383	1331	336	88%	3.5
2011-12	422	837	357	85%	2.0
2012-13	420	803	363	86%	1.9
2013-14	405	808	393	97%	2.0

Source: RCPsych (2014)

Table 5: Recruitment numbers for total higher specialty training (ST4) 2012-13 and 2013-14, England¹

Year	Advertised vacancies	Accepted offers	Fill rate
2012-13	358	293	82%
2013-14	375	299	80%

Source: RCPsych (2014)

The number of CPT1 accepted offers in England increased by 14 per cent from 358 in 2009 to 393 in and 2013 (RCPsych, 2014) (see Table 4). However, the competition ratio for CPT1 and higher specialty training in psychiatry still suffer from a relatively low number of applicants (see Table 5) when compared to other medical specialties e.g. public health has an overall competition ratio of 6.15 (HEE, 2013b). The number of applicants and therefore, competition ratios, fell from 4.9 and 3.5 in 2009-10 and 2010-11, respectively, to around 2.0 in the subsequent years (2012-14). It is difficult to comment on competition ratios for HST due to the limited data that is available for the total number of candidates¹. The number of HST accepted offers was 16 per cent below the target number of advertised vacancies between 2012 and 2013, whereas from 2013 to 2014, the number of HST accepted offers was 20 per cent below the target advertised vacancies. Difficulty with recruitment in psychiatry is not a recent phenomenon, with reports on recruitment issues dating back to the 1970s (Scott, 1986, Brockington, 2002).

There is evidence to suggest doctors in training are leaving programmes during the first two years of core training (CPT1 and CPT2). Vacancies at CPT2 are often due to trainees leaving in favour of another specialty

¹ The CfWI could not calculate competition ratios for HST due to lack of complete data with regard to the total number of candidates in each recruitment round.

(Carr, 2011), suggesting psychiatry may not have been their first career choice, or that the specialty has not lived up to their expectations. This would indicate that selection, recruitment, and retention during core training are very important if progression rates from CPT3 to ST4 are to be improved and sustained. We expect increases in fill rates at ST4 to occur three to four years after increases at CPT1 as the Psychiatry Task Force and Royal College's recruitment strategy achieve their objectives.

Data (RCPsych, 2013) and consultations with stakeholders suggest that historically there were disparities between fill rates at CPT1 and ST4 partly due to the low pass rates for the Member of RCPsych (MRCPsych) examinations, which form part of the requirements for progression from core training to higher specialty training (HST). The Academy of Medical Sciences (AoMS) has highlighted that non-UK medical graduates have particular difficulties passing the membership exams at the end of ST3 (AoMS, 2013). The Psychiatry Task Force and the RCPsych recruitment strategy are both seeking to address these issues. The Psychiatry Task Force was set up in 2011 by the then Medical Programme Board to secure the supply of CCT holders in psychiatry specialties. The Task Force is investigating recruitment, progression, and retention of UK doctors in training, which involves identifying factors that could boost these three areas. Historically, psychiatry has faced difficulties with recruitment to CPT1 and progression from CPT3 to ST4. The Psychiatry Task Force has been working since 2011 to encourage more UK graduates to choose psychiatry at CPT1 and to improve trainees' progress from CPT3 to ST4.

Latest recruitment data for 2012-14 suggests that recruitment and retention at ST4 increased to around an 80 per cent fill rate, however this is difficult to assess due to lack of recruitment data prior to 2012. An improvement in the fill rate at ST4 to around 95 per cent would add 50-60 trainees each year, considerably boosting intake – particularly in those regions, which have found it hardest to fill all their advertised vacancies.

Trends for postgraduate training across the six specialties

General adult psychiatry

Since 2012, there has been a decrease in doctors opting for a career in general adult psychiatry. Overall, the number of advertised vacancies decreased by 4.8 per cent, and the number of accepted offers decreased by 5.7 per cent between 2012-14 recruitment intakes (see Table 6).

Psychiatry of old age

Psychiatry of old age recruitment figures show the lowest fill rates amongst all the psychiatry specialties. This is of concern in view of the ageing population and actual and predicted demand. Recruitment numbers from the RCPsych (2014) show an increase in fill rate from 56 per cent in 2013 to 67 per cent in 2014. The number of advertised offers increased by 31 per cent over this period.

Child and adolescent psychiatry

The fill ratio for child and adolescent psychiatry remained around the same level at 71 per cent in 2013 and 2014 recruitment intakes. However, there was an increase in the number of posts advertised by 8 per cent between 2012-14. Further action needs to be taken across the system to address increase fill rate in child and adolescent psychiatry.

Forensic psychiatry

The fill rate ratio for forensic psychiatry increased from 87.5 per cent in 2012-13 to 90 per cent in the 2013-14 recruitment intakes. There was also an increase in both the number of advertised and accepted offers by 18.8 and 21.4 per cent, respectively (RCPsych, 2014) (see Table 6).

Table 6: Recruitment numbers for higher specialty training (ST4) across six psychiatry specialties, 2012-13 and 2013-14, England

Psychiatry specialty	Number of posts advertised 2012-13	Number of vacancies accepted 2012-13	Fill rate 2012-13	Number of posts advertised 2013-14	Number of vacancies accepted 2013-14	Fill rate 2013-14	Change in the number of posts advertised 2012-14	Change in the number of accepted vacancies 2012-14
General adult psychiatry	167	141	85%	159	133	84%	-4.8%	-5.7%
Old age psychiatry	32	18	56%	42	28	67%	31%	55.6%
Child and adolescent psychiatry	62	44	71%	67	48	72%	8%	9.1%
Forensic psychiatry	32	28	87.5%	38	34	90%	18.8%	21.4%
Learning disabilities	21	17	81%	21	17	81%	0	0.0%
Medical psychotherapy	6	6	100%	6	6	100%	0	0.0%
Dual: Medical psychotherapy and general adult psychiatry	8	7	87.5%	5	4	80%	-37.5%	-43%
Dual: Old age & general adult psychiatry	30	32	107%	36	28	78%	20%	-12.5%
Dual: Forensic psychiatry and medical psychotherapy	0	0	-	1	1	100%	-	-
Total	358	293	82%	375	299	80%	5%	2%

Source: RCPsych (2014)

Psychiatry of learning disability

Recruitment numbers from the RCPsych (2014) show no change in the fill rate for psychiatry of learning disability between 2012 and 2014. The fill rate remained at 81 per cent for the 2013 and 2014 recruitment years. There were also no changes to the number of advertised and accepted offers during 2013 and 2014 recruitment years.

Medical psychotherapy

Recruitment numbers from the RCPsych (2014), show steady fill rates at 100 per cent from 2012 to 2014. There were no changes to both the number of advertised and accepted offers between 2012-14 (see Table 6).

Dual psychiatry specialties

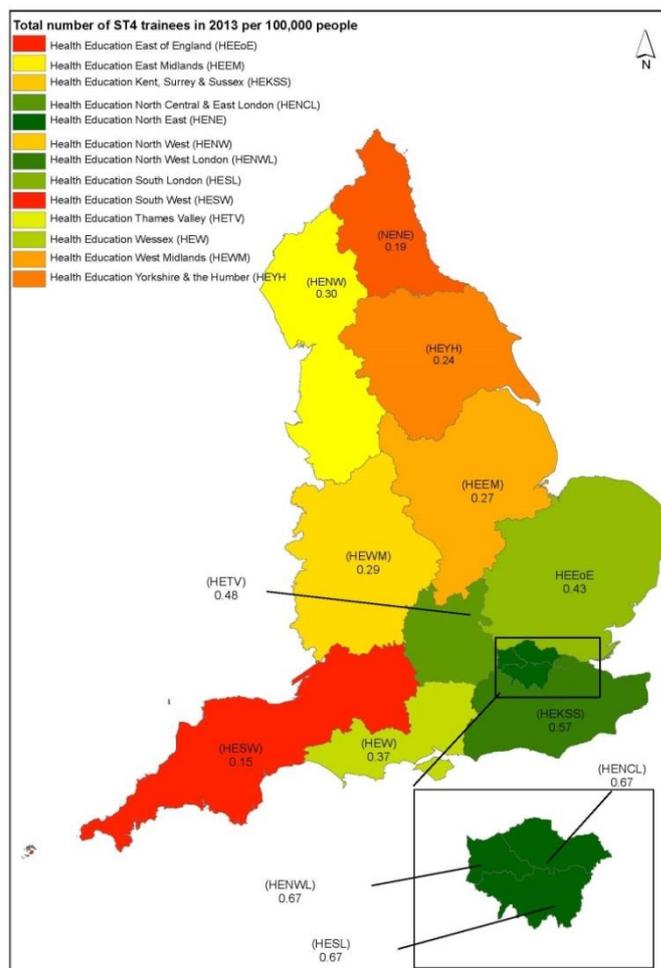
An increased number of candidates opted for dual psychiatry higher specialty training. This may be due to the increased job opportunities and a more flexible working that a dual CCT may offer to the psychiatry consultants. Dual old age and general adult psychiatry training attracted most candidates receiving highest fill rate of 107 per cent in the 2013 recruitment year and a 78 per cent fill rate in the 2014 recruitment year. The lower fill rate in 2014 may be explained by the 20 per cent increase in the number of advertised posts between 2012-14 intakes. Dual psychotherapy and general adult psychiatry figures show a decrease in both the number of advertised and accepted offers, at 37.5 and 43 per cent, respectively (see Table 6).

5.3 Regional inequality in trainee numbers

We found considerable geographical variation in the distribution of psychiatrists in training. By local education and training board (LETB) region, the South West and North East regions have the lowest number of ST4 doctors in training (HEE, 2013) per capita (0.15 and 0.19 per 100,000 people), with the London and Kent, Surrey and Sussex (KSS) regions having the most doctors in training per 100,000 (0.67 and 0.57 respectively). The average number of ST4 trainees per 100,000 population is 0.36 (see Figure 9).

Figure 9: Regional variation in total number of ST4 trainees in 2013 per 100,000 people

The colour scales represent the ranking of local education and training boards (LETBs) by the number of ST4 trainees per 100,000 people. Red represents the LETB region with the lowest per capita and green represents the LETB region with the highest trainee ratio.



Source: HEE (2013a) and DH (2012a)²

Research suggests doctors typically stay where they train (Knapton, 2009; Goldacre, et al 2013). Our analysis confirms there is a strong link between a doctor’s place of training and their place of work, indicating that

² Health Education KSS child and adolescent psychiatry posts are shared with London. The London Deanery does not separate data by regions and therefore numbers represent doctors recruited in ST4 across the whole of London. Health Education North East includes Northern Deanery while Health Education North West comprises Mersey and North Western Deanery. Health Education South West is comprised of Severn and South West Peninsula Deanery and Health Education Thames Valley comprises of Oxford Deanery.

areas with fewer trainees are at risk of having fewer consultant psychiatrists in the medium to long term. This correlation stays strong even if we exclude the London area.

There is, therefore, a risk that parts of northern England, for instance, will have fewer consultants in the long term, impacting on the local population's access to the full range of psychiatric services. Additional secondary research (McManus et al., 2007, Green, 2005, RCPsych, 2013b) and discussions with key stakeholders revealed that in child and adolescent psychiatry under-provision of services is reflected in longer waiting-lists (in some cases in excess of one year). Primary care practitioners are also less inclined to make referrals where very long waiting lists exist; thus, the demand for services is artificially suppressed (Ford et al., 2007).

Regional inequality in the distribution of training places occurs at both CPT1 and ST4 level (HEE, 2013a and DH 2012a).

5.4 Changing role of the consultant psychiatrist

There is widespread agreement that the role of the consultant psychiatrist is changing with more emphasis on providing leadership, specialist advice and support to the wider mental health team. However, there is a lack of consensus about how this change will impact on demand for consultant psychiatrists.

This uncertainty is reflected in our four intentionally challenging but plausible future scenarios and in the results of our Delphi panel exercise, which fed into our modelling.

As well as leadership of the mental health team, the consultant psychiatrist adds value to safe and effective patient care through:

- medical knowledge and skills
- clinical diagnosis
- prescription of medication or other therapeutic interventions
- risk management
- education and training, both within the specialty and for other members of the multi-professional team.

5.5 Psychiatric need and levels of service

National surveys of child and adult psychiatric morbidity have identified that a significant number of people with a diagnosed mental health disorder do not receive treatment or timely intervention for their condition. This is particularly the case for those with less severe conditions.

The *Mental Health of Children and Young People in Great Britain 2004* survey found that 28 per cent of parents of children with conduct disorder received help from a mental health specialist, and 24 per cent from special educational services such as psychologists (Green et al., 2005). Our discussions with key stakeholders corroborated these findings. For example, Tamsin Ford, professor of child and adolescent psychiatry at University of Exeter, said:

“ Under-provision of services is reflected in long waiting lists, in some cases there is an excess of one year. Very long waiting lists mean that primary care practitioners are less inclined to make referrals. There are geographical variations, e.g. in the North of England children are treated by paediatricians who are not trained to conduct mental health assessments (Ford et al, 2007) ”

Tamsin Ford, professor of child and adolescent psychiatry at University of Exeter (Ford et al., 2007)

There is evidence to demonstrate that primary care practitioners are less inclined to make referrals where very long waiting lists exist, which can artificially suppress demand for services (O'Donnell, 2000, Foreman and Hanna, 2000). Our Delphi panel of expert stakeholders judged that around 25 per cent of need for psychiatrists is currently unmet. According to the panel, the highest levels of unmet need are for child and adolescent and old age psychiatry, at 35 per cent and 30 per cent respectively, while the lowest is medical psychotherapy (5 per cent) (CfWI, 2013c).

Poor recognition by many healthcare workers and the population at large were the main reasons cited by the *Adult Psychiatric Morbidity Survey* (McManus et al., 2007) for so few people with a mental health disorder receiving any intervention. Moreover, due to the limited availability of psychological interventions, the most frequent method of therapy for common mental health disorders in primary care remains the prescription of psychotropic drugs (NICE, f011). *Improving Access to Psychological Therapies* (IAPT) was launched in 2008 by the DH to increase the availability of psychological interventions for people with common mental health problems.

There is evidence that the IAPT initiative is beginning to change treatment outcomes for individuals and their families and to achieve economic savings to the NHS and welfare system (DH, 2012b, JCP-MH, 2012a, b). Just under two fifths (39 per cent) of respondents to a recent adult community mental health survey said they had received talking therapy from NHS mental health services in the last 12 months. Of these, 52 per cent 'definitely' found it helpful and 37 per cent found it helpful 'to some extent' (CQC, 2013). Additionally, 89 per cent of respondents have received medication for their mental health condition in the last 12 months. This is a substantial change in the level of unmet need compared to results from the *Adult Psychiatric Morbidity Survey 2007* (APMS) (McManus, et al., 2007) which found that only 32 per cent of respondents with neurotic symptoms were receiving some form of treatment (therapy or medication) for their condition.

The *Parliamentary Hearings on Services for Disabled Children* in 2006 found that almost half of parents of children with a disability (48 per cent) and over a third of professionals (35 per cent) described health services for disabled children as 'poor' (EDCM, 2009). This perception was mirrored by a Disability Rights Commission investigation in 2006 which revealed '*an inadequate response from the health services and governments in England and Wales to the major physical health inequalities experienced by some of the most socially excluded citizens: those with learning disabilities and/or mental health problems*' (DRC, 2006).

Evidence suggests there have been significant improvements in the provision of adult and elderly mental health care. There has been a substantial increase in funding for mental health services between 2002 and 2010 (DH, 2012b). This has had a direct impact on the level of unmet need, as evidenced by the recent community mental health survey (CQC, 2013). The number of patients who received 'no care' decreased by 43 per cent from 150,992 in 2003-04, to 86,811 in 2010-11 (HSCIC, 2012a).

5.6 Psychiatrists and primary care

Since half of all lifetime mental illness has arisen by the age of 14 (Kim-Cohen et al, 2003; Kessler et al, 2005) and three quarters by the mid-20s (Kessler et al, 2007), this is the period during which early detection and intervention for mental disorder needs to occur. Furthermore, evidence suggests that early intervention for mental disorder during childhood and adolescence can reduce mental disorders in adults (Kim-Cohen et al, 2003). The current proposals (not published yet) to extend GP training include elements to address this, and to improve the capacity for early detection and intervention to help prevent the development of more complex and chronic mental disorders. Dr Jonathan Campion, Visiting Professor of Population Mental Health at University College London - who previously worked as a GP – highlights that:

“ The most recent national psychiatric morbidity surveys (Green et al, 2005; McManus et al, 2009) show that most people experiencing mental disorder (except psychosis) in the UK receive no treatment. Since less than 3 per cent of the adult population are seen by secondary mental health services (HSCIC, 2012a), primary care has a vital role in improving rates of detection and early treatment for mental disorder as well as referring to secondary care if required. Recognition and intervention at an early stage improves a range of outcomes, results in significant economic savings even in the short term (JCP-MH 2012, 2013) and could also prevent a proportion of adult mental disorders. Key constraints are lack of appropriate education and training in mental health for the primary healthcare workforce. Since local prevalence of mental disorder varies, information is required about the local proportion of people with different mental disorder receiving no intervention to inform the local needs assessment which in turn informs primary and secondary care commissioning requirements.”

Dr Jonathan Campion, Visiting Professor of Population Mental Health at University College London

5.7 Liaison psychiatrists

Research suggests that patients who present with medically unexplained symptoms in the acute sector cost the NHS approximately £3 billion a year (LSE, 2012; Birmingham, 2010). Liaison psychiatrists typically work in hospital settings to identify and meet the mental health needs of those being treated for physical health conditions/ symptoms. Although liaison psychiatry services are recognised as improving patient outcomes and reducing costs, liaison psychiatry provision remains patchy (JCP-MH, 2012a, b). The new addition to the Mental Health Strategy *Closing the Gap: Priorities for essential change in mental health* document (DH, 2014) aims to introduce national liaison and diversion services so that offenders requiring mental health assessment and help can receive it early and from adequately trained specialists.

Although there are a relatively small number of liaison psychiatrists operating in the NHS at present, the RCPsych expect this number to grow to several hundred over the next few years as more acute trusts use their services. Liaison psychiatry is a sub-specialty of general adult psychiatry, although we understand the College is seeking a route for old age psychiatrists to undertake liaison psychiatry as well. The expected growth in this workforce supports the case for boosting the supply of both general and old age psychiatry CCT holders. It is also likely to boost the popularity of dual general adult and old age psychiatry HST.

5.8 Academic psychiatrists

While 27 per cent of the overall ‘disease burden’ in the UK is attributed to mental health disorders, only five per cent of total UK health research money is spent on mental health research (WHO, 2004). Additionally, research into mental health is said to offer a good ‘return on investment’. According to one estimate, one pound invested in mental health research reaps a 37 pence return each year (Health Economics Research Group et al., 2008).

Academic psychiatrists play an important role in the teaching and training of aspiring psychiatrists. As well as being at the forefront of research and clinical excellence, academic psychiatrists provide a high level of intellectual challenge to trainees. This is important for raising the profile of psychiatry, and helps to attract high quality students from the foundation programme.

5.9 Activity and models of service delivery

Mental health services and models of service delivery have undergone a number of important changes during the last decade. There has been a significant increase in the number of people in contact with services – many of whom have longstanding disorders – and a shift towards community-based provision.

The number of people using NHS-funded secondary mental health services increased by 48 per cent from 1.08 million in 2003-04 to 1.6 million in 2011-12 according to the Mental Health Minimum Data Set (HSCIC, 2012b). There was a corresponding decrease in the number of patients admitted to hospital, down 40 per cent in the 14 years to 2011-12, according to Hospital Episode Statistics (HES) (HSCIC, 2012a). The daily average number of occupied hospital beds has similarly decreased significantly across all hospital trusts, down by 19 per cent from 23,341 in 2006-07 to 18,924 in 2011-12 (HSCIC, 2012a). On average, patients also stayed in hospital for a shorter time: down from a median stay of 33 bed days in 1998-99 to 22 bed days in 2011-12 (HSCIC, 2012a).

Out-patient and community activity involving psychiatrists appears to be decreasing, from 21 per cent of all adult patient contact in 2003-04 to just 13 per cent in 2010-12 (HSCIC, 2012a). However, the data only includes face-to-face contacts, and does not include provision of consultation and advice to patients, which now comprises a larger proportion of psychiatrists' workload. Moreover, these MHMDS findings differ from a recent *Community mental health survey* (CQC, 2013), which reported that service users most commonly saw community psychiatric nurses (32 per cent) followed by psychiatrists (23 per cent), mental health support workers (16 per cent), social workers (8 per cent) and psychologists (8 per cent – up from 7 per cent in 2012).

Services have also been re-configured with the introduction of specialist teams and a number of innovative care models have emerged across England.

6. Modelling the total psychiatry workforce

6.1 Assumptions and drivers we used to forecast the future demand for, and supply of, psychiatrist CCT holders

Our modelling produced baseline and scenario-specific projections of demand and supply for the psychiatrist workforce over the next 20 years to 2033. These projections, along with other evidence and intelligence, help us determine whether there is a sufficient supply of CCT holders to provide the same level of service per capita as today, and to understand whether workforce supply is in line with expected demand.

As well as using data about the psychiatrist workforce and the population it serves, the CfWI's scenario modelling takes several intrinsically uncertain future variables into account:

- Supply uncertainties include scenario-specific changes to workforce participation rates (a measure of the extent to which psychiatrists work full-time or part-time) and the average retirement age for women and men.
- Demand uncertainties include scenario-specific changes to the population's average individual level of need, changes to the workforce's capability to deliver services (efficiency/productivity), and changes to the level and intensity of services commissioned.

6.2 Baseline demand and supply for psychiatrist CCT holders

The concept of a 'baseline' projection requires some explanation. 'Baseline' demand means the level of future demand assuming population growth and the age profile of the population continue as per current trends. However, the baseline does **NOT** include changes in patient expectations, the rise in the incidence of multiple morbidities and case complexity, or the increased prevalence of dementia and other older age mental disorders. It is likely that future patient demand for consultant psychiatrists is underestimated in the 'baseline' projection – it is included for comparison purposes only.

Patient demand

Our baseline demand projections are based on:

- activities captured by Hospital Episode Statistics – HES, 2011/2012 in-patient and out-patient data and the Mental Health Minimum Data Set – MHMDS, 2011/2012, (HSCIC, 2012a, b)
- forecasts of population growth and ageing (ONS, 2013)
- an assumed productivity increase of 0.4 per cent per annum (ONS, 2012).

Workforce supply

Our baseline supply projection is outlined below.

Supply projection is based on:

- current higher specialty recruitment numbers i.e. the overall number of doctors in training at HST (1,340) (HEE, 2013a).

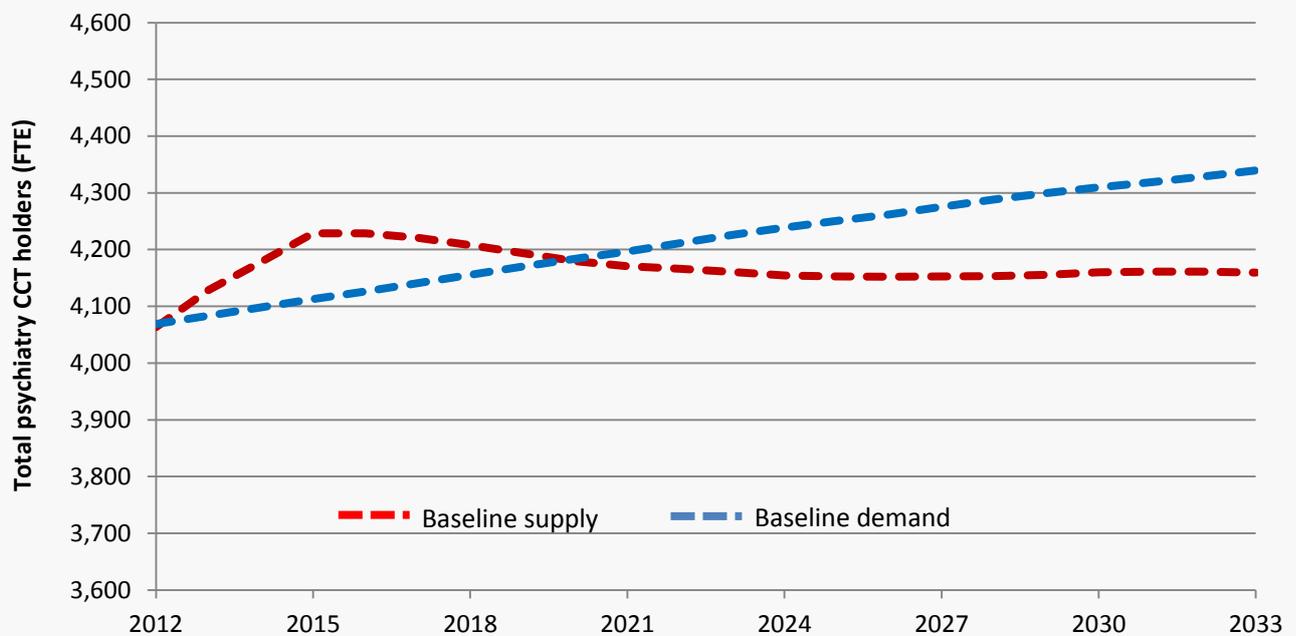
- the average (296) of national higher specialty recruitment numbers 2013-2014 (RCPsych, 2014)
- annual workforce attrition from those aged 53 and under at 3.3 per cent (CfWI, 2013b)
- mean workforce retirement age of 60 (CfWI, 2013b)
- mean participation rate of 0.84 for women and 0.91 for men (CfWI, 2013b).

Baseline demand and supply projections

Figure 10 shows the CfWI’s projection of baseline supply for the total consultant psychiatrist workforce (red dashed line) and demand (blue dashed line) for the total consultant psychiatrist workforce. Baseline supply indicates the level of supply in the future should current trends in recruitment, training pathways, staff attrition and retirement remain the same. Figures are shown on a full-time equivalent (FTE) basis.

Baseline demand indicates the level of demand, using the assumption that population growth and the changing profile of the population continue as they are at present. However, the baseline does not include changes in patient expectations, the rise of multiple morbidities and case complexity.

Figure 10: Baseline supply and demand projections for psychiatrist CCTs, England



Source: CfWI system dynamics model of the psychiatrist workforce for England

As shown in Figure 13, our baseline supply projection is initially higher than baseline demand, but over the medium term it falls behind, opening up a demand-supply gap. The baseline demand projection sees total demand for psychiatry CCT holders grow by 7 per cent by 2033 (to around 4,340 FTEs). The baseline supply projection suggests the total psychiatrist CCT holder workforce in England could increase by 2 per cent to

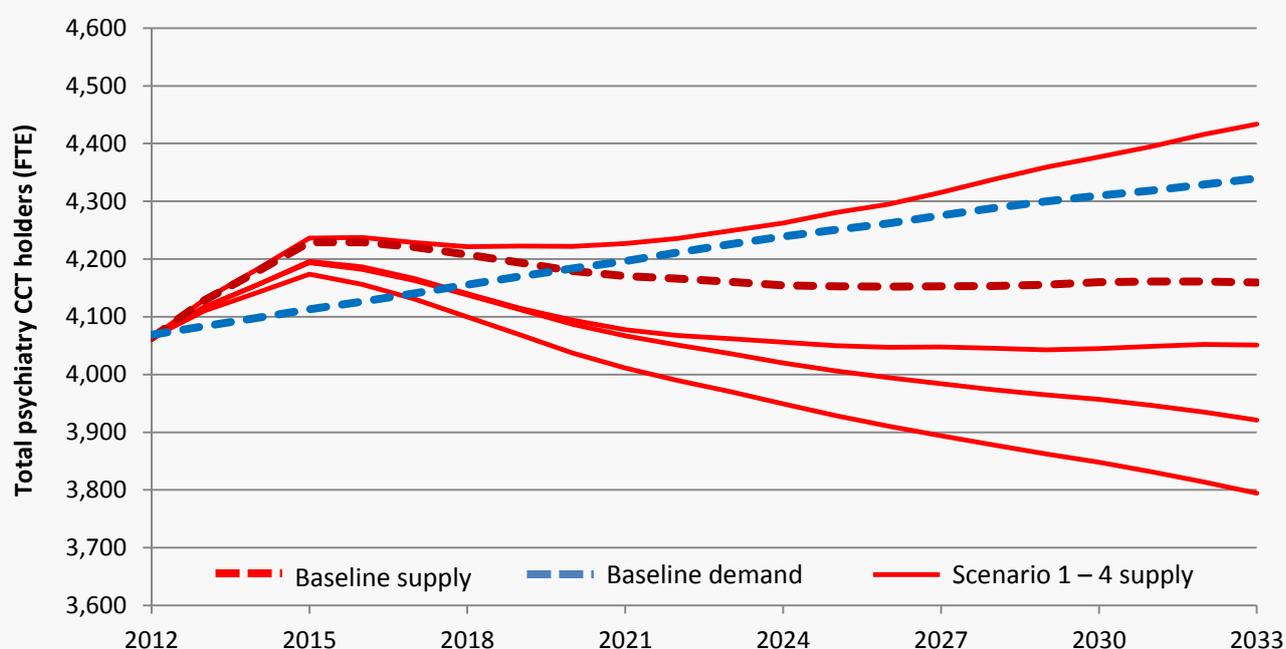
around 4,160 (FTE) by 2033. This would see the psychiatrist per capita ratio fall by 11 per cent from 7.6 in 2012 value to around 6.8 psychiatrists (FTE) per 100,000 population by 2033.³

Future psychiatrist workforce supply scenarios

Figure 11 shows the CfWI’s forecasts of supply for the total psychiatrist workforce across the four intentionally challenging but plausible future scenarios, compared with baseline supply and baseline demand.

The supply baseline enables comparison with the range of intentionally challenging but plausible future scenarios, which imply increased or decreased levels of supply (red lines). Creating a baseline requires workforce data from a range of sources, coupled with a number of assumptions. For workforce data, the CfWI modelling team used the total number of doctors in HST taken from the HEE stocktake (2012) and assumes that the number of doctors entering HST annually remains constant at the average number of doctors in training entering HST during the period 2013-14 to 2014-15 (RCPsych, 2014).

Figure 11: Baseline supply and demand projections with supply scenarios for psychiatrist CCTs, England



Source: CfWI system dynamics model of the psychiatrist workforce for England

The variation in supply between the four scenarios represents the judgment of the Delphi panel about the range of ways supply might plausibly unfold in the four different futures (CfWI, 2014). See Table 1 and 2 for a description of the scenarios. It must be highlighted that these individual scenarios are not predictions of the future. Rather, they bound the uncertainty about the future and enable us to determine which policy options might work best across the scenarios, in order to inform robust workforce planning.

³ This baseline projection assumes no significant change in the number taking up ST4 posts (the first year of higher specialty training) in the future, compared to the average over the last two years (RCPsych, 2014).

The divergent red supply lines in Figure 11 show considerable uncertainty about the future psychiatrist workforce supply. Three of the four supply forecasts are below the baseline, suggesting that the Delphi panel anticipate lower fill rates and/or lower participation rates and/or earlier retirement than our baseline modelling assumptions in these scenarios. For example, in scenario 1 where our supply projection is above baseline, the Delphi panel anticipated higher levels of participation rate and higher retirement age by 2033, compared to today.

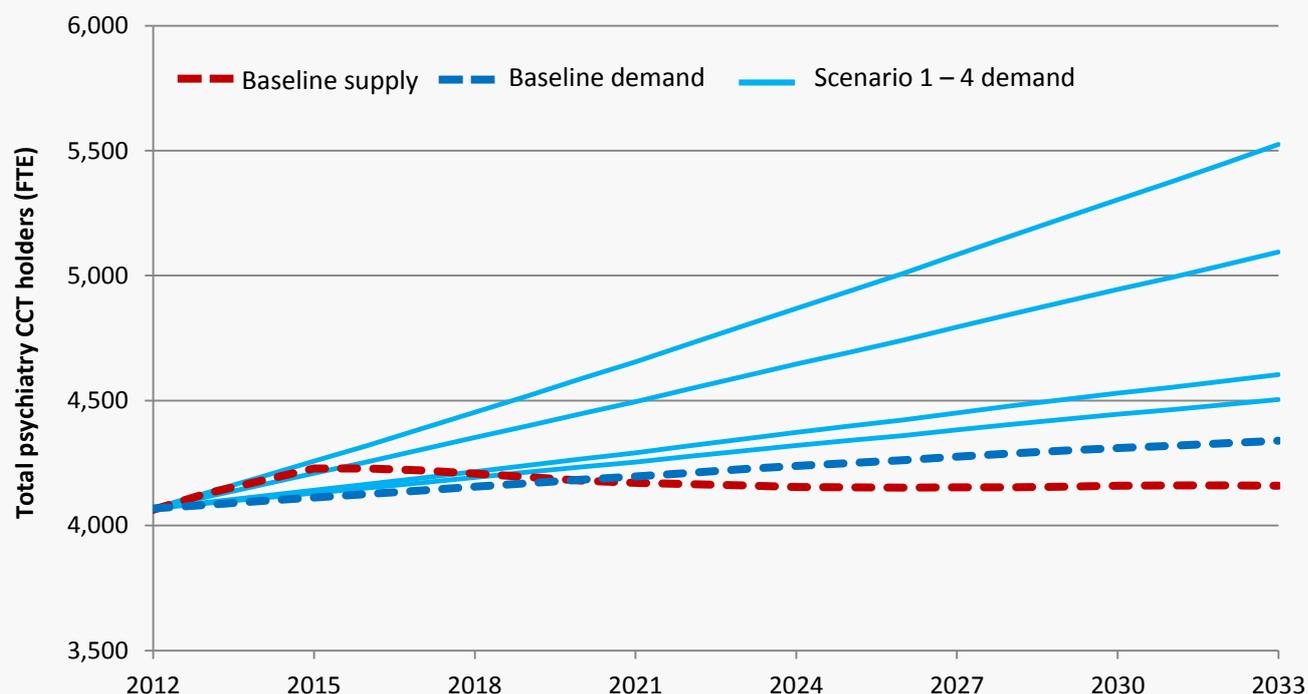
Future psychiatrist workforce demand scenarios

Figure 12 shows the CfWI’s projections of demand (blue lines) for psychiatrists across the four intentionally challenging but plausible future scenarios, compared with the baseline demand (blue dashed line).

Baseline demand is projected to increase by just over 6.7 per cent from 2012 to 2033. The baseline scenario enables comparison with our range of intentionally challenging but plausible future scenarios, in which demand could be either ‘better’ or ‘worse’ than the baseline.

The four demand scenarios indicate considerable uncertainty about future demand, as indicated by the divergent blue lines. Across all four scenarios, there is a moderate rise in demand for psychiatrists. Scenario-based demand considerably outstrips baseline demand. The four scenario-specific demand forecasts anticipate between 11 and 36 per cent growth in demand (to between 4,500 and 5,500 FTEs).

Figure 12: Baseline supply and demand projections with demand scenarios for psychiatrist CCTs, England



Source: CfWI system dynamics model of the psychiatrist workforce for England

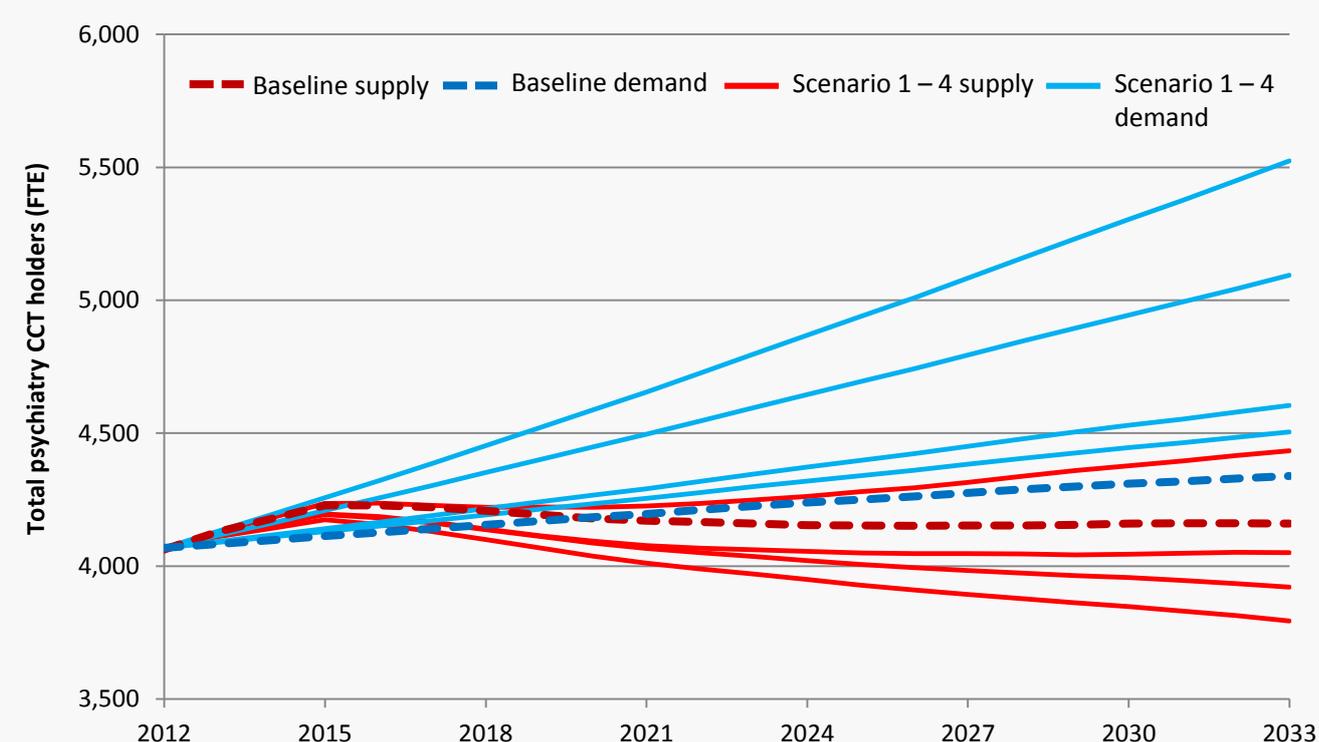
Future scenarios: demand and supply compared

Following a Delphi exercise to quantify the key demand and supply uncertainties within each of the four scenarios, our scenario-specific forecasts (see Figure 13) show considerable variance between supply (red lines) and demand (blue lines).

Both Figure 12 (above) and Figure 13 show four supply lines, each representing supply in one of the scenarios, all of which are lower than the corresponding scenario-specific demand line. That is, in every scenario, workforce supply is projected to be lower than patient demand. For example, the highest supply line represents supply in scenario one: this is lower than the highest demand line, which represents demand in the same scenario.

This suggests there is a reasonable prospect that if recent trends in trainee numbers continue, consultant psychiatrist workforce supply may not be sufficient to meet future patient demand.

Figure 13: Supply and demand baseline projections and scenarios for psychiatrist CCTs, England



Source: CfWI system dynamics model of the psychiatrist workforce for England

Figure 13 shows that the four scenario-specific supply forecasts anticipate between 7 per cent decrease and 9 per cent increase in supply (to between 3,800 and 4,400 FTEs). This suggests that total psychiatry CCT holder supply is likely to remain around the level it is today with potentially a slight increase or decrease. This results from:

- Assuming the most recent intake to ST4 posts remains reflective of future recruitment, a slightly lower annual intake to training than the average of the past decade.
- A substantial annual workforce attrition from those aged 53 and under at 3.3 per cent (CfWI, 2013b)
- A substantial number of newly qualified CCT holders who appear not to join the NHS workforce (around 5 per cent).

If workforce supply decreases in line with this projection there is likely to be an undersupply of CCT holders in all psychiatry specialties of between 550 and 1,200 FTEs over the medium to long term.

7. Supply and demand by specialty

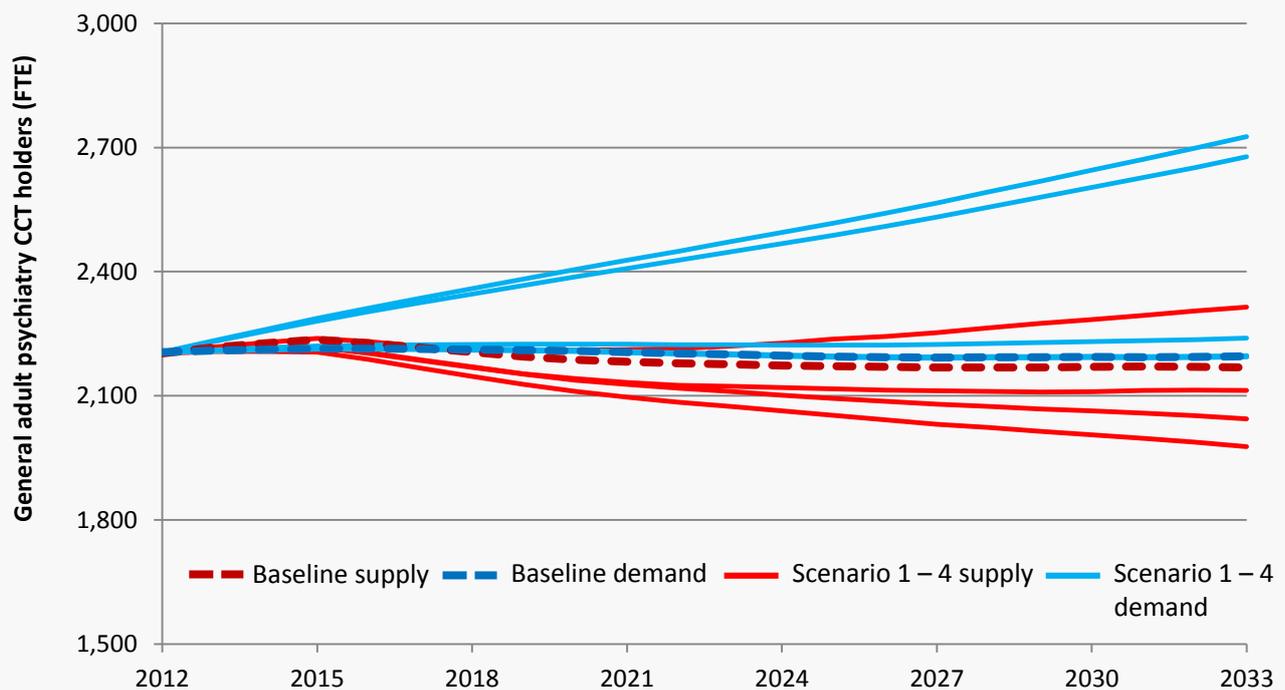
7.1 Demand and supply projections: general adult psychiatry

The baseline demand projection sees demand for general adult psychiatry CCT holders remain at the same level as today, of around 2,200 FTEs, while the four scenario-specific demand forecasts anticipate between 0.4 per cent decrease and 24 per cent increase in demand (to between 2,200 and 2,700 FTEs). The baseline supply projection suggests the general adult psychiatrist CCT holder workforce in England will remain at roughly the same level as today around 2,200 FTEs.

Figure 14 shows that the four scenario-specific supply forecasts anticipate between 10 per cent decrease and 5 per cent increase in workforce supply (to between 2,000 and 2,300 FTEs) by 2022.

The baseline demand and supply projection anticipates a shortage of around 27 CCT holders in general adult psychiatry by 2033. The four scenario-specific forecasts anticipate a **shortage of CCT holders in general adult psychiatry approximately between 80 and 630 FTEs by 2033.**

Figure 14: General adult psychiatry: baseline supply and demand and scenario projections



Source: CfWI system dynamics model of the psychiatrist workforce for England

7.2 Demand and supply projections: old age psychiatry

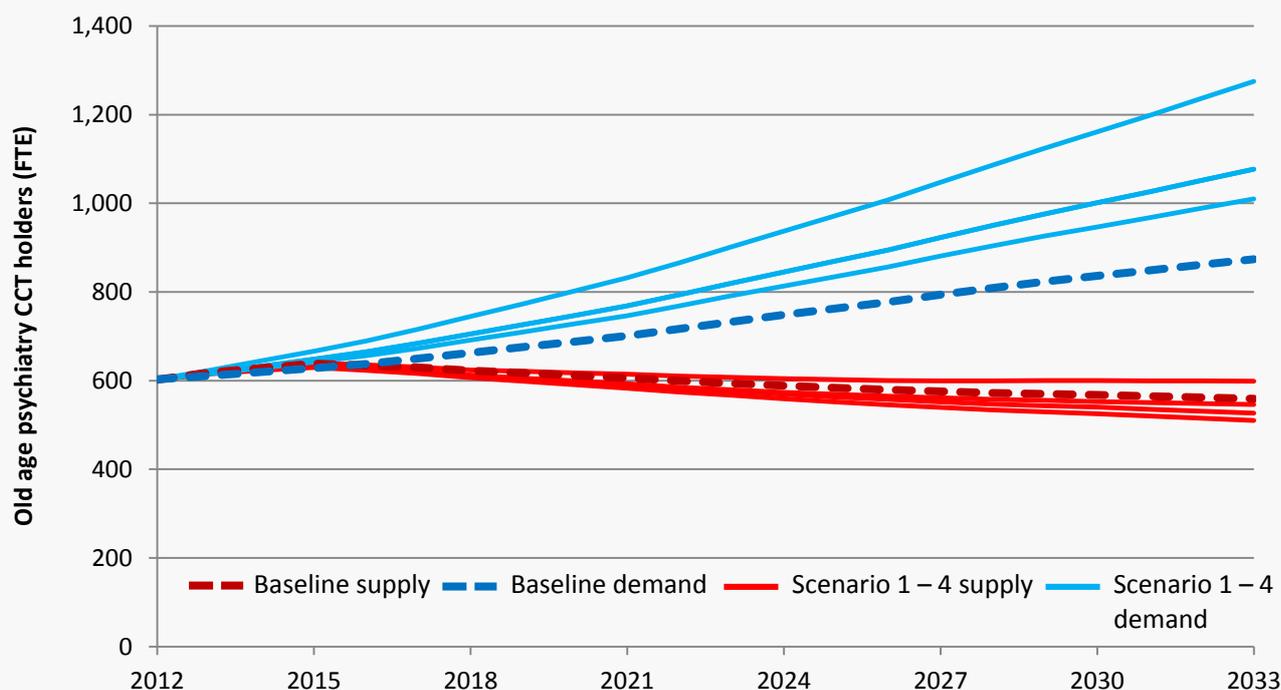
The baseline demand projection sees demand for old age psychiatry CCT holders to increase by around 45 per cent from around 600 in 2012 to around 870 FTEs by 2033 while the four scenario-specific demand forecasts anticipate between 67 and 110 per cent increase in demand (to between 1,000 and 1,300 FTEs). The baseline supply projection suggests the old age psychiatrist CCT holder workforce in England could decrease by 7 per cent to around 560 (FTE) by 2033⁴.

Figure 15 shows that the four scenario-specific supply forecasts anticipate between 1 and 15 per cent decrease in workforce supply (to between 510 and 600 FTEs) by 2033.

The baseline demand and supply projection anticipates a shortage of around 315 CCT holders in old age psychiatry by 2033. The four scenario-specific forecasts anticipate a **shortage of CCT holders in old age psychiatry approximately between 500 and 680 FTEs by 2033**.

Of all six psychiatric specialties, psychiatry of old age faces the strongest risk of a large demand-supply shortfall, with weak workforce growth failing to keep up with the strong growth of this age group.

Figure 15: Psychiatry of old age: baseline supply and demand and scenario projections



Source: CfWI system dynamics model of the psychiatrist workforce for England

⁴ This baseline projection assumes no significant change in the number taking up ST4 posts (the first year of higher specialty training) in the future, compared to the average over the last two years (RCPsych, 2014).

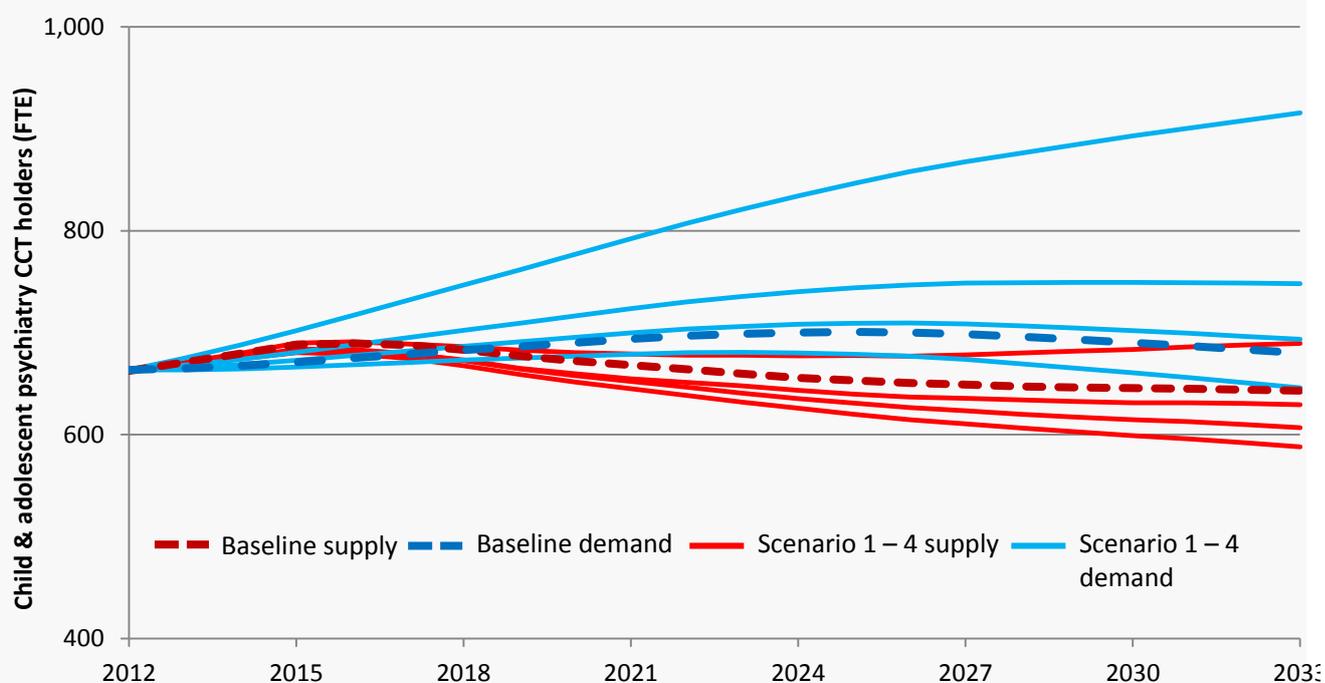
7.3 Demand and supply projections: child and adolescent psychiatry

The baseline demand projection sees demand for child and adolescent psychiatry CCT holders to increase by around 2.5 per cent from 663 in 2012 to around 680 FTEs while the four scenario-specific demand forecasts anticipate between 3 per cent decrease and 38 per cent increase in demand (to between 650 and 920 FTEs). The baseline supply projection suggests the child and adolescent psychiatrist CCT holder workforce in England could decrease by 3 per cent to around 640 (FTE) by 2033⁵.

Figure 16 shows that the four scenario-specific supply forecasts anticipate between 4 per cent increase and 11 per cent decrease in workforce supply (to between 590 and 690 FTEs) by 2033.

The baseline demand and supply projection anticipates a shortage of around 37 CCT holders in child and adolescent psychiatry by 2033. The four scenario-specific forecasts anticipate a **shortage of CCT holders in child and adolescent psychiatry approximately between 60 and 230 FTEs by 2033**.

Figure 16: Child and adolescent psychiatry: baseline supply and demand and scenario projections



Source: CfWI system dynamics model of the psychiatrist workforce for England

⁵ This baseline projection assumes no significant change in the number taking up ST4 posts (the first year of higher speciality training) in the future, compared to the average over the last two years (RCPsych, 2014).

7.4 Demand and supply projections: psychiatry of learning disability, forensic psychiatry, and medical psychotherapy

Forensic psychiatry

The baseline demand projection sees demand for forensic psychiatry CCT holders to remain at around the same level as today at around 290 FTEs while the four scenario-specific demand forecasts anticipate between 11 per cent decrease and 19 per cent increase in demand (to between 260 and 350 FTEs). The baseline supply projection suggests the forensic psychiatry CCT holder workforce in England could increase by up to 50 per cent to around 440 (FTE) by 2033⁶.

The four scenario-specific supply forecasts anticipate between 40 and 60 per cent increase in workforce supply (to between 400 and 460 FTEs) by 2033.

The baseline demand and supply projection anticipates an oversupply of around 150 CCT holders in forensic psychiatry by 2033. The four scenario-specific forecasts anticipate **an oversupply of CCT holders in forensic psychiatry approximately between 70 and 200 FTEs by 2033.**

Psychiatry of learning disability

The baseline demand projection sees demand for psychiatry of learning disability CCT holders to remain at around the same level as today at around 240 FTEs while the four scenario-specific demand forecasts anticipate between 1 per cent decrease and 18 per cent increase in demand (to between 240 and 290 FTEs). The baseline supply projection suggests the psychiatry of learning disability CCT holder workforce in England could remain at present level by 2033.

The four scenario-specific supply forecasts anticipate between 9 per cent decrease and 7 per cent increase in workforce supply (to between 220 and 260 FTEs) by 2033.

The baseline demand and supply projection anticipates there may be no shortage of CCT holders in psychiatry of learning disability by 2033. However, the four scenario-specific forecasts anticipate **a shortage of CCT holders in psychiatry of learning disability approximately between 4 and 26 FTEs by 2033.**

Medical psychotherapy

The baseline demand projection sees demand for medical psychotherapy CCT holders to decrease by 2 per cent to around 60 FTEs while the four scenario-specific demand forecasts anticipate between 2 and 18 per cent decrease in demand (to between 59 and 50 FTEs). The baseline supply projection suggests the medical psychotherapy CCT holder workforce in England could increase by 75 per cent to around 106 (FTE) by 2033⁷.

The four scenario-specific supply forecasts anticipate between 60 and 82 per cent increase in supply (to between 97 and 110 FTEs).

⁶ This baseline projection assumes no significant change in the number taking up ST4 posts (the first year of higher speciality training) in the future, compared to the average over the last two years (RCPsych, 2014).

The baseline demand and supply projection anticipates an oversupply of around 50 CCT holders in medical psychotherapy by 2033. The four scenario-specific forecasts anticipate **an oversupply of CCT holders in medical psychotherapy between around 45 and 50 FTEs by 2033.**

7.5 Demand and supply projections summary

The demand and supply evidence described above is coupled with a substantial treatment gap in child and adolescent psychiatry (Green et al., 2005, Ford et al., 2007), psychiatry of learning disability (DRC, 2006, EDCM, 2009) and general adult psychiatry (McManus et al., 2007). The growing ageing population also increases the demand for old age psychiatry, as factored into our weighted demand forecasts.

Therefore, our analysis shows that the specialties most at risk of an undersupply are psychiatry of old age, child and adolescent psychiatry, psychiatry of learning disability and general adult psychiatry. The evident supply inequality between future supply and demand for psychiatry CCT holders highlights a need for Health Education England to consider options to increase the number of doctors in training taking up psychiatry speciality posts at CPT1, improve progression into HST posts, and improve retention of consultant psychiatrists in the workforce.

Any changes to immigration rules which might restrict overseas recruitment may also have a significant impact on the supply of psychiatrists since 44 per cent of higher specialty doctors in training come from outside the UK (EEA and non-EEA combined) (HSCIC, 2012c).

8. Proposals and concluding remarks

8.1 CfWI proposals and next steps

The CfWI proposes that Health Education England (HEE), working with the RCPsych, consider appropriate strategies such as run-through training programmes for old age, general adult and child and adolescent psychiatry to improve national recruitment rates at CPT1, progression into HST and retention of the psychiatrist workforce.

Our evidence suggests the future supply of consultant psychiatrists could improve if the fill rate at CPT1 is sustained at around 95 per cent, HST numbers are increased and the trainees retained to match historical General Medical Council (GMC) CCT awards in psychiatry of around 348 doctors in training per annum.

Reducing the high trainee attrition rate associated with doctors progressing from core to higher specialty psychiatry training would do much to improve HST fill rates. It would help if the factors underlying high attrition rates in core training and relatively low progression rates to HST were better understood. Likewise, the high rates of pre-retirement workforce attrition among CCT holders has a large impact on future workforce supply.

Other appropriate strategies to improve national recruitment rates could include piloting a run-through specialty training programme in the South West, North East and the East Midlands regions where recruitment rates of trainee psychiatrists are the lowest.

The CfWI suggests that Health Education England consider the case for an increase in the total number of CPT1 and ST4 training posts in psychiatry to address the risk of significant undersupply.

There is a risk of an overall undersupply of psychiatry CCT holders. If workforce supply decreases in line with the demand and supply projection, we are likely to see an undersupply of psychiatrists across all six specialties over the medium to long term. **Our modelling and analysis points to the need for an increase in total training numbers in both core psychiatry training (CPT1) and higher specialty training (HST4).** If recent trends in national recruitment and training attrition continue, we are likely to see a substantial decrease in the number of psychiatrist CCT holders.

The CfWI also proposes that HEE consider old age psychiatry a priority for additional trainee recruitment.

Efforts to improve recruitment and retention of trainees should focus, in particular, on old age psychiatry as this specialty faces the greatest imminent risk of workforce undersupply. Unless trainee recruitment is increased there is high risk of a large demand-supply shortfall. Significant workforce undersupply over the medium to long term is also projected in three other specialties: general adult psychiatry, child and adolescent psychiatry and psychiatry of learning disability.

The CfWI suggests that HEE considers, in the short-term (at the next recruitment round), focusing specialty training towards those LETB regions with the lowest trainee-per-capita ratios, to reduce geographical inequality and help ensure more equitable access to psychiatric services across England.

There are large variations in the numbers of doctors in training per capita across the country with HEE regions in London having four times as many trainees per capita than regions in the South West, North East and the East Midlands. Research suggests doctors typically seek work in the region where they trained. A review of training and long-term planning around local recruitment is needed to encourage psychiatrists in training to take up posts in regions where recruitment rates are lowest.

The CfWI also proposes that HEE consider a review of the current psychiatry training programme to ensure psychiatrists are adequately trained to look after physical health of patients.

Providing a high quality core and specialty training may help to increase the attractiveness of psychiatry and is a crucial factor in the effective development of clinical skills, knowledge, and expertise. The training should ensure that psychiatrists are also adequately trained to look after physical health of patients.

The CfWI suggests HEE considers conducting another review of the psychiatrist workforce in three years' time. The scope of the next review should encompass the wider mental health clinical team.

The CfWI suggests a further review of the psychiatrist workforce in three years' time, when more data will be available to assess the impact of the Psychiatry Task Force and the RCPsych's recruitment strategy on the recruitment and retention of UK medical graduates into psychiatry training. The impact on the psychiatry specialties of the Shape of Training Review and moves to seven-day working should also be clearer by then.

Given the range of mental health service delivery models currently in use, the next review should have a broader remit, looking at the wider multi-professional mental health clinical team – with a particular focus on the contribution of psychologists and mental health nurses, as well as psychiatrists.

It is evident that still much needs to be done to raise the profile of psychiatry in medical schools and amongst foundation doctors if recruitment and retention at higher specialty level and workforce attrition are to improve significantly.

The CfWI suggests HEE considers establishing a stronger evidence base on the mental health clinical workforce, service delivery models and 'skill mix' in time for the next workforce review.

It would be helpful, ahead of the next workforce review, if HEE and other key stakeholders were to consider initiating work to establish a stronger evidence base. The CfWI suggests that this includes collection of annual data on the number of ST4 psychiatry trainees and CCT holders practising in England, mapping different service delivery models and 'skill mixes' in use by mental health teams, and a census of the applied psychologist workforce.

There would also be merit in developing approaches to the collection of data on the independent and Third Sector mental health workforces. The CfWI also supports the commissioning of another Mental Health of Children and Young People Survey in England, given the last such survey was conducted in 2004.

Finally, the CfWI would like to thank the many psychiatrists, Royal College of Psychiatrists, other health professionals, employers and patients who made a contribution to this in-depth workforce review, and welcome all responses to this report. The project team can be contacted at: medical@cfwi.org.uk

Annex A: Acknowledgments

The CfWI sought input from a wide range of stakeholders as part of the scoping, consultations and field visits for this review. The following people spoke to us individually, or participated in the January 2013 horizon scanning focus group, the February 2013 scenario generation workshop, or our Delphi panel exercise. We would like to thank them for their contributions.

Those with an asterisk (*) next to their name were also Delphi panellists. We would also like to thank our commissioners, Bruce Calderwood, Karen Turner (DH) and Patrick Mitchell (HEE) along with the President of the Royal College of Psychiatrists, Professor Dame Sue Bailey, and Dr Aideen O'Halloran (RCPsych) for their advice and support throughout the project.

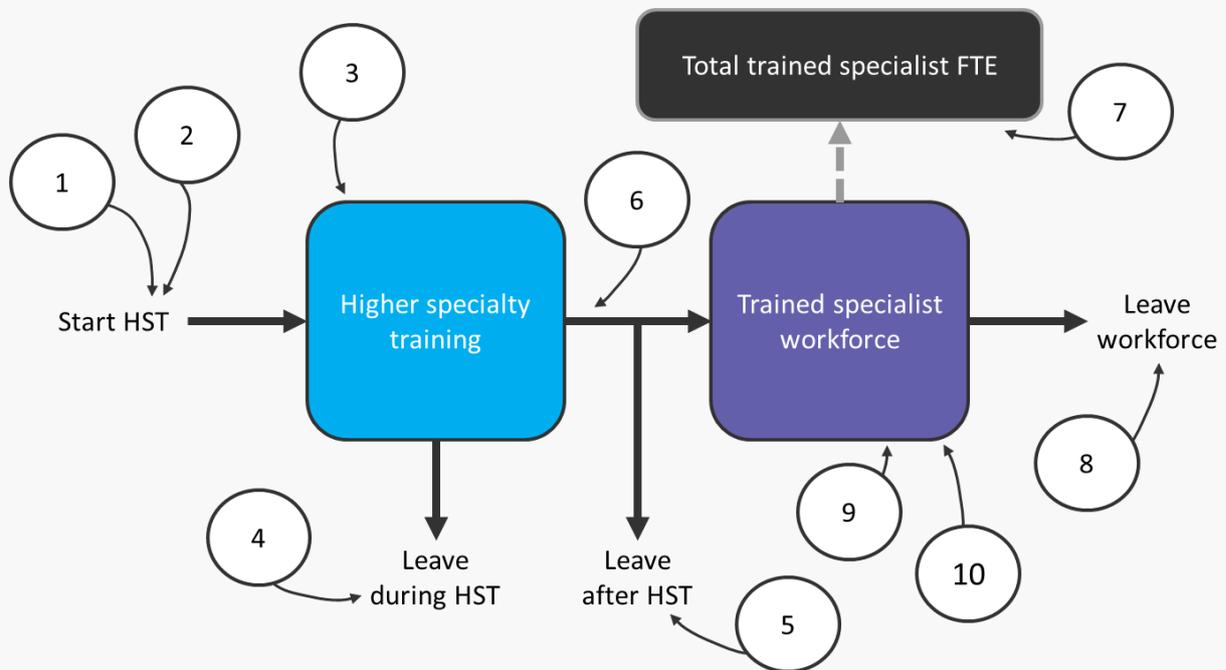
- Dr John Allcock
- Sarah Andrews
- Professor Dame Sue Bailey*
- Professor Dinesh Bhugra
- Dr Jed Boardman
- Geoff Brennan
- Dr Wendy Burn*
- Dr Andrew Camden
- Dr Margaret Campbell*
- Professor Jonathan Campion
- Tim Cate
- Professor Stuart Carney*
- Carolyn Chew-Graham
- Dr Lenny Cornwall
- Dr Helen Crimlisk
- Dr Shanu Datta
- Dr Nicholas Deakin*
- Pauline Dembali
- Dr Catherine Dooley*
- Professor Naomi Fineberg*
- Professor Tamsin Ford
- Dr Deborah Girling*
- Margaret Goose (CfWI)
- Dr Hugh Griffiths
- Natalie Hammond*
- Dr Giles Harborne
- Dr Judy Harrison*
- Dr Andrew Hill-Smith*
- Rod Holland
- Dr Roslyn Hope*
- Ian Hulatt
- Dr Muj Hussain
- Jen Hyatt*
- Dr Rowena Jacobs
- Professor Tim Kendall*
- Dr Cheryl Kipping
- Dr Nick Land
- Dr Moira Ledger
- Christine Lenehan
- Derek Marshall
- Dr Helen Matthews (CfWI)*
- Dr Helen Matthews (RCPsych Wales)*
- Dr Andrew McCulloch
- Dr Sally McManus
- Dr Lance Middleton
- Dr John Moriarty
- Dr Matthijs Muijen
- Dr Aideen O'Halloran*
- Dr Jean O'Hara
- Dr Victoria Osman-Hicks
- Michael Parsonage
- Dr Brian Parsons
- Terry Prior
- Dr Abdul Raouf
- Dr Helen Rayner
- Professor Geraint Rees
- Dr Howard Ryland*
- Valerie Samuel
- Geoff Shepherd
- Professor Alan Simpson
- Sara Smithson*
- Genevieve Smyth*
- Professor David Sowden
- Dr Phil Steadman*
- Dr Geraldine Strathdee*
- Professor Chris Thompson
- Professor Graham Thornicroft
- Dr Matthew Tovey
- Josie Turner
- Dr James Warner
- Professor Jonathan Warren
- Professor Sir Simon Wessely
- Dr Zoe Wyrko
- Dr Allan Young

Annex B: Key data sources, data quality and modelling assumptions

Below is a detailed diagram representing the flow paths used for the CfWI's psychiatry system dynamics model. The data, sources and assumptions used to define each part are included in Table 7.

Figure 17: Detailed overview of psychiatry supply system dynamics

Supply modelling: see Table 7 for an explanation of the numbered variables.



Source: CfWI modelling team (2013b)

Table 7: HST and psychiatry workforce key data sources, data quality, and modelling assumptions

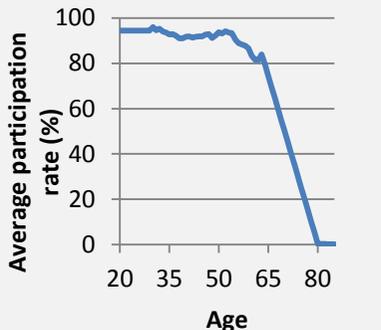
ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption
1	Intake to higher specialty training	Low ⁸	RCPsych recruitment statistics 2013, 2014	Assumed the average of 2013 and 2014 recruitment is reflective of current trends	2013 – 293 2014 – 299 Average and modelled – 296
2	Time taken to complete higher specialty training	Very high	Statistics provided by the RCPsych via e-mail correspondence. Available on request	Direct mapping of values as provided by the RCPsych. Remains at the same level throughout the projection period.	Across all psychiatry specialties roughly 76 per cent of HST doctors in training will complete training in 3 years, 12 per cent will complete in four years and the remaining 12 per cent will complete in five years. These values represent an average profile across all specialties weighted by size of specialty at

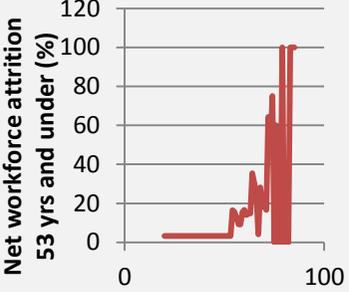
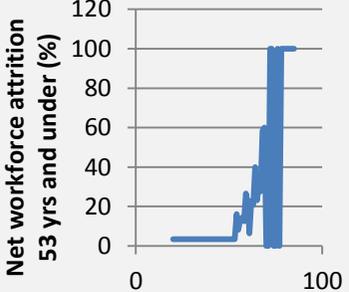
⁷ VH= Very high; H=high; m=medium; L=low

⁸ For intake to higher specialty training, due to uncertainty surrounding the likely trend moving forward, the CfWI has included three separate recruitment assumptions.

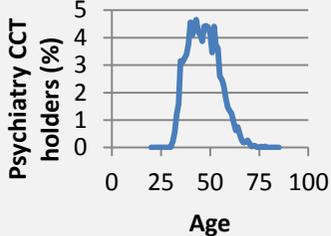
ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption														
					2012. Actual system dynamics (SD) model used six individual profiles for each specialty.														
3	Initial number of doctors in higher specialty training	Medium	Assumption based on following data sources: Statistics provided by RCPsych via email correspondence HEE Training Stocktake.	The initial number of doctors in higher specialty training is taken from the 2013 HEE stocktake of all trainees and assumed to be roughly 1,244 across all specialties in 2012. These are proportioned across different years in training using the delay rates above. The number of doctors in each specialty at the start of the	<table border="1"> <tr> <td>Psychiatry of learning disability</td> <td>76</td> </tr> <tr> <td>General adult psychiatry</td> <td>603</td> </tr> <tr> <td>Child and adolescent psychiatry</td> <td>220</td> </tr> <tr> <td>Forensic psychiatry</td> <td>112</td> </tr> <tr> <td>Medical psychotherapy</td> <td>44</td> </tr> <tr> <td>Old age psychiatry</td> <td>189</td> </tr> <tr> <td>TOTAL</td> <td>1,244</td> </tr> </table>	Psychiatry of learning disability	76	General adult psychiatry	603	Child and adolescent psychiatry	220	Forensic psychiatry	112	Medical psychotherapy	44	Old age psychiatry	189	TOTAL	1,244
Psychiatry of learning disability	76																		
General adult psychiatry	603																		
Child and adolescent psychiatry	220																		
Forensic psychiatry	112																		
Medical psychotherapy	44																		
Old age psychiatry	189																		
TOTAL	1,244																		

ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption
				simulation (2012) are listed in the right-hand column.	
4	Attrition from training	High	No specific data was available to the CfWI at the time of modelling.	CfWI estimate	1 per cent loss per year of training
5	Percentage of doctors that leave at some point after CCT qualification but prior to joining psychiatry workforce	Low	No specific data was available to the CfWI at the time of modelling.	CfWI estimate	5 per cent loss
6	Age profile of newly accredited psychiatrist CCT holders	Medium	No psychiatry specific data available at time of modelling. Assumption of comparability to alternative source.	Age profile set to match that of HST completers as calculated for all consultant specialties by CfWI medical psychiatrist model.	

ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption
7	Fully trained psychiatrist participation rate	Very high	NHS HSCIC data set (2014)	Direct mapping of past five-year average participation rate by age for each psychiatry specialty.	 <p>Graph represents average participation rate across all specialties weighted by size of specialty at 2012. Actual SD model used 12 individual participation rate profiles. Two (one for each gender) for each specialty.</p>

ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption
8	Fully trained psychiatrist net attrition	Medium	NHS HSCIC data set (2014)	Net attrition below 53 years set to average percentage of net change offset by new joiners. Net attrition over 53 years set by individual age to net change by age. Five year averages used.	<p data-bbox="1653 427 1720 451">Men</p>  <p data-bbox="1637 842 1736 866">Women</p> 

ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption												
9	Initial number of fully trained psychiatrists in workforce	Very high	NHS HSCIC data set (2014)	Direct mapping from data set of consultant numbers for each specialty.	<table border="0"> <tr> <td>General adult psychiatry</td> <td>2,422</td> </tr> <tr> <td>Old age psychiatry</td> <td>653</td> </tr> <tr> <td>Child and adolescent psychiatry</td> <td>752</td> </tr> <tr> <td>Forensic psychiatry</td> <td>309</td> </tr> <tr> <td>Learning disability psychiatry</td> <td>265</td> </tr> <tr> <td>Medical psychotherapy</td> <td>77</td> </tr> </table>	General adult psychiatry	2,422	Old age psychiatry	653	Child and adolescent psychiatry	752	Forensic psychiatry	309	Learning disability psychiatry	265	Medical psychotherapy	77
General adult psychiatry	2,422																
Old age psychiatry	653																
Child and adolescent psychiatry	752																
Forensic psychiatry	309																
Learning disability psychiatry	265																
Medical psychotherapy	77																

ID	Model element/ variable	Data confidence rating ⁷	Source of data/assumption	Validation	Data/assumption
10	Initial age profile of fully trained psychiatrist workforce	Very high	NHS HSCIC data set (2014)	Direct mapping from data set of consultant ages for each specialty at 2012.	 <p data-bbox="1487 716 1881 925">Graph represents average age profile for all specialties at 2012. Actual SD model used 12 individual age profiles. Two (one for each gender) for each specialty.</p>

Demand modelling data, validation and assumptions

ID	Model element/variable	Data confidence rating	Source of data/assumption	Validation	Data/assumption
11	HES Outpatient statistics 2011	Very high	Used as one of three activity data sets to weight population growth's impact on demand by age and gender of patient	Direct mapping	Details available on request
12	HES inpatient statistics 2011	Very high	Used as one of three activity data sets to weight population growth's impact on demand by age and gender of patient	Direct mapping	Details available on request
13	MH Minimum Data Set 2011	Very high	Used as one of three activity data sets to weight population growth's impact on demand by age and gender of patient	Direct mapping	Details available on request
14	ONS 2010 based	Very high	Used as a prediction for population growth	Direct mapping	Details available on request

ID	Model element/variable	Data confidence rating	Source of data/assumption	Validation	Data/assumption
	population forecast				
15	Assumed yearly increase in productivity	Low	ONS Public Service Productivity Estimates: Healthcare, 2010	Direct mapping	0.4 per cent
16	CfWI Delphi values	See reference (CfWI, 2014)	See reference (CfWI, 2014)		

Further details concerning how we used Delphi questions to calculate current and future demand are published in the *Psychiatrist in-depth review: technical report* (CfWI, 2014)

References

- Allen R. and Butler R.** (2001). *Trainees' attitudes to single and dual training in old age psychiatry* [online]. *Psychiatry Bulletin*, 25, 471-2. Available at: pb.rcpsych.org/content/25/12/471.abstract?ijkey=4030a41eb823028be3c9d83a38a6efd1c959a67a&keytype2=tf_ipsecsha [Accessed September 2013].
- Amanatidou, E., Butter, M., Carabias, V., Könnölä, T., Leis, M., Saritas, O., Schaper-Rinkel, P., van Rij, V.,** (2012) *On concepts and methods in horizon scanning: Lessons from initiating policy dialogues on emerging issues*. *Science and Public Policy*, 39 (2): 208-221.
- Birch S., Kephart G., Murphy G.T., O'Brien-Pallas L., Alder R. and Mackenzie A.** (2011). *Health Human Resources Planning and the Production of Health: Development of an Extended Analytical Framework for Needs-Based Health Human Resources Planning* [online]. *Canadian Public Policy*, 33:S1-S16. Available at: ccoms-imsuerj.org.br/capfts/2011/uploads/Health_Human_Resources_Planning_and_the_Production.14.pdf [Accessed December 2013].
- Brockington, I., F., Mumford, D., B.,** (2002) Recruitment into psychiatry. [online] *Br J Psychiatry*, 180, 307-12. Available at: <http://bjp.rcpsych.org/content/180/4/307.long> [Accessed September 2013].
- Carr A., Sullivan E., Buggle S. and Hamilton P.** (2011). *Specialty training at ST1 and CT1 in England* [online]. *BMJ*. Available at: careers.bmj.com/careers/advice/view-article.html?id=20005662 [Accessed July 2013].
- Care Quality Commission (CQC)** (2013). *Community mental health survey 2013* [online]. Available at: www.cqc.org.uk/public/publications/surveys/community-mental-health-survey-2013 [Accessed November 2013].
- Centre for Workforce Intelligence (CfWI)** (2011a). *Child and Adolescent Psychiatry: CfWI medical fact sheet and summary sheet – August 2011* [online]. Available at: www.cfwi.org.uk/publications/child-and-adolescent-psychiatry-cfwi-medical-fact-sheet-and-summary-sheet-august-2011 [Accessed June 2013].
- Centre for Workforce Intelligence (CfWI)** (2011b). *Forensic Psychiatry: CfWI medical fact sheet and summary sheet – August 2011* [online]. Available at: <http://www.cfwi.org.uk/publications/forensic-psychiatry-cfwi-medical-fact-sheet-and-summary-sheet-august-2011> [Accessed June 2013].
- Centre for Workforce Intelligence (CfWI)** (2011c). *General (Adult) Psychiatry: CfWI medical fact sheet and summary sheet – August 2011* [online]. Available at: www.cfwi.org.uk/publications/general-psychiatry-cfwi-medical-fact-sheet-and-summary-sheet-august-2011 [Accessed June 2013].
- Centre for Workforce Intelligence (CfWI)** (2011d). *Medical Psychotherapy: CfWI medical fact sheet and summary sheet – August 2011* [online]. Available at: www.cfwi.org.uk/publications/medical-psychotherapy-cfwi-medical-fact-sheet-and-summary-sheet-august-2011 [Accessed June 2013].
- Centre for Workforce Intelligence (CfWI)** (2011e). *Psychiatry of Learning Disability: CfWI medical fact sheet and summary sheet – August 2011* [online]. Available at: www.cfwi.org.uk/publications/psychiatry-of-learning-disability-cfwi-medical-fact-sheet-and-summary-sheet-august-2011 [Accessed June 2013].

Centre for Workforce Intelligence (CfWI) (2011f). *Psychiatry of Old Age: CfWI medical fact sheet and summary sheet – August 2011* [online]. Available at: www.cfwi.org.uk/publications/psychiatry-of-old-age-cfwi-medical-fact-sheet-and-summary-sheet-august-2011 [Accessed June 2013].

Centre for Workforce Intelligence (CfWI) (2013a). *Improving workforce planning for the psychological therapies workforce* [online]. Available at: www.cfwi.org.uk/publications/improving-workforce-planning-for-the-psychological-therapies-workforce [Accessed June 2013].

Centre for Workforce Intelligence (CfWI) (2013b). *CfWI psychiatrist workforce system dynamics model for England*. Unpublished.

Centre for Workforce Intelligence (CfWI) (2013c). *Psychiatry online Delphi panel exercise*. Unpublished.

Centre for Workforce Intelligence (CfWI) (2014) *Technical report: Psychiatrist in-depth review*. To be published.

Christiana J. M., Gilman S. E., Guardino M., Mickelson K., Morselli P. L., Olsson M. and Kessler R.C. (2000). *Duration between onset and time of obtaining initial treatment among people with anxiety and mood disorders: an international survey of members of mental health patient advocate groups* [online]. *Psychological Medicine*, 30, 693 – 703. Available at: www.thebalancedmind.org/sites/default/files/christiana.pdf [Accessed July 2013].

Department of Health (DH) (2011). *No health without mental health: A cross-government mental health outcomes strategy for people of all ages* [online]. Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/213761/dh_124058.pdf [Accessed August 2013].

Department of Health (DH) (2012a). *Exposition book 2011-2012* [online]. Available at: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_124949 [Accessed October 2013].

Department of Health (DH) (2012b). *Investment in mental health in 2011 to 2012: working age adults and older adults* [online]. Available at: www.gov.uk/government/publications/investment-in-mental-health-in-2011-to-2012-working-age-adults-and-older-adults [Accessed July 2013].

Department of Health (DH) (2013a). *Mental Health Payment by Results Guidance for 2013-14* [online]. Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/214907/Mental-Health-PbR-Guidance-for-2013-14.pdf#page=4 [Accessed August 2013].

Department of Health (DH) (2013b). *Berwick review into patient safety* [online]. Available at: www.gov.uk/government/publications/berwick-review-into-patient-safety [Accessed October 2013].

Department of Health (DH) (2014). *Closing the Gap: Priorities for essential change in mental health* [online]. Available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/273649/Closing_the_gap.pdf [Accessed January 2014].

Disability Rights Commission (DRC) (2006). *Equal treatment: Closing the Gap – A formal investigation into physical health inequalities experienced by people with learning disabilities and/or mental health problems* [online]. Available at: disability-studies.leeds.ac.uk/files/library/DRC-Health-FI-main.pdf [Accessed September 2013].

Every Disabled Child Matters (EDCM) / Council for Disabled Children (2009). *Disabled children and health* [online]. Available at: www.edcm.org.uk/media/8101/edcm_disabled_children_and_health.pdf [Accessed September 2013].

Ford, T., Hamilton, H., Meltzer, H., Goodman, R., (2007) *Child mental health is everybody's business: The prevalence of contact with public sector services by type of disorder among British school children in a three-year period*. *Child and Adolescent Mental Health*, 12, 1, 13-20. Available at: www.onlinelibrary.wiley.com/doi/10.1111/j.1475-3588.2006.00414.x/abstract [Accessed Jan 2014].

Foreman, D., M., Hanna, M. (2000). *How long can a waiting list be? The impact of waiting time on intention to attend child and adolescent psychiatric clinics* [online]. *Psychiatric Bulletin*, 24, 211-213. Available at: pb.rcpsych.org/content/24/6/211.short [Accessed July 2013].

Fraher, E., Knapton, A. (2010) *Migration Patterns of the Recently Trained Medical Workforce*, NHS Workforce Review Team.

Francis, R. (2013). *The Mid Staffordshire NHS Foundation Trust. Public Inquiry* [online]. Available at: www.midstaffpublicinquiry.com/report [Accessed July 2013].

General Medical Council (GMC) (2012). *Annual Specialty Report 2010-2011* [online]. Available at: http://www.gmc-uk.org/Annual_report_2012.pdf_52782803.pdf [Accessed July 2014].

General Medical Council (GMC) (2013) *Specialist registration statistics. CCT statistics 2013* [online]. Available at: http://www.gmc-uk.org/SAT_statistics__CCT_2013__DC5721.pdf_56360756.pdf [Accessed August 2014].

Goldacre M.J., Fazel S., Smith F. and Lambert, T. (2013). *Choice and rejection of psychiatry as a career: surveys of UK medical graduates from 1974 to 2009*. *The British Journal of Psychiatry*, 202, 228-234.

Green H., McGinnity A., Meltzer H., Ford T. and Goodman R. (2005). *Mental health of children and young people in Great Britain, 2004* [online]. London: Palgrave. Available at: www.hscic.gov.uk/pubs/mentalhealth04 [Accessed May 2013].

Greenaway, D. (2013). *Shape of Training. Securing the future of excellent patient care* [online]. The General Medical Council. Available at: www.shapeoftraining.co.uk/static/documents/content/Shape_of_training_FINAL_Report.pdf_53977887.pdf [Accessed October 2013].

Health Education England (HEE) (2013a). *HEE deanery stocktake data April 2013*. Unpublished. [Accessed April 2013].

Health Education England (HEE) (2013b). *Education and Training update* [online]. NHS Employers. Available at: www.nhsemployers.org/SiteCollectionDocuments/Paper%205%20-%20Education%20and%20Training%20update.pdf [Accessed September 2013].

Health and Social Care Information Centre (2012a), *Hospital Episode Statistics (HES). HES Admissions Data 1998-2012* [online]. Available at: www.hscic.gov.uk/article/2021/Website-Search?productid=13264&q=hospital+episode+statistics&sort=Relevance&size=10&page=1&area=both#top [Accessed Sept 2013].

Health and Social Care Information Centre (HSCIC) (2012b). *Mental Health Minimum Data Set* [online]. Available at: www.hscic.gov.uk/mhmds [Accessed May 2013].

Health and Social Care Information Centre (HSCIC) (2012c). *NHS Hospital and Community Health Service (HCHS) Workforce Statistics in England, Medical and Dental staff – 2002-2012, as at 30 September* [online]. Available at: www.hscic.gov.uk/article/2021/Website-Search?productid=11217&q=medical+and+dental&sort=Relevance&size=10&page=1&area=both#top [Accessed May 2013].

Health and Social Care Information Centre (HSCIC) (2014). *NHS Hospital and Community Health Service (HCHS) Workforce Statistics in England, Medical and Dental staff – 2003-2013, as at 30 September* [online]. Available at: <http://www.hscic.gov.uk/article/2021/Website-Search?productid=14384&q=medical+and+dental&sort=Relevance&size=10&page=1&area=both#top> [Accessed April 2014].

Health Economics Research Group (HERG) Brunel University, Office of Health Economics (OHE), RAND Europe (2008). *Medical Research: What's it worth? Estimating the economic benefits from medical research in the UK* [online]. London: UK Evaluation Forum; 2008. Available at: www.wellcome.ac.uk/stellent/groups/corporatesite/@sitestudioobjects/documents/web_document/wtx052110.pdf [Accessed January 2013].

Joint Commissioning Panel for Mental Health (2012). *Guidance for commissioners of liaison mental health services to acute hospitals, Volume two: practical mental health commissioning* [online]. Available at: www.rcpsych.ac.uk/pdf/JCP-MH%20liaison%20%28march%202012%29.pdf [Accessed August 2013].

Joint Commissioning Panel for Mental Health (2013). *Guidance for commissioning public mental health services* [online]. Available at: www.jcpmh.info/resource/guidance-for-commissioning-public-mental-health-services/ [Accessed May 2013].

Kim-Cohen J., Caspi A., Moffitt T. E., Harrington H., Milne B.J. and Poulton, R. (2003). *Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort*. Arch Gen Psychiatry. 60(7):709-17. Available at: www.ncbi.nlm.nih.gov/pubmed/12860775 [Accessed June 2013].

Kelley, T., A., Brown, J., Carney, S., (2013). *Foundation Programme psychiatry placement and doctors' decision to pursue a career in psychiatry*. [online] The Psychiatrist, 37, 30-32. Available at: <http://pb.rcpsych.org/content/37/1/30.full> [Accessed December 2013].

Kessler, R., C., Berglund, P., Demler, O., Jin, R., Merikangas K., R., Walters, E., E., (2005) *Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication*. JAMA Psychiatry, 62, 6, 593-602. Available at: www.archpsyc.jamanetwork.com/article.aspx?articleid=208678 [Accessed Sept 2013].

Kessler, R., C., Angermeyer, M., Anthony, J., C., et al., (2007) *Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative*. *World of Psychiatry*, 6, 3, 168-176. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC2174588/ [Accessed Sept 2013].

Knapton, A. (2009). *The challenge of workforce planning*. Available at: www.cfwl.org.uk/resources/publications/the-challenge-of-workforce-planning/at_download/attachment1 [Accessed September 2013].

The King's Fund (2008). *Paying the price: The cost of mental health care in England to 2026* [online]. Available at: www.kingsfund.org.uk/sites/files/kf/Paying-the-Price-the-cost-of-mental-health-care-England-2026-McCrone-Dhanasiri-Patel-Knapp-Lawton-Smith-Kings-Fund-May-2008_0.pdf [Accessed May 2013].

The King's Fund (2012). *Payment by Results: How can payment systems help to deliver better care?* [online]. Available at: www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/payment-by-results-the-kings-fund-nov-2012.pdf [Accessed August 2013].

LSE (2012). *How mental illness loses out in the NHS*. Available at: cep.lse.ac.uk/pubs/download/special/cepsp26.pdf [Accessed January 2013].

McManus S., Meltzer H., Brugha T., Bebbington P. and Jenkins R. (2009). *Adult psychiatric morbidity in England, 2007. Results of a household survey* [online]. National Centre for Social Research and the Department of Health Sciences, University of Leicester. Available at: www.esds.ac.uk/doc/6379/mrdoc/pdf/6379research_report.pdf [Accessed June 2013].

Mental Health Foundation (2013). *Crossing boundaries: improving integrated care for people with mental health problems* [online]. Available at: www.mentalhealth.org.uk/content/site/publications/crossing-boundaries [Accessed September 2013].

NHS (2011). *Mental health services available* [online]. Available at: www.nhs.uk/NHSEngland/AboutNHSservices/mentalhealthservices/Pages/Availableservices.aspx [Accessed August 2013].

National Health Service Confederation (2011) *New service models in mental health: Emerging lessons*. Research digest. SDO Network. Available at: www.nhsconfed.org/Publications/Documents/SDO_Research_digest2_071211.pdf [Accessed Sept 2013].

NICE (2011). *Common mental health disorders: Identification and pathways to care* [online]. Available at: www.nice.org.uk/nicemedia/live/13476/54520/54520.pdf [Accessed September 2013].

Oakley C., White O. and Bailey S. (2009). *Dual training in psychiatry: where now?* [online]. *Psychiatric Bulletin*, 33, 231-234. Available at: pb.rcpsych.org/content/33/6/231.full#ref-2 [Accessed September 2013].

O'Donnell, C. A. (2000). *Variation in GP referral rates: what can we learn from the literature?* [online]. *Family Practice*, 17, 6, 462-471. Available at: fampra.oxfordjournals.org/content/17/6/462.full [Accessed July 2013].

Office for National Statistics (ONS) (2012). *Public Service Productivity Estimates: Healthcare, 2010* [online]. Available at: www.ons.gov.uk/ons/rel/psa/public-sector-productivity-estimates--healthcare/2010/art-healthcare.html [Accessed December 2013].

- Office for National Statistics (ONS)** (2013). *Annual Mid-year Population Estimates, 2011 and 2012* [online]. Available at: www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/mid-2011-and-mid-2012/stb---mid-2011---mid-2012-uk-population-estimates.html [Accessed September 2013].
- Porter, M. E.** (1985). *Competitive advantage: Creating and sustaining superior performance*. New York: The Free Press.
- Roberts J. H., Crosland A. and Fulton J.** (2013). *"I think this is maybe our Achilles heel..." exploring GPs' responses to young people presenting with emotional distress in general practice: a qualitative study* [online]. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC3773639/ [Accessed September 2013].
- The Royal College of Physicians,** (2013). *Future hospital: Caring for medical patients. Future Hospital Commission*. Available at <http://www.rcplondon.ac.uk/sites/default/files/future-hospital-commission-report.pdf> [Accessed online, November 2013].
- Royal College of Psychiatrists (RCPsych)** (2011). *Recruitment strategy 2011-2016* [online]. Available at: www.rcpsych.ac.uk/pdf/Recruitment%20Strategy%20-%2010092013.pdf [Accessed May 2013].
- Royal College of Psychiatrists (RCPsych)** (2013a). *National Recruitment to Core (CT1) and Specialty (ST4) Training in Psychiatry in England, Scotland and Wales - August 2013 Intake* [online]. Available at: www.rcpsych.ac.uk/traininpsychiatry/nationalrecruitment/august2013intake.aspx [Accessed November 2013].
- Royal College of Psychiatrists (RCPsych)** (2013b). *Second Round of the National Audit of Psychological Therapies for Anxiety and Depression (NAPT) National Report November 2013* [online]. London: Healthcare Quality Improvement Partnership. Available at: www.rcpsych.ac.uk/pdf/NAPT%20second%20round%20National%20report%20%20website%2028-11-13v3.pdf [Accessed December 2013].
- Royal College of Psychiatrists (RCPsych)** (2014). *National Recruitment to Core (CT1) and Specialty (ST4) Training in Psychiatry in England, 2012-14 Intake*. Received via e-mail from RCPsych.
- Scott, J.,** (1986) *What puts medical students off psychiatry?* [online] *Psychiatry Bull*, 10, 98-100. Available at: <http://pb.rcpsych.org/content/10/5/98.full.pdf+html> [Accessed September 2013].
- Shah, P., Brown, T., Eagles, J.,** (2011) *Choosing psychiatry: factors influencing career choice among foundation doctors in Scotland*. In *Teaching Psychiatry to Undergraduates* (eds T., Brown, J., Eagles), Chapter 21: pp.255-66. RCPsych Publications, 2011.
- Tooke, J.** (2008). *Aspiring to Excellence: Findings and Final Recommendations of the Independent Inquiry into Modernising Medical Careers* [online]. Available at: www.medschools.ac.uk/Publications/Pages/Aspiring-to-Excellence.aspx [Accessed September 2013].
- World Health Organisation (WHO)** (2004). *Disease and injury country estimates, Death and DALY estimates for 2004 by cause for WHO Member States* [online]. Available at: www.who.int/healthinfo/global_burden_disease/estimates_country/en/index.html [Accessed November 2013].

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