

In-depth review of the psychiatrist workforce

Technical report



November 2014

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1. Introduction

About this project and this Technical Report

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 are typically employed as consultants.

The review considered demand and supply for CCT holders in today's six psychiatry specialties:

- general (adult) psychiatry
- psychiatry of old age
- child and adolescent psychiatry
- forensic psychiatry
- psychiatry of learning disability
- 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 demand and supply for psychiatrists.

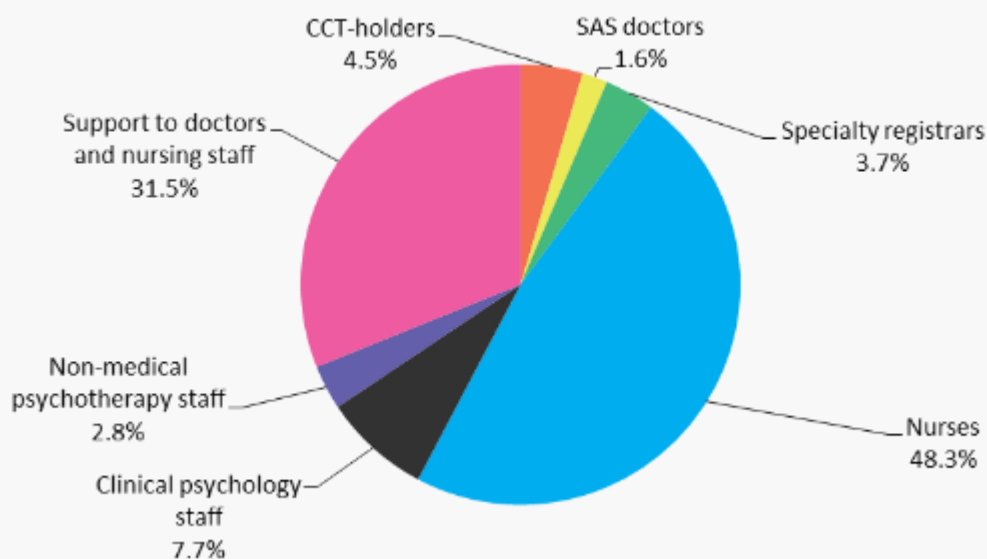
The CfWI presented the key findings from this review in the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014). This Technical Report provides additional information concerning the wider mental health workforce, psychiatry training, the psychiatrist workforce, together with the data and assumptions the CfWI used in its modelling of the psychiatry CCT holder workforce.

2. The wider mental health workforce

2.1 Overview

The current commission was to look specifically at the psychiatrist workforce in England. However, the CfWI recognises the importance of the entire mental health workforce (including mental health nurses, support staff, clinical psychology staff, psychotherapists, nurse prescribers, and peer support workers) in delivering the spectrum of NHS mental health services. In addition, a number of other professionals make a significant contribution, including GPs, pharmacists, occupational therapists, physiotherapists, dieticians, speech and language therapists, and arts therapists. This chapter provides supplementary data and analysis to Section 5 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014).

Figure 1: NHS clinical mental health workforce, England, 2013*



Source: HSCIC (2014) * Full-time equivalent

The latest Health and Social Care Information centre (HSCIC) annual workforce census (HSCIC, 2014) reported that psychiatrists currently comprise 9.8 per cent of the overall NHS mental health workforce on a full-time equivalent (FTE) basis (see Figure 1). The majority of these are consultants (4.5 per cent), while the remainder are SAS doctors (associate specialists, specialty doctors and staff grades) and psychiatry trainees, who work as specialty registrars, (1.6 per cent and 3.7 per cent, respectively). Since 2008, the proportion of the clinical mental health workforce who are consultant psychiatrists has increased from 3.7 per cent to 4.5 per cent. There has also been some increase in the proportion of psychiatry trainees since 2008, from 3.4 per cent to 3.7 per cent. However, the proportion of SAS doctors has remained the same over this period (HSCIC, 2014).

The largest workforce in mental health is the qualified nurse workforce (48 per cent), followed by 31 per cent of support staff, which includes nursing assistant practitioners, nursing assistants, healthcare assistants, support workers and nursery nurses. Clinical psychology staff 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 an important element of the wider mental health team.

As part of the current review, the CfWI was asked to understand the unique contribution of the consultant psychiatrist. Please see Section 5 for more details. To better understand the role of a psychiatrist, the CfWI also sought to understand the roles of the wider mental health team.

In the context of the changing role of the psychiatrist, the following section summarises the roles and supply of some non-medical members of the mental health team in order to understand how quality of care may be impacted should there be any change to the supply of psychiatrists.

2.2 Clinical psychologists

Clinical psychology staff comprises 7.7 per cent of the total NHS mental health workforce on a FTE basis (HSCIC, 2014) (see Figure 1). However, HSCIC data up until 2013 does not distinguish between different types of psychologists and provides information for the overall clinical psychology staff. This includes consultant therapists, managers, scientists, and technicians.

The CfWI recognised this in a previous review (CfWI, 2013a) on the psychological therapies workforce, which led to the agreement by the Workforce Information Review Group (WIRG)¹ to establish a subgroup to inform the coding and classification of the psychological therapies workforce.

The role of a clinical psychologist is to lessen psychological distress and to improve a person's psychological well-being. Clinical psychologists predominantly offer therapy to patients and service users of all ages, sometimes working with families. They also provide consultation and assessment services.

The skills of a clinical psychologist include:

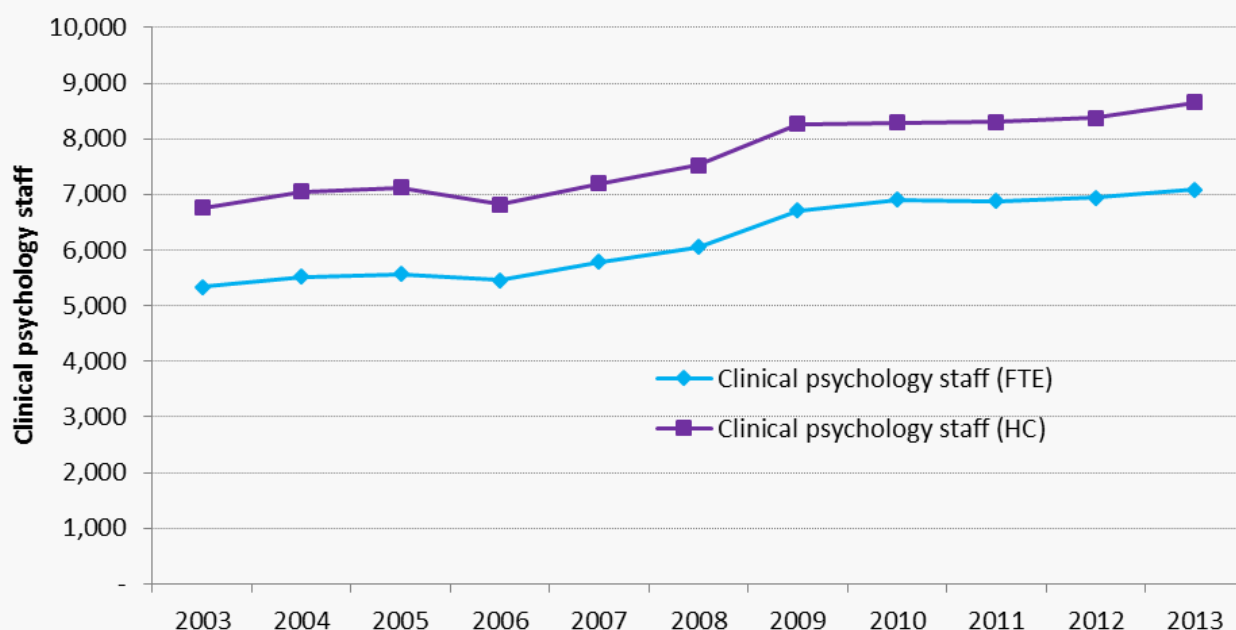
- assessment
- formulation
- therapeutic intervention
- evaluation and research
- communication (QAAHE, 2004).

Recent changes to mental health legislation also permit a non-medically qualified practitioner, known as the 'responsible clinician', to be responsible for the care of a patient (Mental Health Act, 2007). This is an opportunity to extend the skill set within the wider mental health team.

The number of clinical psychology staff has increased by 33 per cent over the past decade, from 5,331 to 7,088 (FTE basis) between 2003 and 2013. The largest increases occurred from 2006 to 2009. However, in recent years the number of clinical psychology staff has remained stable (see Figure 2). The latest HSCIC (2014) data reports that in clinical psychology there were 443 (FTE) consultant therapists, 489 (FTE) managers, 6,033 (FTE) scientists, and 123 (FTE) technicians in 2013.

¹ The WIRG is a specialist reference group for NHS workforce information comprising representatives from the NHS, the DH and other interested bodies. Its objective is to provide an expert forum making recommendations at a national level on the technical arrangements for the collection of workforce-related data from health service organisations and by the Health and Social Care Information Centre.

Figure 2: Historical trends of the clinical psychology staff workforce 2003-13 by FTE and HC



Source: HSCIC (2014)

2.3 Non-medical psychotherapists

Non-medical psychotherapy staff comprise 2.8 per cent of the total NHS mental health workforce (HSCIC, 2014) (see Figure 1). The HSCIC data provides figures for the total psychotherapy staff up until 2013. This includes consultant therapists, managers, IAPT therapists, and scientists. Psychotherapists work with people who need help to cope with stress, anxiety, emotional and relationship problems, somatisation disorders, phobias or addictive behaviours. Psychotherapists offer personalised treatment options and a range of talking therapies.

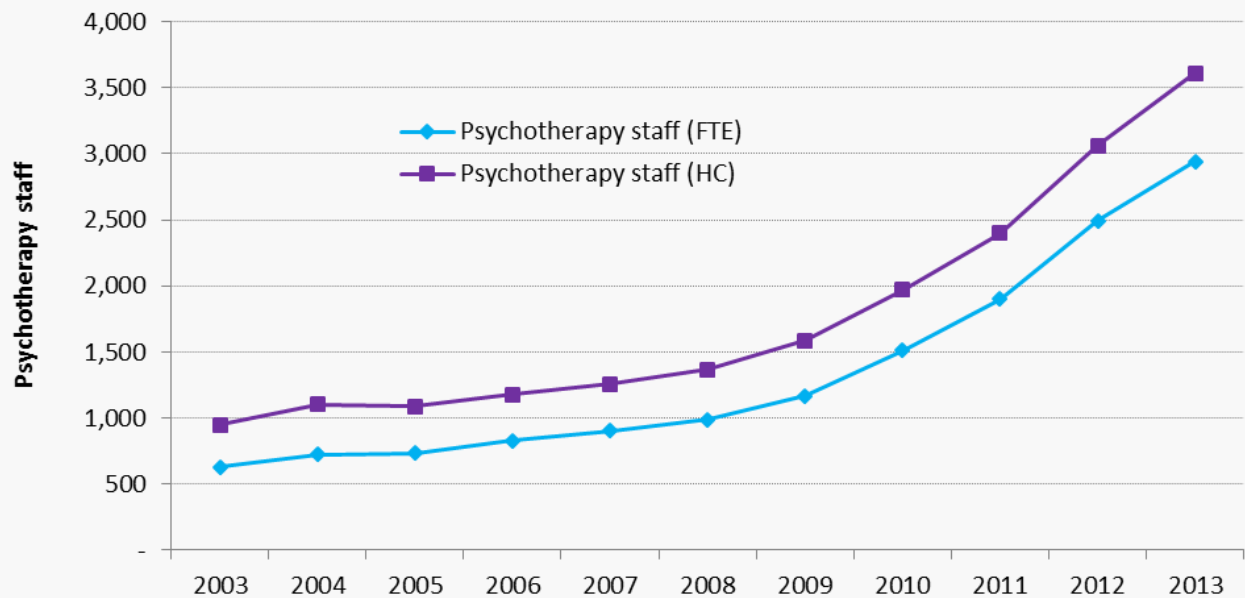
These therapies aim to help understand a client's thought processes, feelings and behaviour, to work through inner conflicts and seek new ways to cope with, and reduce, distress. Psychotherapists may work with couples, families, and groups of people, in addition to individual patients (BACP, 2010).

As illustrated in Figure 3, the number of non-medical psychotherapy staff has increased rapidly – up by 366 per cent from 631 to 2,944 (on a FTE basis) between 2003 and 2013.

The significant increase in the psychotherapist workforce since 2008 aligns with the implementation of the Improving Access to Psychological Therapies (IAPT) programme and an increase in IAPT workers (psychological well-being practitioners and high-intensity psychological practitioners) who did not have unique Electronic Staff Records (ESR) coding until 2013. The rapid increase in psychotherapists around this period could be attributed to the increase in the number of IAPT workers who have been coded as psychotherapists under the

ESR system prior to 2014. The latest HSCIC data published in 2014 shows that the psychotherapy staff consists of 57 (FTE) consultant therapists, 103 (FTE) managers, 1,435 (FTE) IAPT therapists, and 1,349 (FTE) scientists.

Figure 3: Historical trends of the psychotherapist workforce 2002-13 by FTE and HC



Source: HSCIC (2014)

2.4 Mental health nurses

Mental health nurses comprise 48.3 per cent of the total mental health workforce (HSCIC, 2014) (see Figure 1). They have three main functions:

- provision of mental healthcare
- management of existing mental and physical co-morbidities
- supporting recovery and monitoring and assessment of therapeutic interventions, including medication.

Mental health nurses provide healthcare to people of all ages, including in psychiatric hospitals, community health care centres, and secure residential units, patients' own homes and primary care settings. Mostly they work as part of multidisciplinary teams, liaising with psychiatrists, psychologists, talking therapists, GPs, other healthcare staff and social workers.

As illustrated in Figure 4, the number of qualified psychiatric nurses, defined as mental health nurses and intellectual disability nurses in this report, decreased by 5.5 per cent from 45,242 to 42,762 between 2003 and 2013 (HSCIC, 2014). The decline occurred between 2009 and 2013, whereas between the years 2003 and 2006 there was an increase in the number of qualified psychiatric nurses. This decline will have put additional pressure on the rest of the mental health team, including psychiatrists.

Despite the decrease in the total qualified nursing workforce, there has been a 32 per cent increase in the number of community nurses, from 11,924 to 15,694 (FTE) from 2003 to 2013 (HSCIC, 2014) (see Figure 4) possibly reflecting the shift of care to the community. The number of contacts by community nurses, defined

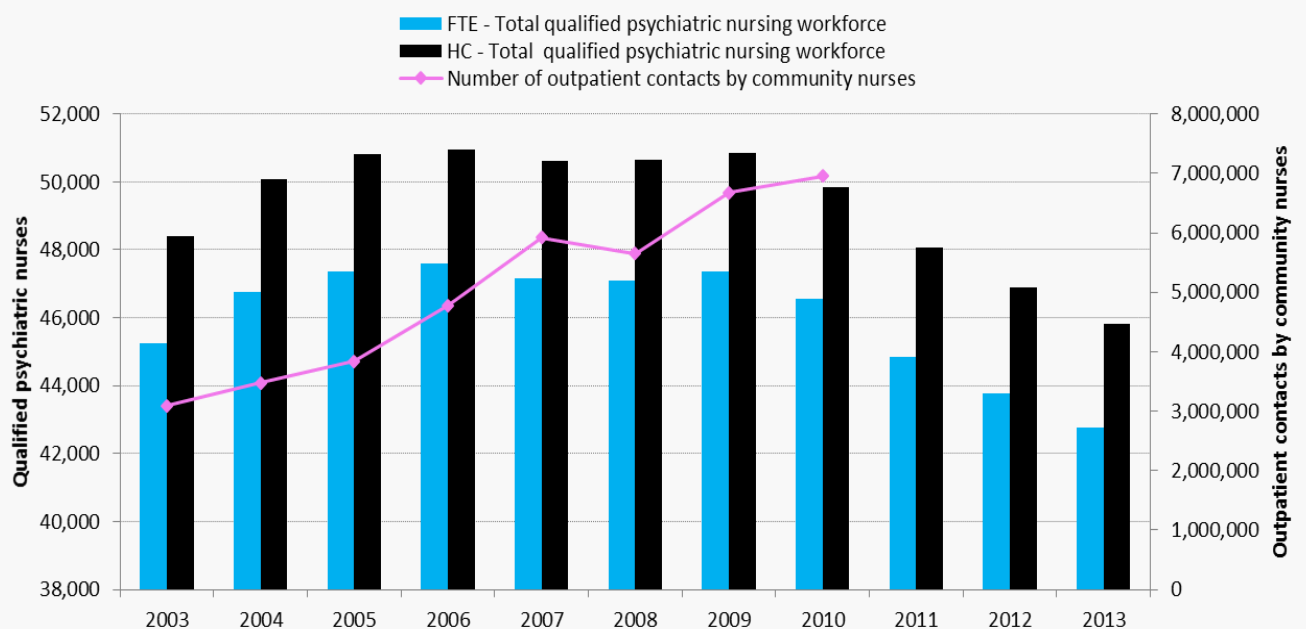
by the total number of face-to-face contacts per year, increased by 125 per cent, from 3,095,261 to 6,957,144 over an eight-year period from 2003 to 2010 (HSCIC, 2012a).

This means that the number of contacts per community nurse increased by 83 per cent over an eight-year period, with each community nurse having approximately 204 contacts in 2003 and 375 contacts in 2010 (HSCIC, 2014). Further productivity increases of this magnitude may not be achievable.

Additionally, the mental health nursing workforce has the highest rate of vacancies of all the nursing professions (CfWI, 2012a, b).

The CfWI suggests a review of trends in the mental health nurse workforce as the 2014 HSCIC data published in April shows a further decline, ahead of the next psychiatry review.

Figure 4: Historical trends of the qualified psychiatric nursing workforce and number of contacts 2003-13

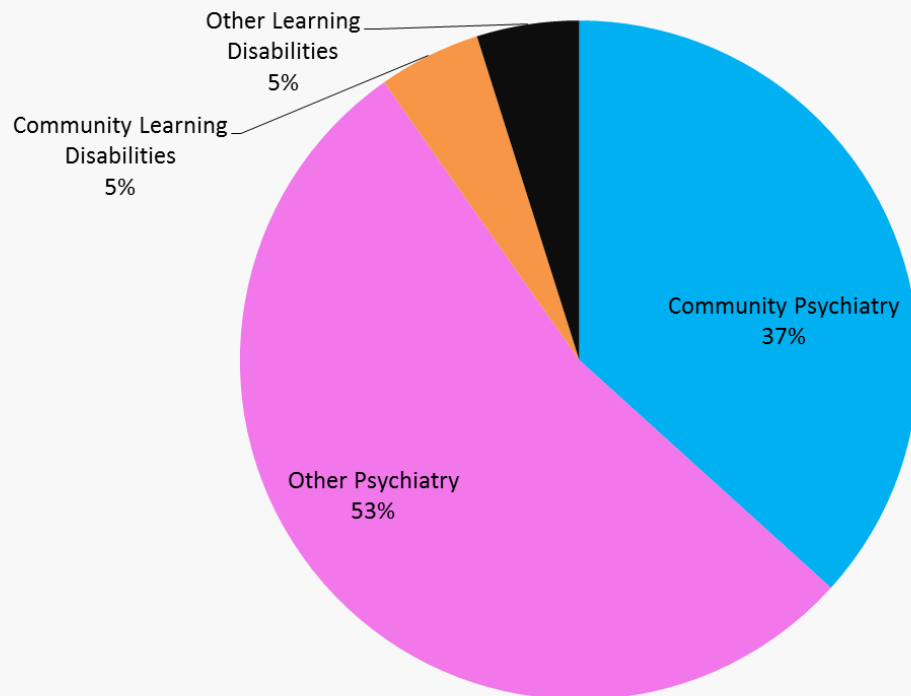


Source: HSCIC (2014), HSCIC (2012a, b)

Recent data from the HSCIC (2014) provides a breakdown of the current qualified mental health nursing workforce (see Figure 5). The largest proportion of the qualified mental health nursing workforce is categorised as being 'other psychiatry qualified nurses' (53 per cent). The second largest group in the qualified mental health nursing workforce is community psychiatric nurses (CPNs, 37 per cent), and the smallest two groups are community learning disabilities nurses (CLDNs, 5 per cent) and 'other learning disabilities' nurses (5 per cent).

For the data displayed in Figure 5, data categorised as 'other' applies to psychiatric or learning disabilities nurses who provide services in non-community settings. In the case of psychiatric nurses, this would be mainly in inpatient settings in a mental health trust or other similar facility (HSCIC, 2014).

Figure 5: The current qualified psychiatric nursing workforce 2013*



Source: HSCIC (2014) * Full-time equivalent

2.5 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, 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, 2012a, 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.

Services for children and adolescents are configured using a four-tier systems approach. There is a lack of consensus about the definitions and boundaries for each of the tiers (RCPsych, 2010a). However, the NHS describes the tiers as providing different levels of care according to the level of severity of mental health conditions (NHS, 2011). For example, tier one services are designed for children who present with milder forms of mental health conditions, such as mild anxiety and/or depression, while also providing assessments should referral to higher-tier services be appropriate. Tier one services are provided by a range of

professionals, such as teachers and school workers, not just mental health specialists. Tier two services cater for children who present with more severe mental health disorders, such as severe anxiety and/or depression. Tier three services are for children who present with probable chronic and complex mental health conditions, such as bipolar disorder and schizophrenia. Tier four services are provided for children who present with the most severe mental health disorders. Stakeholders highlighted concerns about whether the current tiered systems approach is appropriate and fit for purpose in the future NHS landscape. Long waiting lists for specialist psychiatric services were also raised as a particular concern, especially in child and adolescent psychiatry.

Forensic psychiatric services mainly provide specialist services to individuals who have a mental health difficulty and who are also in contact with the criminal justice system. They also provide services for those with mental disorders who may be considered a risk to themselves and to others. Pathways into forensic psychiatric services are: at time of arrest; during court proceedings; or in prison. Forensic services ensure that offenders are provided with the appropriate assessment, care and intervention according to their mental health needs, under secure conditions (low, medium and high). Most individuals (although not all) who use in-patient forensic psychiatric services are detained under mental health legislation. Increasingly, forensic psychiatrists provide community services as well as inpatient services. Intellectual disability services provide specialist services to individuals with an intellectual disability such as e.g. autism and dyslexia. Intellectual disability services are provided in the community, delivered through inpatient services under secure conditions (low, medium and high), and can come in the form of rehabilitation and step-down care with services offering both assessment and treatment.

Medical psychotherapy services are provided in a range of settings, usually for patients with complex comorbid needs. Medical psychotherapists also provide significant supervision and training opportunities for a range of staff groups.

2.6 Interfaces between psychiatrists and the wider medical workforce

Psychiatrists and primary care

Around 90 per cent of mental ill-health is currently managed in primary care settings (NICE, 2011). One of the reasons why only a minority of people with a mental health disorder receive any intervention, as indicated by the Adult Psychiatric Morbidity Survey (McManus et al., 2009), is poor psychiatric recognition both by the general population and by healthcare staff. Studies have shown GPs often feel ill-prepared to deal with mental health problems (Roberts et al., 2013). However, it is known that early access to assessment and treatment is associated with better outcomes (King's Fund, 2008). Indeed, intervention to address mental health problems arising in childhood and adolescence may reduce chronic mental health disorders in adults (Kim-Cohen, 2003). The current proposals to extend GP training include elements to address the capacity for early detection and intervention to help prevent the development of complex and chronic mental health disorders.

Liaison psychiatrists

Research has shown that mental health and physical health are closely interlinked, with just under a third of individuals with long-term physical health conditions also diagnosed with a co-morbid mental health condition, such as depression or anxiety disorders (Naylor et al., 2012). Additionally, there is research that shows 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 mostly work in hospital settings to bridge this gap, as well as to meet the mental health needs of those who are being treated with physical health conditions. A study conducted to characterise the key benefits of a liaison psychiatric service observed a reduction in the

number of inpatient bed stays in the acute sector and a reduction in readmissions, particularly among older adults (Centre for Mental Health, 2012). Although liaison psychiatric services are recognised as improving patient outcomes and reducing costs, liaison psychiatry provision remains patchy (JCP-MH, 2012, 2013). The new addition to the mental health strategy, *Closing the Gap: Priorities for essential change in mental health* (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.

Academic psychiatrists

Twenty seven per cent of the overall 'disease burden' in the UK is attributed to mental ill health, yet a decade ago only 5 per cent of total UK health research money was spent on mental health research (WHO, 2004). The role of academic psychiatrists is important in 'translational medicine' – bringing knowledge and understanding of disease processes and management of mental health conditions from bench-side to bedside. However, in the current economic context, academic training opportunities may be limited, as aspiring academic psychiatrists are required to take time out of clinical training for research work at the expense of NHS service provision.

Despite this, research into mental health offers 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).

In 2012, there were 3,167 FTE clinical academics (3,467 headcount) employed by the 34 UK universities with medical schools, a steady level since 2010. The FTE number of clinical academics remains 10.8 per cent lower than in 2000. Academic psychiatrists make up only 7.6 per cent of the total medical academic workforce (Medical Schools Council, 2013). There was a 33.3 per cent decrease in the number of academic psychiatrists from 2000-13 levels (FTE). Psychiatrists make up 11 per cent of the total medical workforce, so there is an **under-representation of psychiatrists in academia** relative to the size of the specialty.

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 students and trainees. This is important for raising the profile of psychiatry among medical students, and will help attract high-calibre trainees following from the foundation programme training.

3. The unique role of the consultant psychiatrist

This chapter provides supplementary research and evidence to Section 5.4 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014).

Mental healthcare and the role of the consultant psychiatrist have changed over the past few years. In view of the changing NHS landscape, changing patient expectations and the current economic climate, the CfWI worked with the RCPsych and a broad range of stakeholders in mental healthcare to establish the unique contribution of consultant psychiatrists to mental healthcare. Consultant psychiatrists add value to safe and effective patient care through their:

- medical knowledge and skills
- clinical diagnostic capability
- prescription of medication and treatment
- leadership of the mental health team
- risk management
- education and training (not only in the context of a population with mental health problems but also the whole population requiring healthcare).

This section is based on the standards of practice for psychiatrists as set out in *Good Psychiatric Practice* (RCPsych, 2009), *A Competency Based Curriculum for Specialist Training in Psychiatry* (RCPsych, 2010b), and *Safe Patients High Quality Services* (RCPsych, 2012) and further developed in conjunction with psychiatrists and other members of the mental health team.

Medical knowledge and skills

Psychiatrists are medical doctors and have extensive expertise in the assessment and management of patients with mental illness encompassing the comprehensive bio-psycho-social model. They bring their medical knowledge and skills to the management of illness. Psychiatrists provide a whole-person approach to care, drawing on their capabilities to care for a patient's physical and mental health needs.

Clinical diagnostic capability

Making the correct diagnosis frequently involves excluding other conditions (e.g. endocrine disorders, organic lesions) and only psychiatrists have the requisite skills, in the mental health team, to make such diagnoses. When psychiatrists make the diagnosis – particularly at an early stage – and implement treatment, they facilitate a timely recovery and can save the NHS money.

Prescription of medication and treatment

Psychiatrists have the knowledge and skills to prescribe medication across all domains and are not restricted to a limited formulary. This ensures that all prescribed medications can be evaluated, and the impact on the patient's mental and physical well-being understood and dealt with. It also means psychiatrists can make a judgment about all prescribed drugs and continue their prescription as appropriate.

Leadership of mental health teams

Psychiatrists have a key role to play in public mental health, working with patients and carers and leading teams to promote mental and physical well-being. The team looks to the psychiatrist to take the lead in

significant clinical and risk decisions. The NHS looks to doctors, including psychiatrists, to take a leadership role ensuring quality, safety and effective resource utilisation. Psychiatrists provide effective medical leadership to teams and they understand the context and wider system of the patient and the available services. They think strategically, facilitate decision making in teams, focus on outcomes, use resources efficiently, and ensure best evidence is used in clinical decision-making. Psychiatrists have a capacity to deal with uncertainty because of their broad and in-depth knowledge and understanding of mental disorders.

Managing team dynamics and conflicts in teams is a strength, which facilitates effective team working. Psychiatric training provides doctors with a very good understanding of the psychodynamic issues which can be at play in teams. The medical ethics perspective, which the psychiatrist is skilled in, ensures that clinical dilemmas and challenges can be formulated and understood within a theoretic framework, and thoughtful solutions agreed.

Psychiatrists provide this leadership on a daily basis in teams and in the wider organisation to deliver safe services and high-quality outcomes. Psychiatrists carry significant responsibility 24/7, and trainee psychiatrists undertake a wide variety of tasks that no other one discipline would be competent to do.

Risk management

Psychiatrists assess and manage risk to self and others and generally take a lead on this in clinical teams, and are able to take responsibility for decision-making. Other members of the team typically look to the psychiatrist for support in risk management. Psychiatrists are trained to take therapeutic risks in consultation with patients, carers and the team.

Psychiatrists are trained to deal with a wide variety of emergencies and crises, from acute medical emergencies to acute exacerbations of mental illness. This is well demonstrated by the duties undertaken by trainee doctors on call at night and weekends, when their duties are so broad-ranging that an on-call team would be required.

The range of on-call duties involves clinical judgment, decision-making and communication skills, including:

- assessing and managing acute situations involving risk to self and others
- assessing a patient for admission to hospital and completing the admission process
- prescribing medication for psychiatric emergency e.g. oculogyric crisis
- arranging transfer of patients to A&E for urgent treatment
- responding to patients' requests for discharge out of hours
- evaluation of a dehydrated patient on a ward
- assessment of a patient with a fever
- liaison with medical team regarding the transfer of an acutely ill patient
- dealing with a violent incident
- consultation with family and carers
- liaison with the police
- seclusion reviews.

Decisions to detain a person under mental health legislation are a significant deprivation of liberty and must be based on expert evidence by an appropriately qualified doctor.

Education and training

Psychiatrists play a key role in teaching psychiatric trainees, medical students, trainees in other specialties and other professionals. Psychiatrists are leaders in carrying out mental health research.

4. Psychiatry training

This chapter supports the analysis presented in Section 5 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014) and provides an overview of core and specialty psychiatry training including historical and current recruitment trends and geographical distribution of psychiatry trainees and consultant psychiatrists.

4.1 Overview of core and specialty psychiatry training

Overview

The Royal College of Psychiatrists (RCPsych) and Health Education England (HEE) are responsible for the arrangements for selection and appointment to the psychiatry training programmes via a national process that meets the General Medical Council (GMC) requirements for a reliable, valid and fair process. The RCPsych also provides support and guidance to deaneries throughout England, Scotland, Northern Ireland, and Wales.

The RCPsych Examinations Unit manages the college's written and clinical MRCPsych (Member of the Royal College of Psychiatrists) examinations, which form an integral part of the competence progression assessments in specialty training.

Current psychiatry training

Following foundation year 2 (F2) (see Figure 6), prospective psychiatrists need to apply to core training year one (CPT1) in psychiatry. Core training takes a minimum of three years. Upon completion of core training year three (CPT3), doctors in training are required to sit examinations to determine whether they can progress to the fourth year of training (ST4) which is the start of higher specialty training. At ST4, doctors in training currently choose the specialty – from general (adult) (liaison, substance misuse and rehabilitation), child and adolescent, forensic, old age, intellectual disability and medical psychotherapy – in which they hope eventually to be awarded their Certificate of Completion of Training (CCT).

Dual training

Dual training enables doctors in training to gain wider experience, enables greater flexibility for consultant posts and service needs, and is popular among trainees (Allen and Butler, 2001). Currently, dual training is approved in:

- general (adult) and old age psychiatry
- general (adult) psychiatry and medical psychotherapy
- forensic psychiatry and medical psychotherapy.

Around 9 per cent of NHS trusts in England have moved towards ageless services, where old age psychiatry services are provided by general (adult) psychiatrists.

Shape of Training review

The *Shape of Training* review (Greenaway et al., 2013), jointly commissioned by HEE, the Academy of Medical Royal Colleges (AoMRC), the GMC and others, proposes a number of reforms to the structure of postgraduate medical education and training in UK. These include the following:

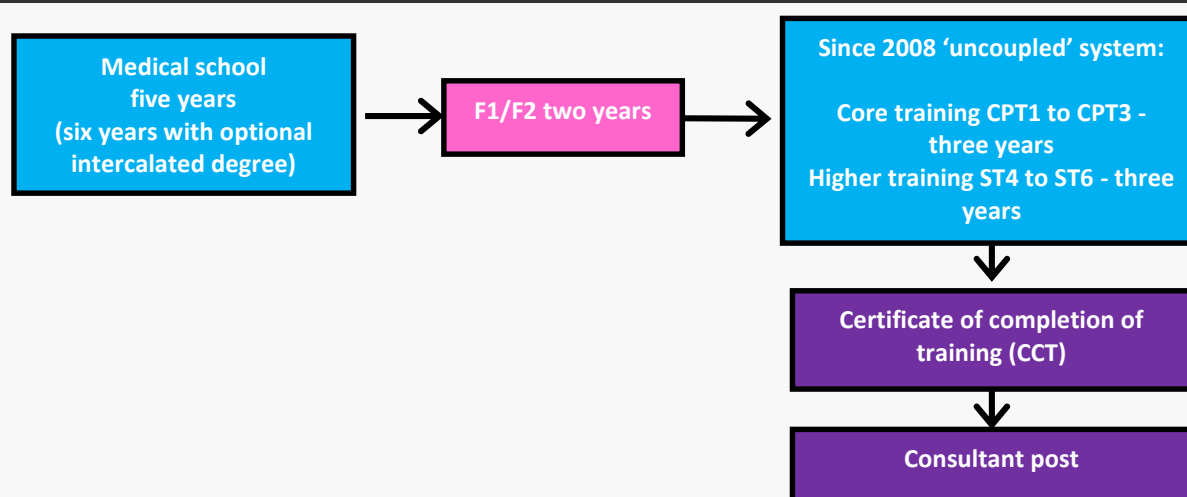
- doctors to enter broad-based specialty training
- some specialties or areas of practice to be grouped together, reducing their number
- these groupings to be characterised by patient care themes (such as women's health, child health and mental health).

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

Please note that the current psychiatry specialty training programme, as shown in Figure 6, was introduced in 2008 (Tooke, 2008). Therefore, the national recruitment training data that is available is limited to the past five years for CPT1, and the past two years for higher specialty training (HST) (RCPsych, 2014, HEE, 2013a).

Figure 6: 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 and intellectual disability psychiatry or medical psychotherapy, depending on the specialty chosen.



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

4.2 Trends in recruitment to psychiatry training

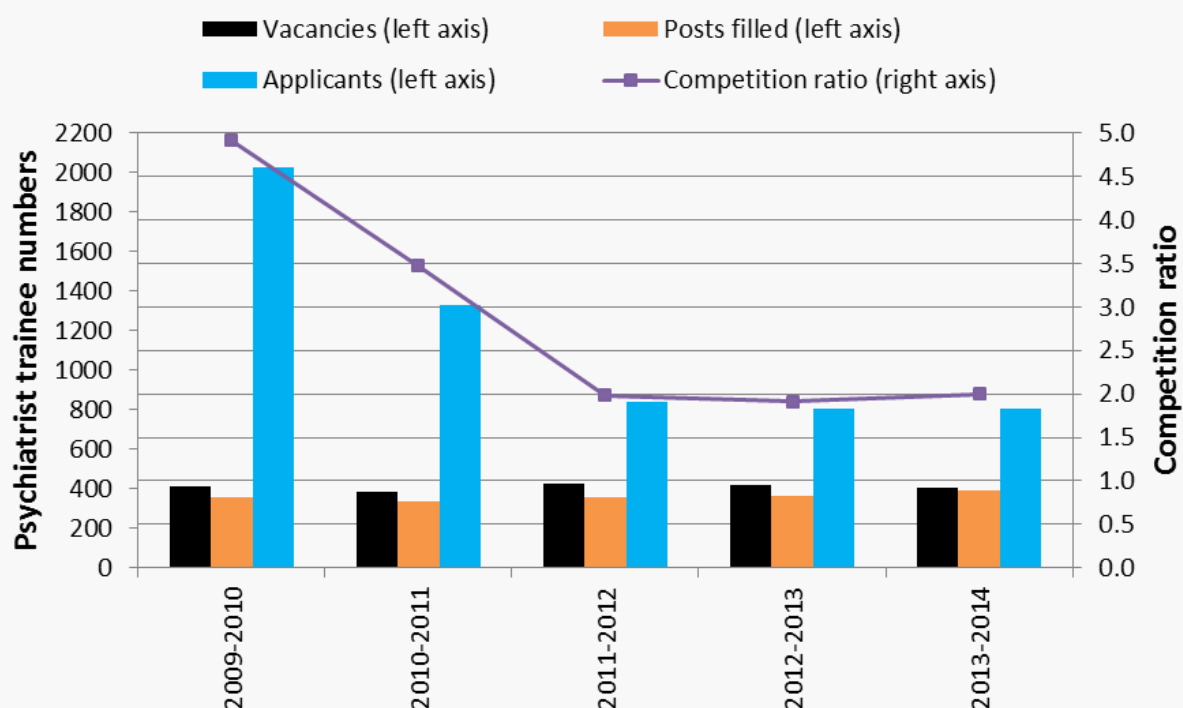
Overview

Recent data indicates improving recruitment into psychiatry training in England with fill rates at core training year one (CPT1) increasing from 87 per cent to 97 per cent between 2009 and 2013 (see Table 1 and Figure 7). Fill rates at HST fell from 82 per cent in 2012-13 to 80 per cent for ST4 in 2013-14 (RCPsych, 2014) (see Table 2). It is difficult to assess changes to historical fill rates and the impact of the Psychiatry Task force due to lack of historical HST data.

The number of core psychiatry training vacancies in England fell by 1.7 per cent from 2009 to 2014, while the number of applicants decreased by 60 per cent (RCPsych, 2014). As a result, the competition ratio – the average number of applicants who compete for each available training placement – fell from 4.9 to 2.0 for CPT1 (see Figure 7). It is difficult to comment on competition ratios for HST due to the limited data that is available for the total number of candidates. 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.

There is evidence to suggest that some doctors in training are leaving programmes during the first two years of core training (CPT1 and CPT2) (Mears et al., 2002, Carr et al., 2011). Vacancies at CPT2 are often due to trainees leaving in favour of another specialty (Carr et al., 2011), suggesting that psychiatry may not have been their first career choice, or that the specialty has not lived up to their expectations. This would indicate that effective selection, recruitment, and retention during core training are very important if progression rates from CPT3 to ST4 are to be improved.

Figure 7: Psychiatry postgraduate trainee recruitment into CPT1 in England, 2009-10 to 2013-14



Source: RCPsych (2014)

Data (RCPsych, 2014) 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 CPT3 (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' progression from CPT3 to ST4.

Latest recruitment data for 2012-14 suggests that recruitment and retention at ST4 increased to around 80 per cent fill rate, however this is difficult to assess due to lack of recruitment data prior to 2012.

Table 1: 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)

Recruitment data shows an increase by 5 per cent in the number of advertised posts at ST4 between 2012 and 2014 (see Table 2). While the number of advertised vacancies rose by 5 per cent in the two years to 2013-14, the number of accepted offers rose by only 2 per cent (six posts). The total fill rates at ST4 fell from 82 per cent in 2012-13 to 80 per cent in 2013-14. The CfWI does not have a sufficiently long time series to know whether this fluctuation in recruitment is a recent or longer-term phenomenon (see Table 2).

It is difficult to comment on competition ratios for HST due to the limited data that is available for the total number of candidates (see Table 3). 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 (see Table 2). Difficulty with recruitment in psychiatry is not a recent phenomenon, with reports on recruitment issues dating back to the 1970s (Scott, 1986, Brockington, 2002).

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.

Table 2: Recruitment numbers for higher specialty training (ST4) 2012 to 2014, 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 vacancies accepted 2012 - 2014
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: 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 psychotherapy	0	0	-	1	1	100%	-	-
Total	358	293	82%	375	299	80%	5%	2%

Source: RCPsych (2014)

Table 3: The number of candidates and competition ratios for higher specialty training (ST4) August 2013 and February 2014, England

Psychiatry specialty	Number of vacancies August 2013	Number of candidates August 2013	Competition ratio August 2013	Number of vacancies February 2014	Number of candidates February 2014	Competition ratio February 2014
General (adult) psychiatry	114	203	1.8	76	131	1.7
Old age psychiatry	34	65	1.9	20	17	0.9
Child and adolescent psychiatry	42	66	1.6	35	37	1.1
Forensic psychiatry	24	53	2.2	18	33	1.8
Learning disabilities	21	22	1.0	4	6	1.5
Medical psychotherapy	2	11	5.5	4	14	3.5
Dual: Psychotherapy and general (adult) psychiatry	1	3	3.0	4	14	3.5
Dual: Old age & General (adult) psychiatry	23	65	2.8	17	23	1.4
Dual: Forensic psychiatry and psychotherapy	1	6	6.0	-	-	-
Total	262	494	1.9	184	272	1.5

Source: RCPsych (2014)

4.3 Regional inequality in training numbers

The CfWI found considerable variation in the geographical distribution of psychiatrists in training. 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 population), with London and the Kent, Surrey and Sussex (KSS) regions having the most doctors in training per 100,000 (0.67 and 0.57 respectively) (HEE, 2013a). The average number of ST4 trainees per 100,000 population is 0.36.

As well as regional variations in the number of psychiatry ST4 doctors in training per capita, data from the HSCIC also suggests there are regional variations in the total number of consultants (on a FTE basis) per 100,000 population (HSCIC, 2013). The CfWI used regional population statistics obtained from the DH (2012a). The analysis shows that 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 number of consultant psychiatrists per 100,000 population (11.6), followed by the London LETBs: Health Education North West London (HENWL), Health Education North Central and East London (HENCEL) and Health

Education South London (HESL) with 10.7, 10.4 and 10.1 consultant psychiatrists per 100,000 population. The CfWI understands that some areas may need higher levels of psychiatry services than others, and therefore consultants per capita alone cannot be used to determine regional inequality.

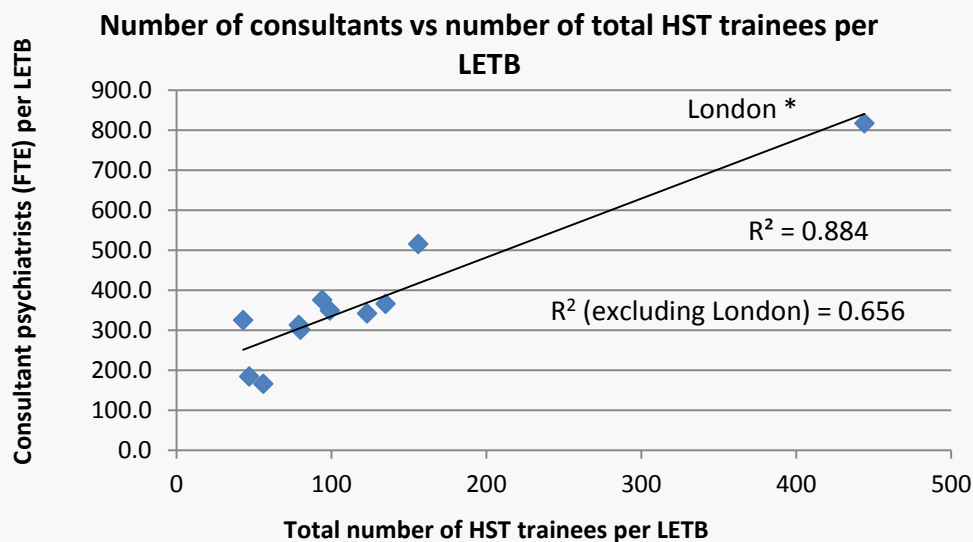
Research suggests that doctors generally stay where they train (Knapton, 2009, Fraher and Knapton, 2010, Goldacre et al. 2013a, Goldacre et al., 2013b). CfWI analysis confirms that there is a strong link ($R^2 = 0.884$, see Figure 8a) between doctors' place of training and place of work. This means areas with fewer trainees will potentially be at risk of having fewer consultant psychiatrists in the medium to long term. When adjusted for population per LETB area, the link between the place of study and place of work is still strong ($R^2 = 0.4626$) (see Figure 8b).

There is, therefore, a risk that the north of England (for instance) will remain an area with fewer consultants in the long term, impacting on the local population's access to the full range of psychiatric services. For example, additional research and discussions with key stakeholders found that in child and adolescent psychiatry, under-provision of services is reflected in longer waiting lists (in some cases in excess of one year) (Ford et al., 2007). Accessing specialist care is not always straightforward due to long waiting lists in excess of 8 weeks, so the demand for services may be artificially suppressed (Mind, 2013).

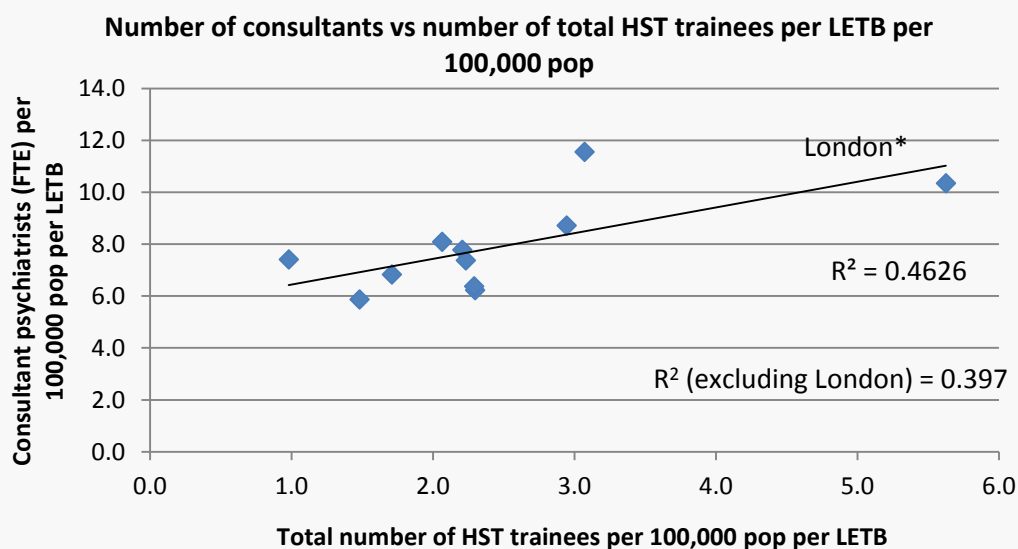
The CfWI regression model ($R^2 = 0.884$) accounts for 88 per cent of the variance. Excluding London, which is a clear outlier, the CfWI found a correlation of around 66 per cent between the distribution of consultants and HST psychiatry trainees per LETB. When adjusted for 100,000 population per LETB, the correlation is still significant ($R^2 = 0.4626$ and $R^2 = 0.397$ excluding London) (see Figure 8b).

Figure 8: Correlation between number of consultants versus number of total HST trainees per A: LETB and B: LETB per 100,000 population

a



b



Source: HEE (2013a), HSCIC (2013). * London includes North Central & East London, North West London and South London LETBs

5. The psychiatrist workforce

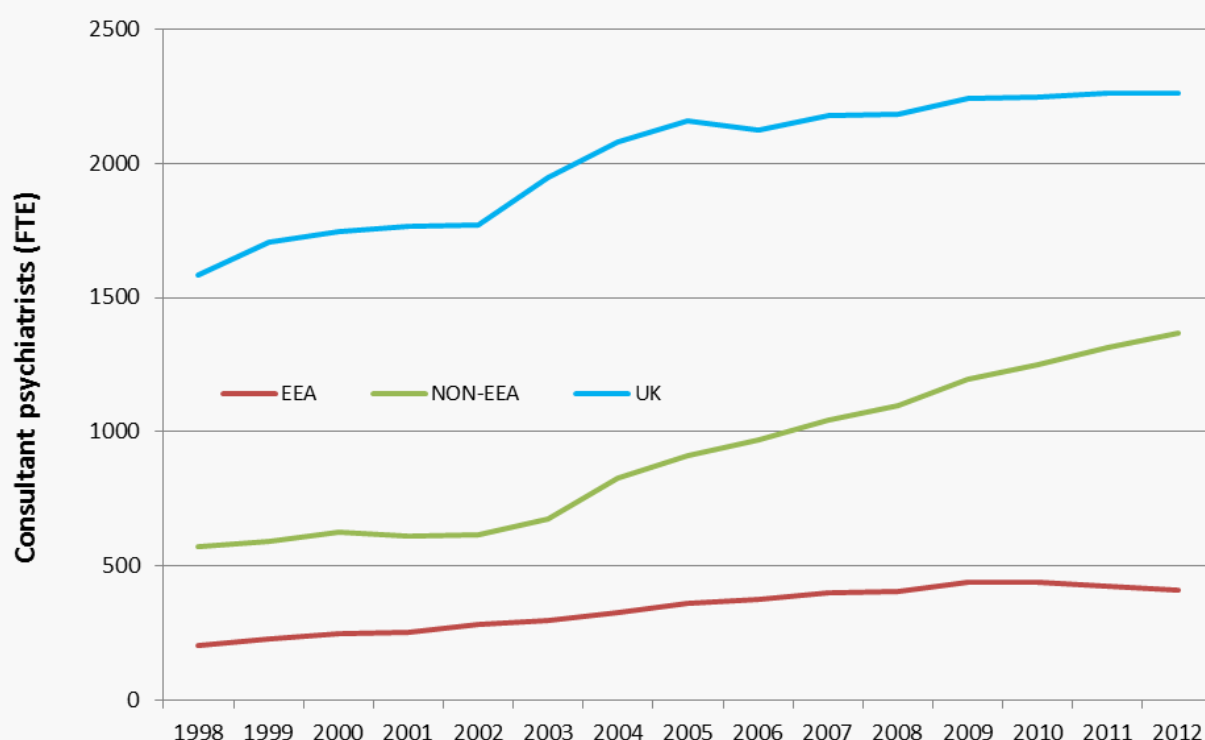
This section provides supplementary evidence and analysis about consultant growth by country of medical graduation, workforce gender balance, and participation rate, trends in retirement and leavers, and trends in activity and demand for psychiatrists. This chapter supports Section 5 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014).

5.1 Consultant growth by country of medical graduation

The pattern of recruitment into CPT1 and ST4 shows consistently low levels from UK medical schools (GMC, 2011). Meanwhile, recruitment from non-UK medical schools has nearly doubled since 1998 (GMC, 2011). Immigration to the UK has been a major demographic trend of the past 60 years and is reflected in the composition of the healthcare workforce (GMC, 2012). As seen in Figure 9, the number of consultant psychiatrists who had graduated from UK medical schools increased quite rapidly between 2002 and 2005 and then continued to rise more slowly in subsequent years till 2009 when the numbers plateaued. In comparison, the number of consultant psychiatrists who had graduated from EEA medical schools increased substantially between 2003 and 2005 and then continued to rise moderately. Meanwhile, the number of consultant psychiatrists working in England who had graduated from medical schools outside the EEA increased by 140 per cent, from 571 in 1998 to 1,370 in 2012. This means that in 2012 around a third of all consultant psychiatrists (34 per cent) had gained their primary medical qualification outside the EEA. The latest data of specialist registers from the General Medical Council (GMC, 2011) indicates that 61 per cent of doctors were UK graduates, 24 per cent were international medical graduates (non-EEA) and 15 per cent were EEA graduates. For 1 per cent of doctors data is not available.

While consultants in the psychiatry specialties (with the exception of old age psychiatry) were taken off the Migration Advisory Committee (MAC) shortage occupation list in 2013, it is evident from Figure 9 that the rise in consultant psychiatrists from non-EEA countries is disproportionately large in comparison to the rise in home-grown consultant psychiatrists. This has now become the one of the objectives of the Psychiatry Task Force: to increase the number of home-grown consultant psychiatrists working in England.

Figure 9: Psychiatry consultant numbers in England by country of medical qualification 1998 to 2012 (year)

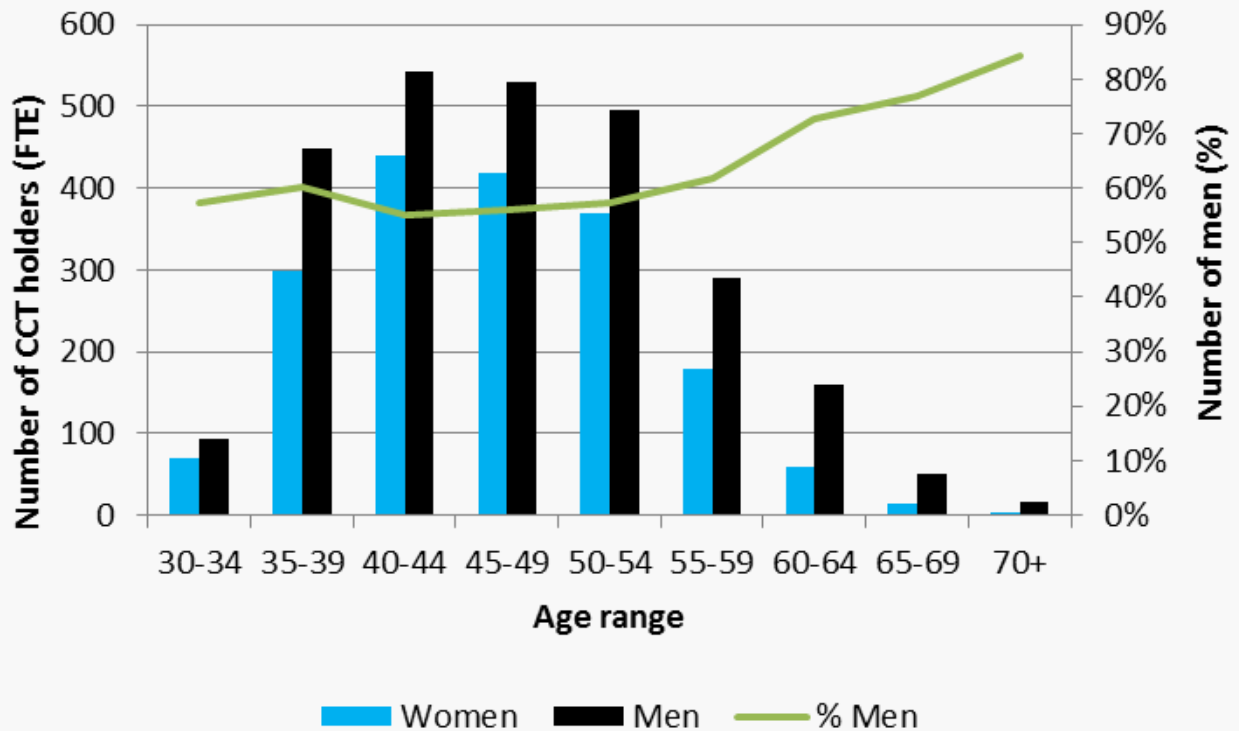


Source: HSCIC (2013)

5.2 Workforce gender balance

The consultant psychiatrist workforce is well balanced in terms of gender, with nearly equal proportions of women and men. In 2010, 54 per cent of students entering medical schools in England were women (GMC, 2011). The large increase in the proportion of women at medical school has contributed to an improved gender balance in psychiatry training. In 2013, 52 per cent (238) of entrants to core psychiatry training were women (HEE, 2013a). This is also increasingly reflected in the gender mix of consultant psychiatrists, of whom 41 per cent are now women (HSCIC, 2013). Figure 10, showing consultant psychiatrist workforce in England in 2012, highlights these changes, and shows the proportion of men in the workforce decreasing from 84 per cent in the 70 plus age range to 59 per cent overall.

Figure 10: Consultant psychiatrists in 2012 (FTE) by age band and gender



Source: HSCIC (2013)

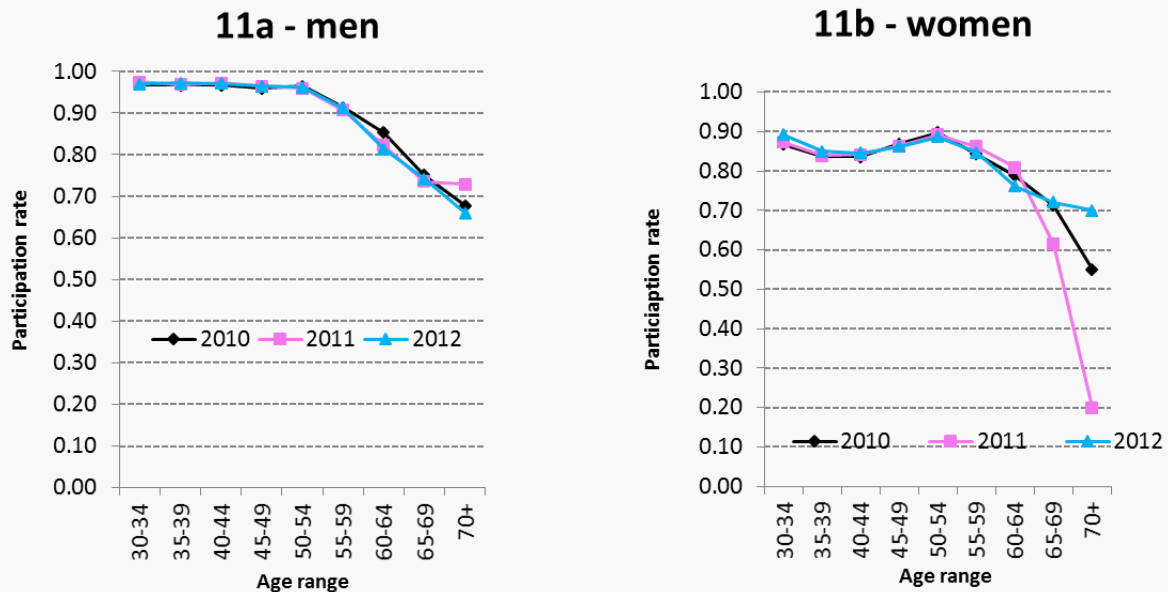
5.3 Participation rate

Overall trends in consultant psychiatrist participation rates remain steady irrespective of age and gender (HSCIC, 2013). 'Participation rate' means the extent to which the workforce works full or part time on average. It is an important factor in workforce planning due to the impact upon the service capacity of the workforce and thus the numbers which need to be trained.

Average participation rates for men were 0.95 (consistent from 2010 to 2012), whereas women had significantly lower participation rates on average: 0.86 (consistent across the same period) (HSCIC, 2013).

As illustrated in Figures 11a and 11b, on average men consultant psychiatrists have higher participation rates across all ages. However, the general trend across both genders is for younger consultant psychiatrists to have higher participation rates, which decline with age. Women consultant psychiatrists' participation rates decline during the 35-45 age range, with a noticeable peak in the 45-54 age range from 2010 to 2012 (HSCIC, 2013).

Figure 11a and 11b: Participation rates of men and women psychiatrists by age band, 2010-2012



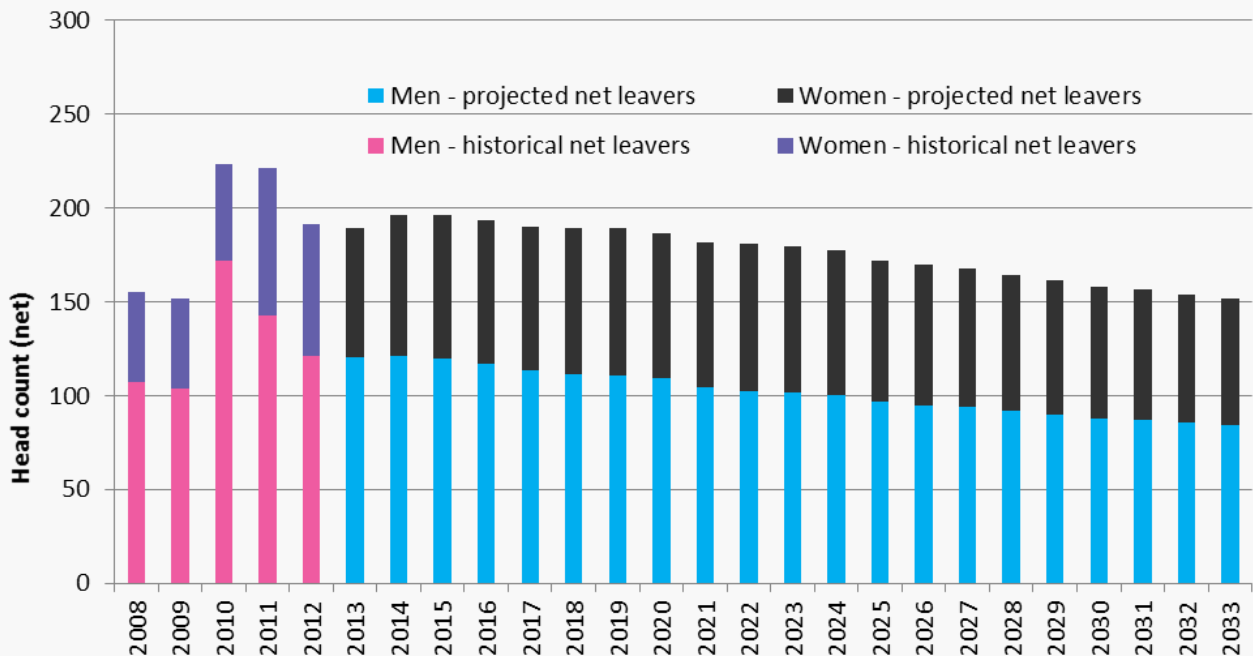
Source: HSCIC (2013)

5.4 Retirement and leavers

When modelling workforce supply, changing patterns of retirement and attrition can have a big and immediate impact on the size of the workforce. Historical net leavers data suggests the mean retirement age of consultant psychiatrists is in line with their mean planned retirement age (60 years) in 2012 (HSCIC, 2013). Mean planned retirement age refers to the age at which psychiatrists intend to retire. Figure 12 illustrates the historical and projected net leavers per year for consultant psychiatrists aged 50 and over. The net leavers refers to the number of people leaving the workforce offset by the number of people joining the workforce during the same period. The future numbers assume no change to the net attrition by age and are based on the historical data (2008 to 2012). The median (most common) net retirement age over this period was 59. The mean (average) net retirement age was 59 for women and 60 for men. The impact of MHO status will end around 2023 – psychiatrists will not be able to retire at 55 without a significant loss of pension rights.

The data from 2012 onwards is a forecast from the CfWI's psychiatry system dynamics model. It uses the baseline parameters assuming that the net attrition rate by age each year (2013 to 2033) matches that of the historical trend. Due to data limitations, the CfWI has assumed the psychiatrist net retirement age matches that of the overall medical consultant workforce.

Figure 12: Past trends and forecasts of psychiatrist retirements per year for those aged 50 and over, by gender (HC)



Source: HSCIC (2013) and CfWI system dynamics model of the psychiatrist workforce (2013b)

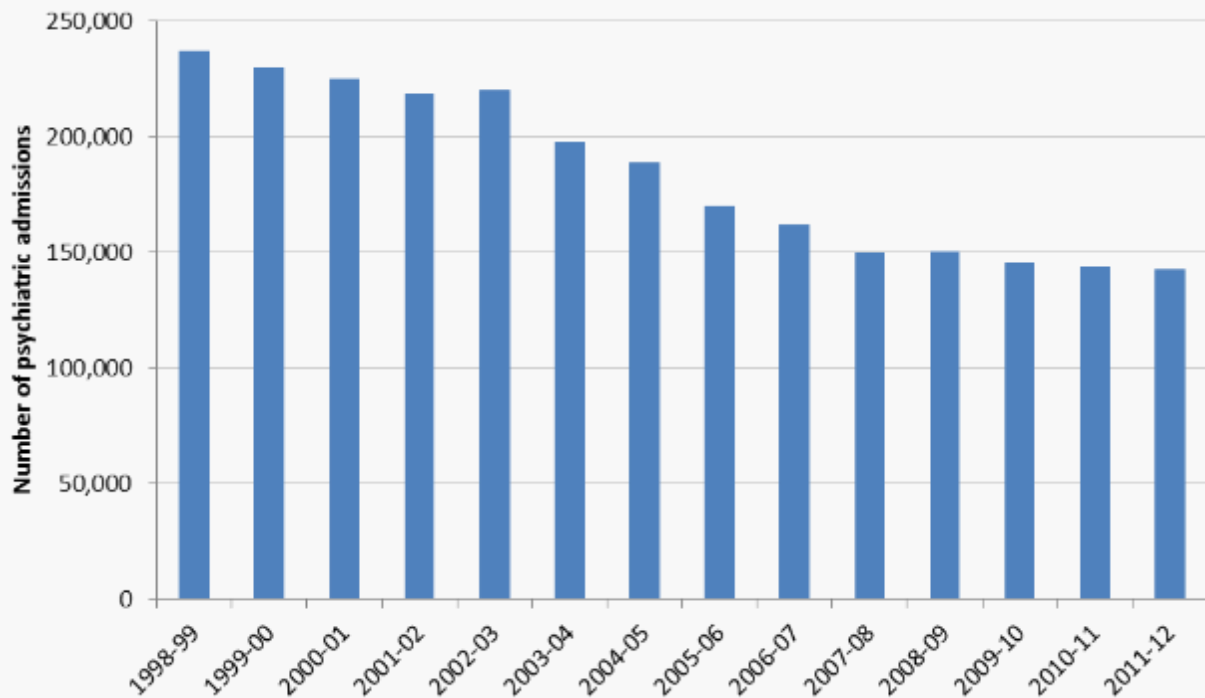
5.5 Trends in activity and demand for psychiatric services

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 these services 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 1.60 million in 2011-12 (HSCIC, 2012a). There was a corresponding decrease in the number of patients admitted to hospital, down 40 per cent in the 14 years to 2011-12 (HSCIC, 2012a) (see Figure 13). The daily average number of occupied hospital beds decreased significantly across all trusts: down by 19 per cent from 23,341 in 2006-07 to 18,924 in 2011-2012 (HSCIC, 2012a). Patients also stayed in hospital for shorter periods: down from a median stay of 33 bed days in 1998-99 to 22 days in 2011-12 (HSCIC, 2012a).

The proportion of outpatient and community activity involving psychiatrists appears to be decreasing, from 21 per cent of total psychiatrist outpatient and community activity in 2003-04 to 13 per cent in 2010-12 (HSCIC, 2012b). However, the data does not take account of the type and intensity of contacts. Moreover, these Mental Health Minimum Data Set (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).

Figure 13: Total psychiatric admissions per year, England

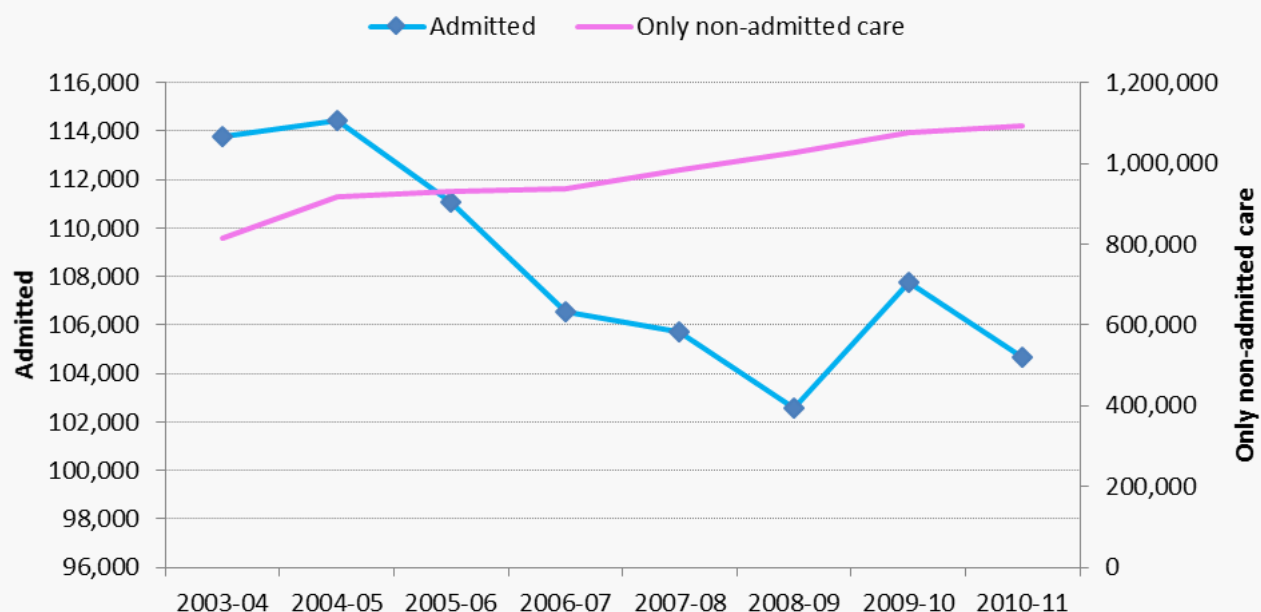


Source: HES admissions data (HSCIC, 2012a)

Evidence suggests that outpatient and community activity is consistent with the shift of care from inpatient units to community settings (see Figure 14). From 2003 to 2010, there was an 8 per cent decrease (from 113,772 to 104,645) in the number of people admitted into hospitals. The term 'admitted' according to the MHMDS refers to people who spend at least one day as an inpatient during the year the data was recorded. Those who are categorised as 'admitted' will not be counted in other categories. Please note that the MHMDS provides data pertaining only to adult services.

The number of 'only non-admitted care' increased by 34 per cent from 2003 to 2010 (814,252 to 1,094,138 respectively) as shown in Figure 14. 'Only non-admitted care' refers to people who have contact with an outpatient or community mental health team (HSCIC, 2012b).

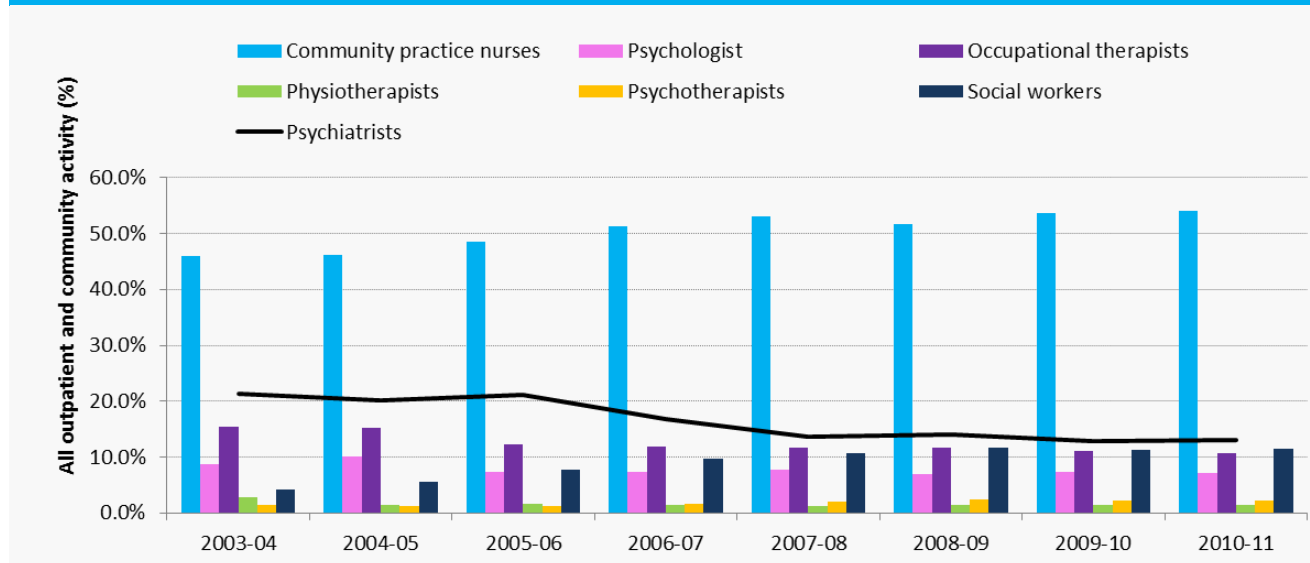
Figure 14: Number of people using NHS mental health services



Source: HSCIC (2012a)

Data from the HSCIC (2012a) shows the trends in outpatient and community activity with different members of the multidisciplinary mental health team and, more specifically, the number of face-to-face contacts with a member of staff (see Figure 15). At first glance, the proportion of outpatient and community activity with psychiatrists appears to be decreasing. However, the data does not take into account the type and intensity of contacts. This decrease in number of contacts with psychiatrists is in line with the changing role of the psychiatrist, which is shifting towards providing leadership and focusing on managing more complex and severe mental health needs (RCPsych, 2010). In addition, the consultative role of the psychiatrist to other team members forms an increasing part of the workload, which is not reflected in face-to-face contact measures.

Figure 15: Proportion of outpatient and community activity with members of different professional staff groups between 2003 and 2011



Source: HSCIC (2012b)

5.6 Integration between physical and mental health care

The Government is taking steps to try and ensure parity of esteem between physical and mental healthcare. A number of reports and initiatives call for equal access to psychiatric services. The CfWI Delphi panel felt that currently only 75 per cent of need for psychiatric services is being met (CfWI, 2013c). The evidence (see Table 4) from the Adult Psychiatric Morbidity Survey (APMS) (McManus et al., 2009) also found that there may be a treatment gap e.g. for psychosis (81 per cent of respondents were receiving some form of treatment – medication or counselling – in 2007). Treatment gap refers to equal access to mental health services. Kohn et al. (2004) examined the treatment gap in mental health based on community-based psychiatric epidemiology studies (Padmavathi et al., 1998, Christiane et al., 2000 and Shinoda et al., 1999) and found that the treatment gap for schizophrenia was between 15 and 18 per cent, while for panic disorder and obsessive compulsive disorder it was 65 and 60 per cent respectively (see Table 4). Furthermore, according to the latest APMS (2007) 76 per cent of adults who screened positive for major depression were not in receipt of medication, counselling or therapy. The survey did not investigate if patients were waiting for a reassessment and/or therapy, or simply did not need it. It should be noted, however, that treatment gap figures alone do not constitute a direct measure of demand for psychiatric services, but form part of a more complex demand equation.

The CfWI Delphi results indicate the highest levels of current unmet need are for child and adolescent psychiatry (65 per cent) and psychiatry of old age (70 per cent) (see Annex E).

Table 4: Treatment gap found using studies of service utilisation rates for selected psychiatric disorders in community-based surveys (per cent of unmet need)

Name of study	Schizophrenia and non-affective psychoses	Major depression	Panic disorder	Generalised anxiety disorder	Obsessive compulsive disorder	Alcohol abuse or dependence
ONS, 1998	15%	56%	64%	67%	60%	96%
OPCS*, 1993 and ONS, 2000	18%	65%	72%	70%	68%	-
APMS, 2007	19%	76%	43%	85%	-	86%

Source: *OPCS: Office of Population Censuses and Surveys, Padmavathi et al., 1998, Christiana et al., 2000, Shinoda et al., 1999, Kohn et al., 2004, McManus et al., 2009.

6. Current and future service delivery models

This chapter provides supplementary research and evidence to Section 5.9 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014). The CfWI was commissioned to investigate and understand models of service delivery which demonstrate effective practice. Mental health services and models of service delivery have undergone a number of important changes during the last decade. There has been an increase in the number of people in contact with services and a move towards community-based services, with decreasing numbers of service users admitted to hospital (HSCIC, 2012a). Recent data also demonstrates that service users stay in hospital for a shorter period of time (HSCIC, 2012a). Services have been reconfigured with the introduction of specialist teams, and a number of innovative models have emerged across England, including those outlined below.

Acute care pathway model and specialist services, such as crisis resolution and home treatment

Crisis resolution and home treatment services have been set up to reduce admissions to psychiatric hospitals. They form the first stage of the acute care pathway model. The crisis resolution and home treatment (CRHT) teams provide urgent mental healthcare to individuals at home. Some evidence suggests that crisis resolution teams and home treatment may reduce hospital admissions and inpatient bed use (Barker et al., 2011, Hubbeling and Bertram, 2012). However, the evidence is not compelling as other studies show no significant difference in the number of admissions and length of stay between hospitals which introduced CRHTs and hospitals which did not (Jacobs and Barrenho, 2011, Hubbeling and Bertram, 2012). Moreover, there is no compelling evidence for the widespread implementation of CRHTs. To better understand the impact of CRHTs on patient outcomes, the rate of compulsory admissions needs to be reviewed at a national level. Future reviews should also compare CRHTs with other models to reduce hospital admission and length of stay.

‘Crisis houses’: alternatives to inpatient mental healthcare for children, young people and adults

‘Crisis houses’ provide mental health support to individuals who are experiencing an acute crisis in their mental health. ‘Crisis houses’ are a safe residential alternative to hospital admission and offer support and treatment in an environment preferred by service users and their families. The provision of mental healthcare in a residential setting is to facilitate early discharges and prevent unnecessary hospital admissions. Cost effectiveness and detailed financial analysis of this type of service model is not currently available. There are some concerns that in some instance the cost of stay at ‘crisis houses’ may be higher than that of a hospital admission (Obuaya et al., 2013). As well as cost effectiveness, future reviews of the ‘crisis house’ model should include an assessment of target patient groups and appropriate staffing levels for effective risk management and patient discharge.

Strengthening and improving existing services via tools such as Lean methodology and purposeful inpatient admissions model

In 2007 Tees, Esk and Wear Valleys Foundation Trust (TEWV FT) pioneered, in a UK mental health trust, a quality improvement system based on the ‘Lean methodology’. The ‘Lean methodology’ was developed by the Toyota Production System and is designed to remove wasteful activities and streamline processes. TEWV FT has also introduced a purposeful inpatient admissions model (PIPA) as a result of patient and carer views, multidisciplinary resource constraint, and the staff desire to change. The aim of PIPA was to improve the quality of patient care, increase patient safety and reduce cost.

Peer workers providing mental health support

Peer support refers to the help and support that people with lived experience of a mental illness or a learning disability are able to give to one another. It may be social, emotional or practical support.

There is a wide range of mental health service delivery models across the UK, including those that are psychiatrist led and delivered. The rates of hospital admissions and the length of stay vary across the country even after adjusting for the needs of different populations. Certain parts of the country (e.g. in the North of England) deliver mental health services with much lower than the national average number of consultant psychiatrists such as in Tees, Esk and Wear Valley NHS Foundation Trust. A key driver of this difference has been significant, longstanding recruitment and retention problems in these parts of the country. In the future, it is important to better understand existing service delivery models, their skill mix and costs and clinical effectiveness before the next workforce review. To drive a future change, a detailed assessment of the quality, cost and safety of the vast range of service delivery models in mental health is needed.

For more details of the CfWI case studies, please see Annex H of this report.

Annex A: Horizon scanning

Horizon scanning is the exploration of potential challenges, opportunities, and likely future developments. Our horizon scanning vision at the CfWI is to generate high-quality intelligence to inform long-range workforce planning that meets the needs of patients and people who use services.

In the context of horizon scanning at the CfWI, driving forces are considered as factors that are significant to the question of concern, and generally not within an organisation's control, although they may be within an organisation's sphere of influence.

The following is a summary of the most frequently mentioned drivers. 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?

This Annex provides supplementary information to Section 4.2 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014). For the full list of horizon scanning drivers, please see the Horizon scanning hub (<http://www.horizonscanning.org.uk/projects/future-psychiatrist-workforce/>).

Table A1: Horizon scanning drivers

TEEPSE category	Driver	Description
Technological	Patients' self-management with improved technology	Advanced mobile devices mean patients can develop independence without direct face-to-face contact with a clinician. Reductions in consultations mean psychiatrists increasingly need to manage patients remotely to facilitate treatment, such as enabling people to self-manage their mental states, adherence to specific courses of medication, and intervening in crises so patients do not require hospitalisation. Telehealth and telecare are increasingly used to deliver medicinal advice to patients in rural communities, as well as to connect with difficult-to-engage patients and address health inequalities.
Technological	The impact of genomics on personalised treatment	Developments in genomics have far-reaching effects on the understanding and prediction of the risk of disease, patient diagnosis, and treatment, resulting in personalised treatment

		<p>profiled to the genetic make-up of individuals. Patients' idiosyncratic responses to treatment assume a central role in the selection of treatment, which is determined based on genetic variation. Psychiatrists increasingly deal with more challenging and complex patients. Collaborative working across healthcare professions is extended to involve the use of pharmacogenomics in epidemiology.</p>
Economic	NHS drive for efficiency	<p>The 2010 Spending Review and recent health settlements pose major financial constraints on the NHS. The 'Nicholson Challenge' of achieving £15-20 billion efficiency savings by 2015 continues. This alters the roles of all healthcare professionals in mental health, and reduces the availability of funding to implement technology-based solutions and value-added services.</p> <p>Funding constraints result in a smaller medical mental health workforce. The remaining workforce has high workloads and pressure, which impact on the quality of care, resulting in downward pressure on medical doctors in training.</p>
Economic	Demand for improved access to mental health services in primary care	<p>The development of more robust primary mental health services ensures referral processes between primary care and specialist services are made more efficient, so people can access the right sort of expertise quickly, increasing patients' autonomy and knowledge. This ensures that those experiencing an acute psychiatric disorder have access to the appropriate professionals at a critical time.</p> <p>This also ensures that people presenting with acute medical illnesses with a significant mental health component to their physical illness have access to a full range of professionals, regardless of venue (whether this be in an acute hospital, at home or in the community).</p>
Environmental	Changing demographic patterns	<p>In the last 70 years, England's society and economy have changed fundamentally. The larger and more affluent population has harnessed new technologies and adopted new ways of living. These changes have made new</p>

		<p>demands on England's landscapes and have changed people's relationship with their natural environment.</p> <p>This trend is likely to continue, with a broad range of factors influencing Britain's changing landscape and the spread of population including the growth of towns and cities, changing industries and workplaces, increased transport and mobility, provision of energy and water, more intensive farming, and natural processes. Nature, in the form of natural succession, weather events and outbreaks of pests and diseases, presents new unknown challenges.</p>
Environmental	Movement in population as people age	<p>The current economic and natural climates are encouraging the population to move and retire abroad, seeking a better quality of life, and getting more for its money. Around one in 12 people of pensionable age now move abroad.</p>
Political	Reduction in hospitalisation	<p>Most treatment for people with severe and enduring mental illnesses already takes place in community settings. People are hospitalised only in periods where they are a danger to themselves or others. This trend is likely to continue in the future due to a range of reasons, including economic factors, and improving patient care. For example, there is consensus that secure inpatient provision is costly, and that money would be better invested in improving community services. Additionally, NICE guidance recommends talking therapies for many severe mental illnesses.</p> <p>The current political movement to shift care from inpatient to community-based settings has a positive effect on the medical stigma behind mental health, especially for patients with chronic co-morbid physical illnesses. Patients no longer stay in hospitals any longer than required.</p> <p>There is more demand for integrated mental health services, focusing on the delivery of physical, mental and social care in the community, especially to people with long-term conditions in the over-60 age group.</p>

Political	Increased demand for evidence-based practice	<p>Good primary mental health services should be based on sound clinical judgment informed by NICE guidelines. The demand for evidence-based healthcare leads to disillusionment with a purely biological model of health. There is a push for quality research into mental illness to include combined effective diagnosis and treatments.</p> <p>While there is still a lack of effective treatment for severe mental illnesses, talking therapies are used effectively to treat depression. Further work is carried out to identify the role of talking therapies in treating the most complex cases. The introduction of talking therapies as part of complex mental disease treatment, results in the integration and redefinition of the mental health workforce.</p> <p>Research funding is secured to implement significant changes to the way commissioning is applied.</p>
Social	The fate of psychiatry as a career	The desirability of psychiatry as a profession, and its position in the hierarchy of specialties, does not change. Starting from the recruitment of students into psychiatry (CPT1), many potential applicants are put off by the stigma and negative attitudes attached to mental illness. The negative perception of psychiatry is further compounded by the opinion of those in other specialties towards psychiatry.
Social	Addressing the needs of an ageing population	<p>The growth in the proportion of people over 65 results in an overall increase in the prevalence of age-related conditions such as dementia, co-morbid physical illness, behavioural problems, depression and new psychiatric conditions other than dementia.</p> <p>Care aligns with the needs of the ageing population, with a greater need for all treatment options to be available, regardless of age.</p>
Ethical	Impact of dementia and other age-related disorders on mental health services	Age-related illnesses place high demands on healthcare services. As dementia, Alzheimer's and depression increase in prevalence in the population, care services for older people are no longer seen as the responsibility of mental

		health services. The increasing cases of abuse of power and neglect lead to closures of residential care homes and empower older adults to remain at home and receive care in the community.
Ethical	Patient safety and integrated approach	Challenging behaviour is socially constructed and is a product of interaction between the individual and their environment. Assessment and intervention must therefore address the person, the environment and the interaction between the two. Increasing demand is placed on psychiatrists to assess patient risk outside of hospital settings.
Education and training	Recruitment into the academic psychiatry workforce	The emerging new role of psychiatrists and new ways of working require adequate training provision. If the consultant psychiatrist workforce continues to increase, it needs to be accompanied by an increase in the academic psychiatrist workforce. Advancements driven by the academic workforce play a key role in the levels of progress and development in the field. Future impacts on the perceived prestige of the profession are linked with the recruitment rates and retention of psychiatrists.
Education and training	The impact of revalidation on the quality of practice	Revalidation ensures all practitioners provide evidence that they have met the standards according to guidelines set by the General Medical Council (GMC) guidelines and that all psychiatrists are fit to practise. This improves the quality of care in mental health services. Revalidation of other healthcare professionals is also needed to ensure that the compassionate 6 Cs (Care, Compassion, Competence, Communication, Courage and Commitment) approach to practice is addressed.

Source: CfWI horizon scanning workshop and consultations (January, 2013)

Annex B: Summary of plausible future scenarios

This Annex provides supplementary information to Section 4.3 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014).

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 Table B1 for a summary). These four scenarios represent a shared assessment by expert stakeholders of 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 B1: Summary of plausible future scenarios

		Scenario A1B1	Scenario A1B2	Scenario A2B1	Scenario A2B2
		Key assumptions			
Clusters		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 events			
Now - 2022		Proactive interventions in schools to educate teenagers about MH.	With less stigma and increased social acceptance of MH problems, there is less reluctance to be seen by a psychiatrist.	Politicians support the prevailing model of MH services led and delivered by consultant psychiatrists, who are seen to ensure quality and productivity.	Mental health services, medical education and training are low priorities.
		MH teams begin to enjoy parity of esteem with physical healthcare providers and can influence commissioners.	Health inequalities reduce, but the ageing population results in increased rates of age-related diseases such as dementia and functional illnesses.	There is a drive to increase the workload of each consultant including the expectation for psychiatrists to provide psychological therapies.	There is growing evidence of the efficacy of facilitated self-help across all psychiatry specialities.
		Pilot schemes spring up to ascertain the costs involved in providing 24/7 consultant-delivered MH services.	More and more peer support workers work in MH teams.	As prisons become the cheaper option, there is a rise in the population of mentally disordered	Reliance on the internet grows.

				offenders in prison settings.	
		The presence of psychiatrists in district and general hospitals (liaison psychiatrists) increases, raising the profile and popularity of psychiatry as a medical specialty.	The need for formal MH input reduces.	Community services are cut. There is an increase in ward size and an increase in hospital numbers.	
		Technology, including for self-help, transforms the need for, and delivery of, MH care.	Public health boards increasingly invest in peer-supported measures to prevent mental illness.	Child and adolescent mental health services (CAMHS) become child welfare officers and are no longer involved with healthcare.	
		Diagnostic algorithms and reliable decision support tools enable focused interventions for those most at risk.	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.		
		A consultant-delivered service is by no means the only model for MH care.			
2023 - 2032		By 2023 the consultant psychiatrist workforce has grown.	There is less money available. The psychiatrist workforce decreases in size.	Private healthcare schemes and co-payment schemes are more widespread.	By 2023 England heads towards an entirely insurance-based health system.
		Integrated, holistic approaches meet the needs of special groups, and fewer people present in crisis.	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.	As a result of poverty and the lack of community MH services, homelessness rises and criminal incidents linked to poor MH become more frequent.
		Genesis of severe mental illness is prevented by targeted treatments and evidence-based psychosocial interventions.	The consultant psychiatrist workforce that remains is therefore small but increasingly dynamic (and, potentially, more highly paid).	An inpatient-only 'psychosis service' is all that remains.	Government funding for MH services is directed towards those who pose the highest risk.

		The NHS can afford to increase spending on health promotion.	Remaining psychiatrists adopt leadership and mentoring roles.	Like in the US, a low-level safety net remains for those who cannot afford to pay.	The number of people with MH issues in prisons and other institutions increases.
		The need for compulsory detention declines.	The nation's MH has improved considerably.	Psychiatry as a medical specialty begins to attract pioneering non-conformist types.	Funding for psychiatrist education and training is cut.
		Successive governments heed advice on a minimum price of alcohol. Alcohol abuse, criminality and offending gradually decline, with substantial savings to the health and social care economy.			Poor MH becomes the norm. People who can afford MH care through insurance increasingly opt for psychological therapies over drugs.
					Some psychiatrists become psychological therapists.
					The specialty becomes less attractive to medical students and lack of supply is used as a rationale for reducing postgraduate training places for the psychiatry specialty.
					Insurance companies are prescriptive about skill mix.
2033 onwards		Towards 2030 the productivity of consultant psychiatrists has increased thanks to technology and legislative changes.	By 2033 most care is delivered by peer-support workers and other non-medical members of the MH team.	Towards 2033 community care starts to reappear – but badged as social care rather than psychiatry.	By 2033 society is fragmented.
				Hospital care is the dominant model.	Mental health in poorer communities is considerably worse.
				Sub-consultant doctor grades expand due to cost pressures.	Many people with MH problems work

					on farms and other unskilled workplaces.
				Champions from inside the system try to reverse the trend of increasing stigma.	The status of doctors in society means psychiatrists are still the last to be cut, after other members of the MH team.
					There are fewer psychiatrists than there were in 2013.
					The profession reaches crisis. Psychiatrists retain a basic statutory role but little else.

Source: CfWI psychiatry scenario generation workshop (February, 2013)

Annex C: Questions the CfWI asked the Delphi panellists

Annex C, D and E provide detailed information about Delphi exercise panel and support Section 4.4 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014).

The four scenarios described in Annex B were documented in narrative form. The next step was to quantify the scenarios for the purpose of modelling. The CfWI uses a Delphi approach to gain consensus on a range of unknowable future variables. 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.

Annex D: Delphi questions – demand and supply assumptions

This Annex provides demand and supply assumptions and median values that the CfWI used to calculate future demand and supply of psychiatry CCT holders. A Delphi panel was used to quantify key uncertainties for the future workforce in each of the four scenarios. The questions about demand and supply are shown below. The tables below show the average (median) values obtained from the Delphi panel exercise. The range and spread of values obtained from the Delphi panel were recognised and considered in the CfWI uncertainty analysis (see Annex F).

The answers from the Delphi panel exercise are used to calculate the change in level of demand from current values throughout the forecasts until 2033. Each of the three future demand questions considers the percentage change in demand due to specific parameters. Each of the parameters is mutually exclusive from the other two. Each of the percentage change parameters at 2033 are multiplied by the current demand value to predict the future demand. In addition to the above, a further multiplier was calculated using ONS demographic projections to assess how the changing population will impact demand.

Current demand

- What proportion of today's need is met by the current level of service in each of the specialties?

Future demand

- How much more or less time would a psychiatrist have to spend in 2033 to meet the psychiatric needs of the average member of the population (population need)?
- How much more or less time would a psychiatrist have to spend in 2033 to deliver the same level and intensity of psychiatric services as today (psychiatrist productivity)?
- How much more or less time would a psychiatrist have to spend in 2033 to deliver the desired level and intensity of psychiatric services (level of commissioned service)?

The CfWI asked these questions for each of the six psychiatry specialties.

The values in Table D1 indicate the median percentage change in future demand as anticipated by the Delphi panellists looking ahead 20 years. A value of 35, for example, indicates a 35 per cent increase over that period. A value of -35 would indicate a 35 per cent decrease. The range and spread of values obtained from the Delphi panel were recognised and considered in the uncertainty analysis.

Table D1: Median percentage change in future demand derived from Delphi panel

Specialty	Scenario	Change in demand due to change in average need (%)	Change in demand due to change in productivity (%)	Change in demand due to change in level of commissioned services (%)
General (adult) psychiatry	Baseline	15	0	8
	Scenario 1	0	0	0
	Scenario 2	15	5	1
	Scenario 3	0	2	0
	Scenario 4	15	0	8
Old age psychiatry	Baseline	30	2	10
	Scenario 1	15	2	5
	Scenario 2	15	2	5
	Scenario 3	10	5	0
	Scenario 4	30	2	10
Child and adolescent psychiatry	Baseline	20	2	10
	Scenario 1	0	10	0
	Scenario 2	2	0	0
	Scenario 3	0	0	-5
	Scenario 4	20	2	10
Forensic psychiatry	Baseline	-5	-5	0
	Scenario 1	0	0	0
	Scenario 2	9	7	3
	Scenario 3	5	5	0
	Scenario 4	-5	-5	0
	Baseline	10	0	8
	Scenario 1	0	0	0

Psychiatry of learning disabilities	Scenario 2	0	1	0
	Scenario 3	0	0	0
	Scenario 4	10	0	8
Medical psychotherapy	Baseline	0	0	0
	Scenario 1	-9	0	0
	Scenario 2	-2	0	-5
	Scenario 3	-7	0	-10
	Scenario 4	0	0	0

Source: Delphi panel exercise (CfWI, 2013c)

Delphi questions – supply uncertainties

- What do you think will be the average participation rate of psychiatrists, by gender, in 2033?
- What do you think will be the average retirement age of psychiatrists, by gender, in 2033?

Table D2: Median participation rate – Delphi estimates

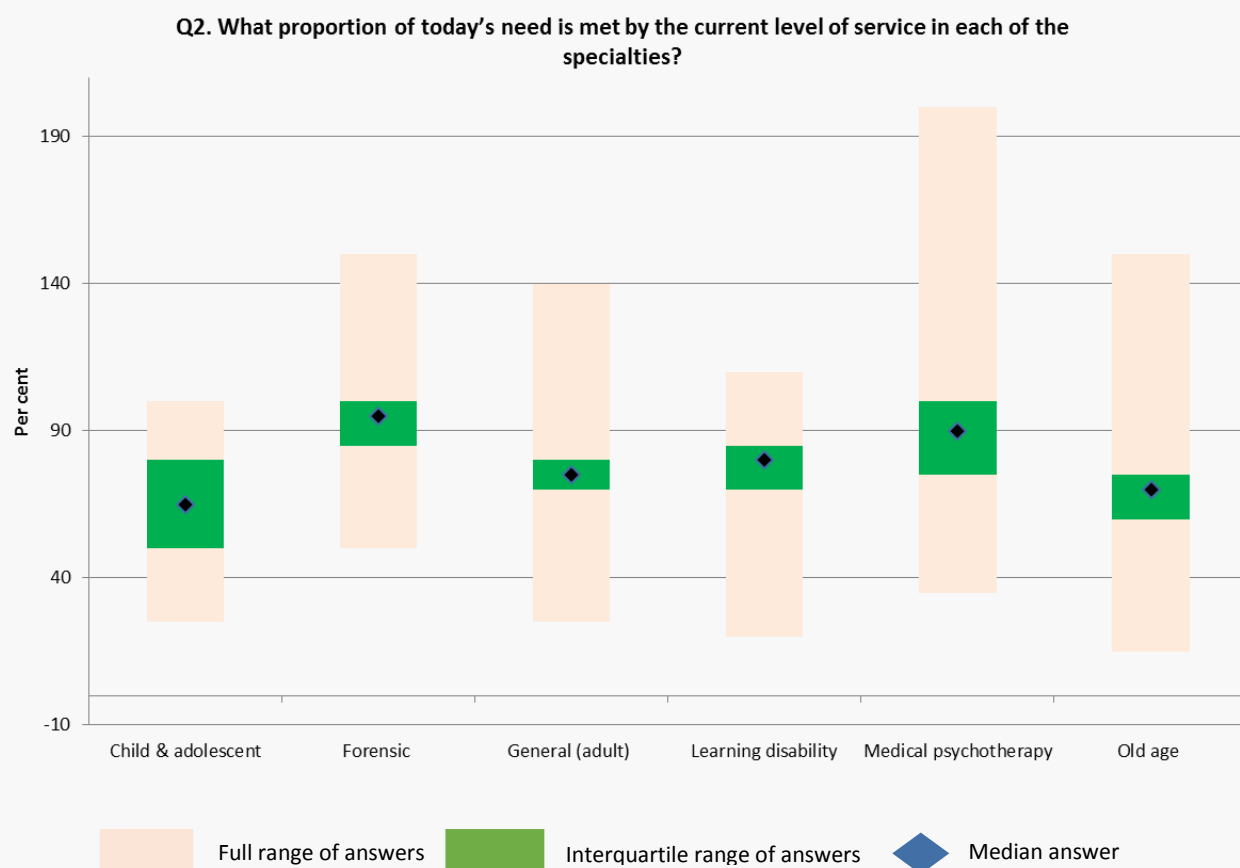
	Median participation rate of women psychiatrists in 2033	Median participation rate of men psychiatrists in 2033	Median retirement age of women psychiatrists in 2033 (years)	Median retirement age of men psychiatrists in 2033 (years)
'Baseline' (today)	0.84	0.91	59	60
Scenario 1	0.85	0.91	65	65
Scenario 2	0.80	0.85	63	63
Scenario 3	0.80	0.85	60	60
Scenario 4	0.80	0.80	60	61

Source: Psychiatry Delphi panel

Annex E: Delphi panel exercise findings

The Delphi panel exercise revealed a wide range of views. In order to convey the degree of uncertainty that exists among stakeholders, the following charts show the range of judgments given by panellists. These are not the views of the CfWI.

Delphi panel exercise findings: range of answers with interquartile ranges and medians



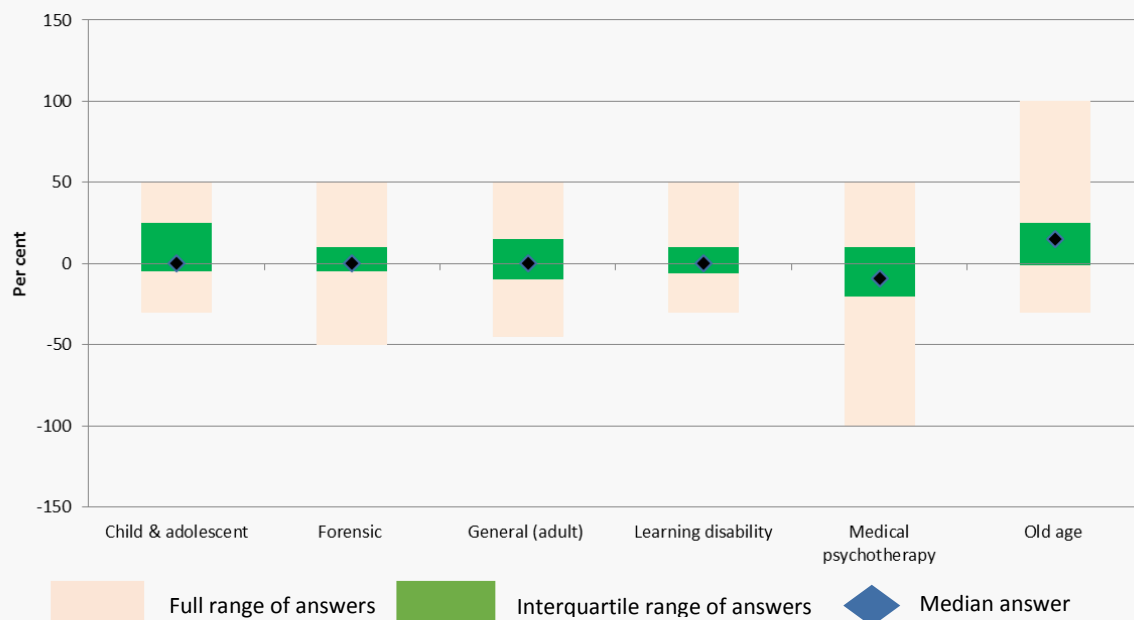
Source: Psychiatry online Delphi panel exercise (CfWI, 2013c).

Delphi panel exercise findings

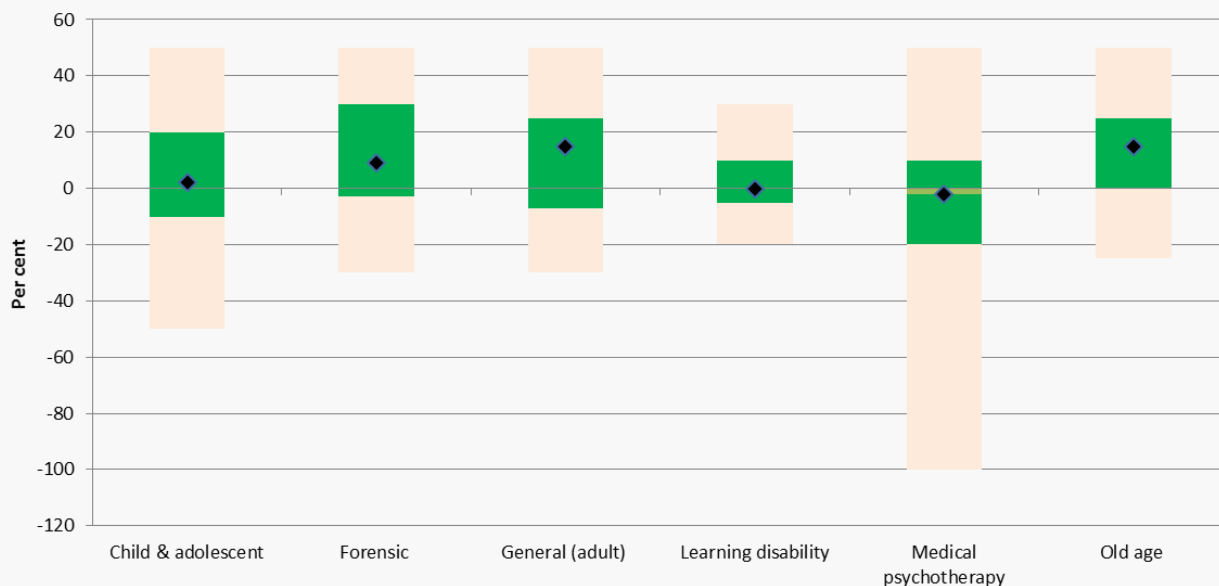
Q4. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to meet the psychiatric needs of the average member of the population?
A1B2



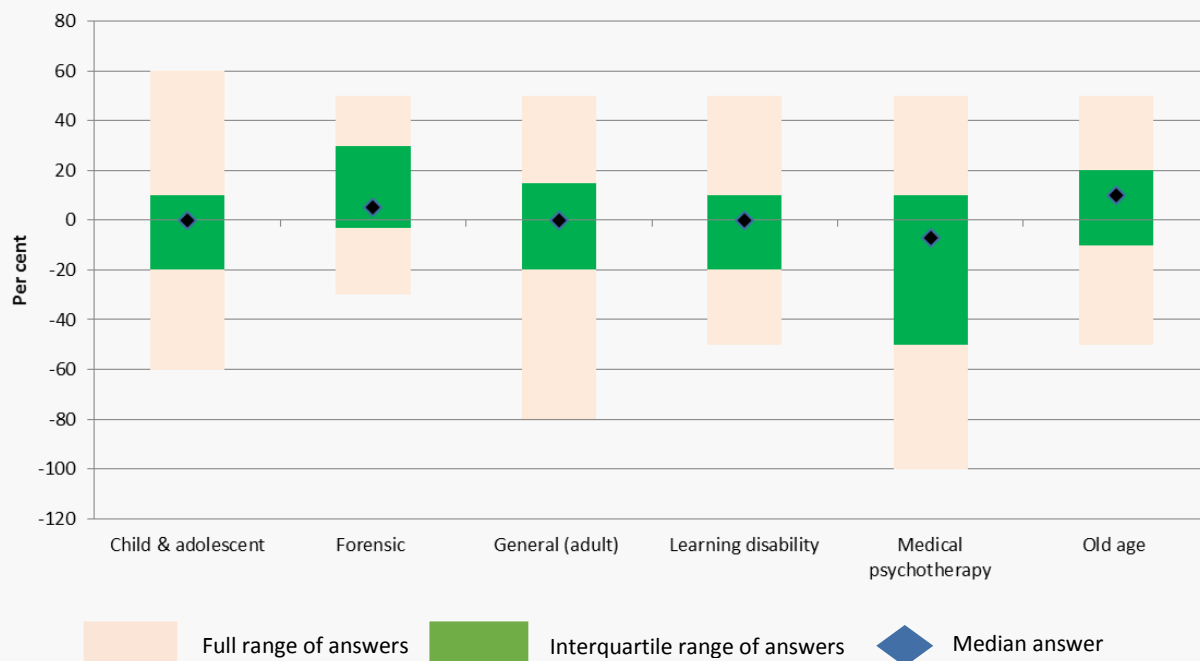
Q4. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to meet the psychiatric needs of the average member of the population?
A1B2



Q4. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to meet the psychiatric needs of the average member of the population?
A2B1



Q4. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to meet the psychiatric needs of the average member of the population?
A2B2



Source: Psychiatry online Delphi panel exercise (CfWI, 2013c).

Delphi panel exercise findings

Q6. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the SAME level and intensity of psychiatric services as today?

A1B1



Q6. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the SAME level and intensity of psychiatric services as today?

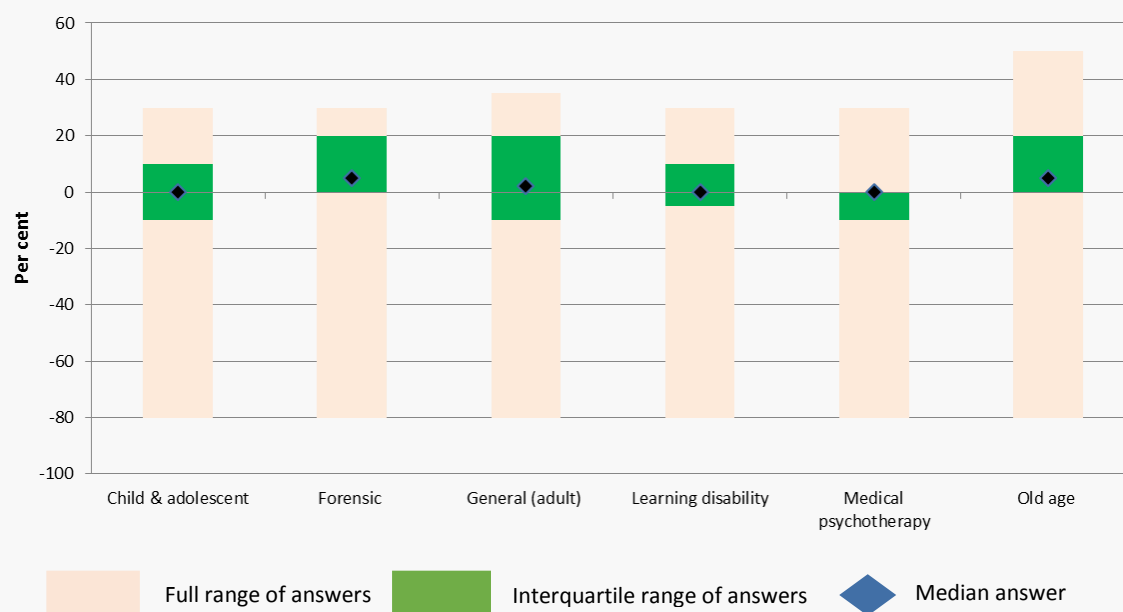
A1B2



Q6. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the SAME level and intensity of psychiatric services as today?
A2B1



Q6. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the SAME level and intensity of psychiatric services as today?
A2B2

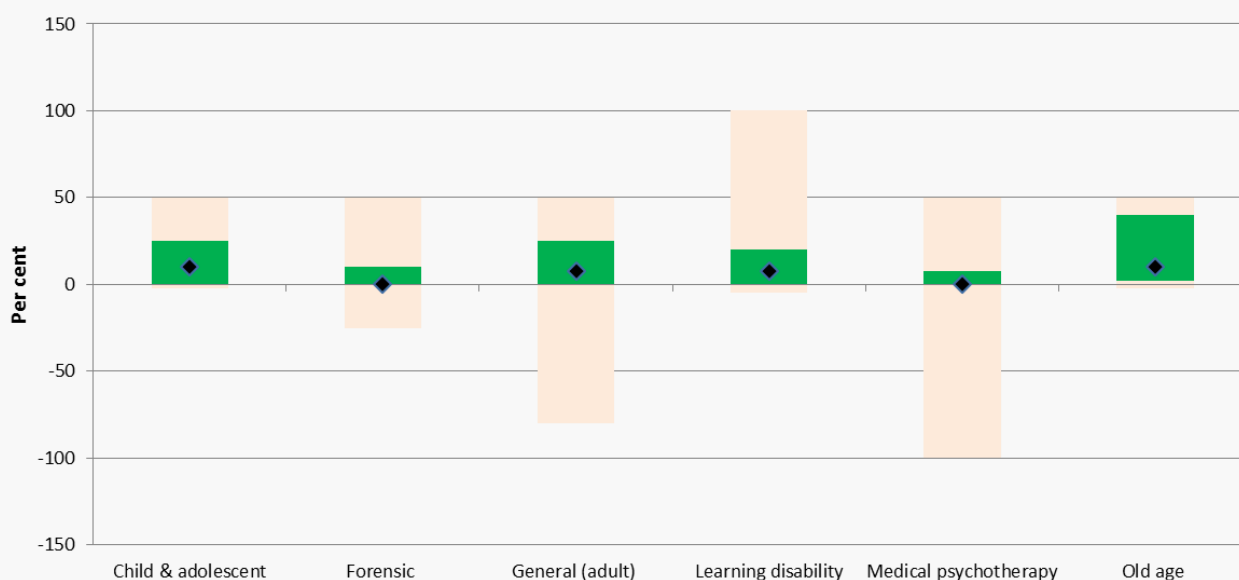


Source: Psychiatry online Delphi panel exercise (CfWI, 2013c).

Delphi panel exercise findings

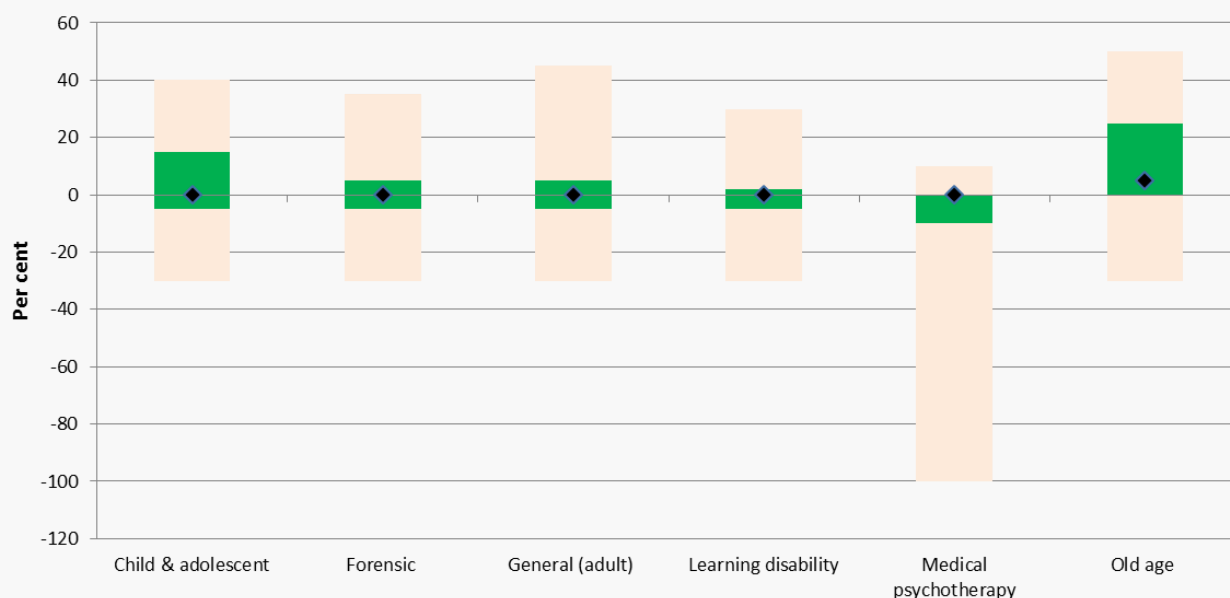
Q8. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the DESIRED level and intensity of psychiatric services?

A1B1

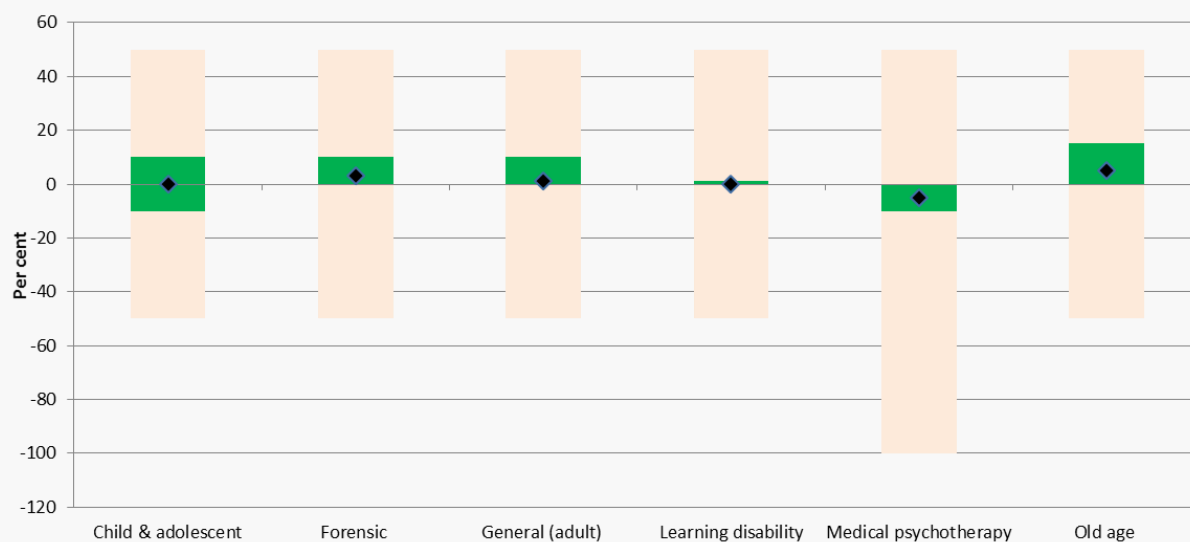


Q8. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the DESIRED level and intensity of psychiatric services?

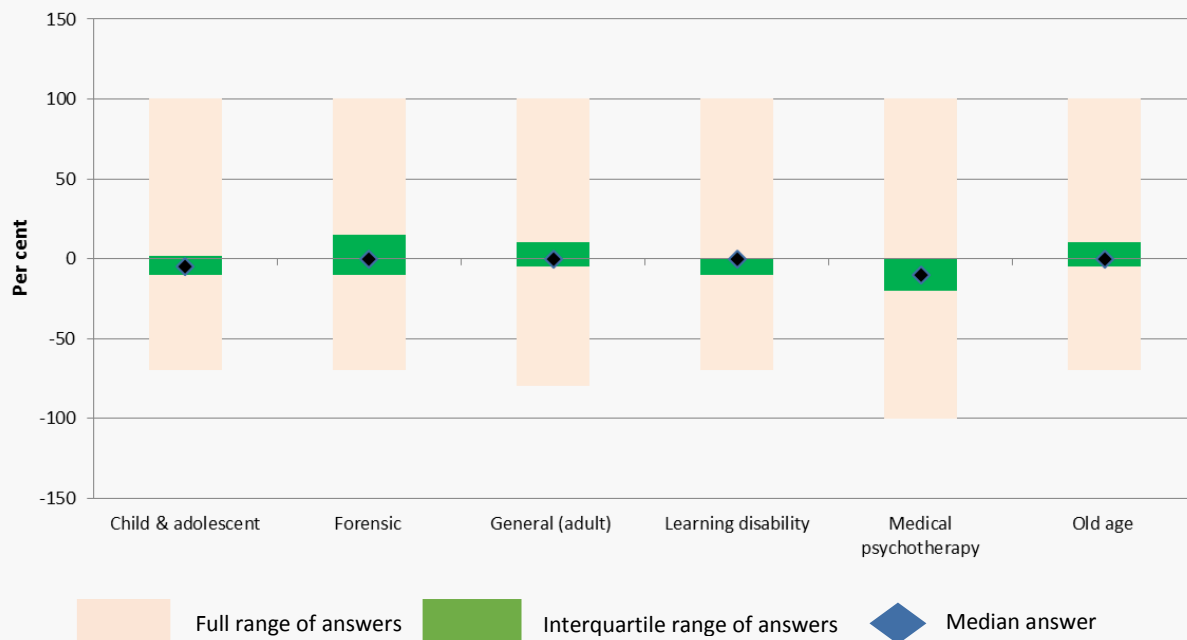
A1B2



Q8. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the DESIRED level and intensity of psychiatric services?
A2B1



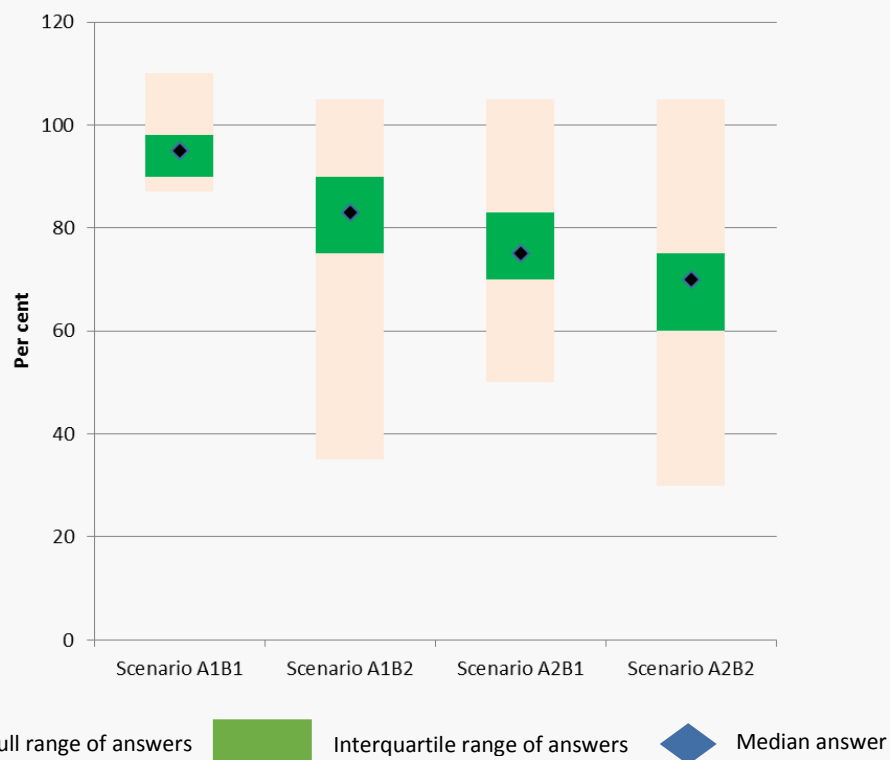
Q8. For each scenario 1 to 4, how much MORE OR LESS TIME would a psychiatrist have to spend in 2033 to deliver the DESIRED level and intensity of psychiatric services?
A2B2



Source: Psychiatry online Delphi panel exercise (CfWI, 2013c).

Delphi panel exercise findings

Q10. For each scenario 1 to 4, what do you think will be the PERCENTAGE FILL RATE for core training in psychiatry at year 1 (CT1) in 2033?

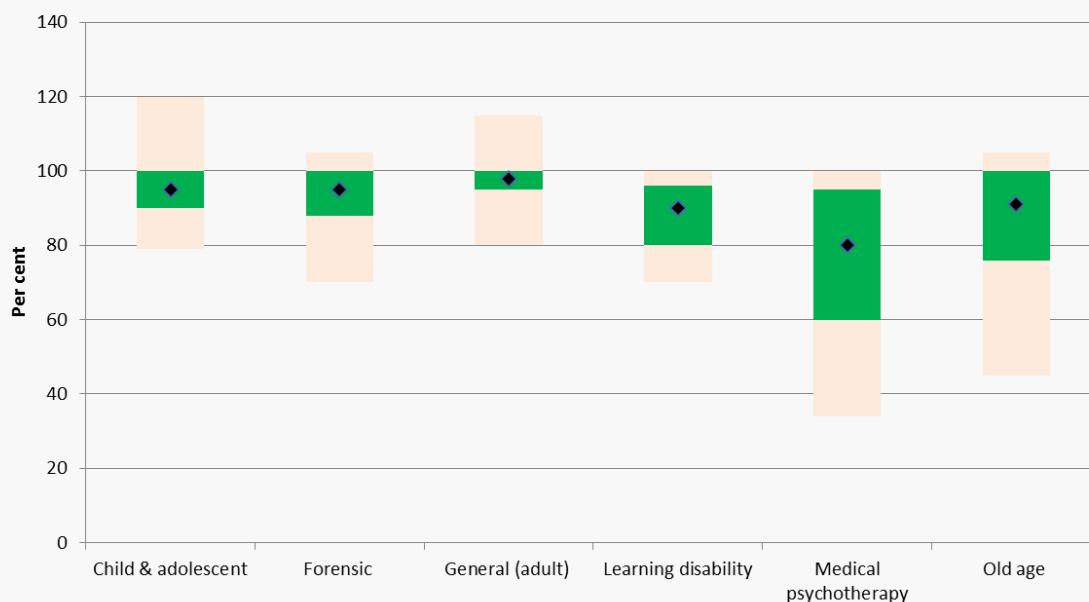


Source: Psychiatry online Delphi panel exercise (CfWI, 2013c).

Delphi panel exercise findings

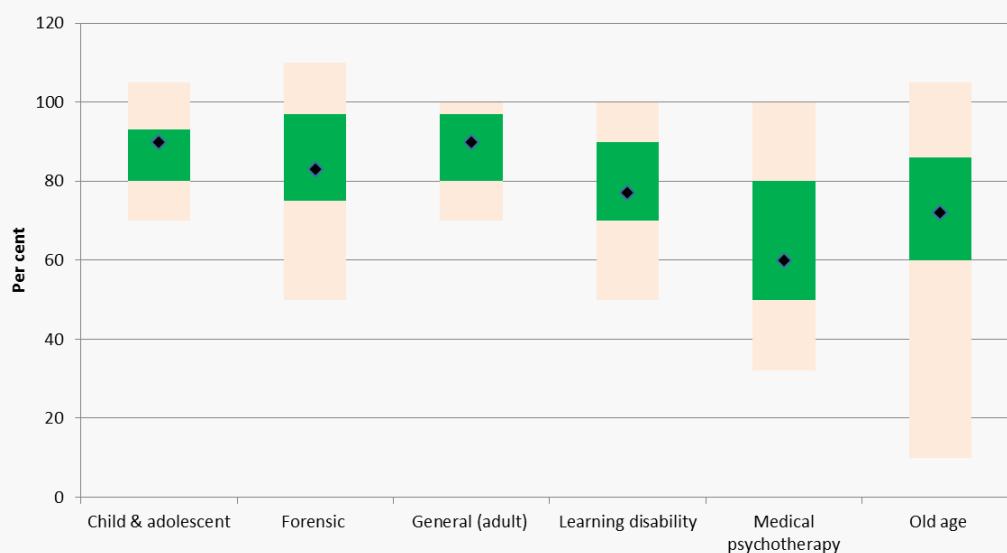
Q12. For each scenario 1 to 4, what do you think will be the PERCENTAGE FILL RATE for national recruitment to higher specialty training in psychiatry at year 4 (ST4) for each of the specialties in 2033?

A1B1

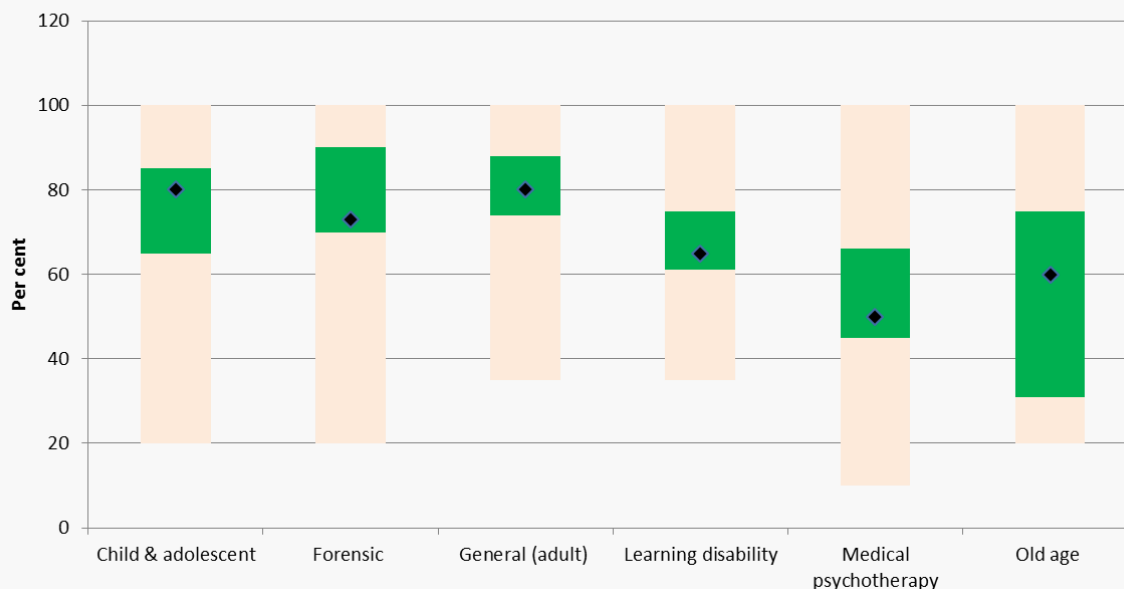


Q12. For each scenario 1 to 4, what do you think will be the PERCENTAGE FILL RATE for national recruitment to higher specialty training in psychiatry at year 4 (ST4) for each of the specialties in 2033?

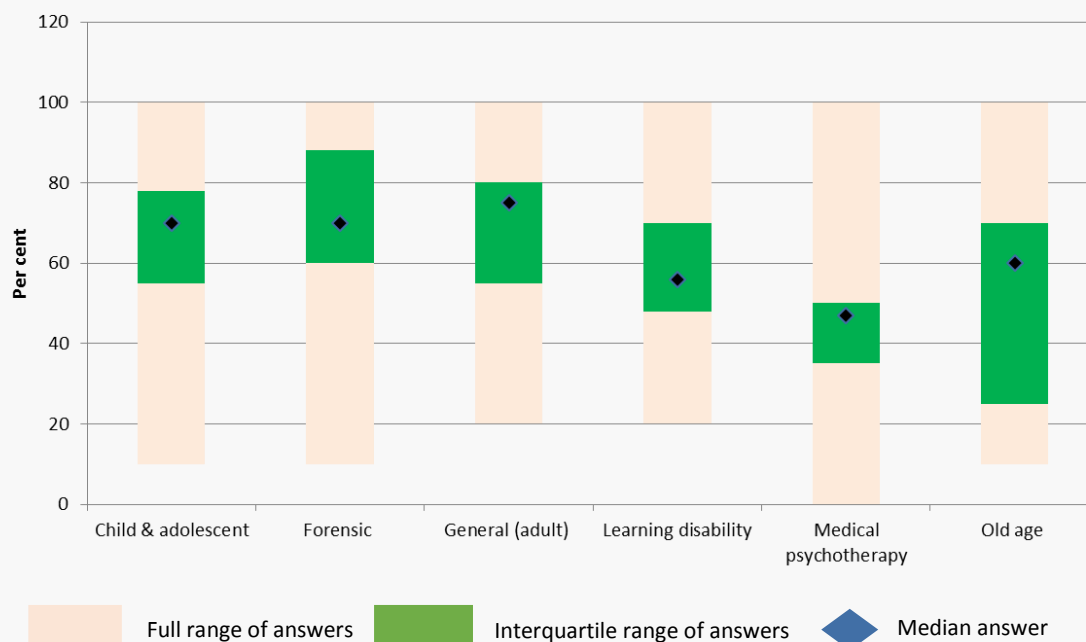
A1B2



Q12. For each scenario 1 to 4, what do you think will be the PERCENTAGE FILL RATE for national recruitment to higher specialty training in psychiatry at year 4 (ST4) for each of the specialties in 2033?
A2B1



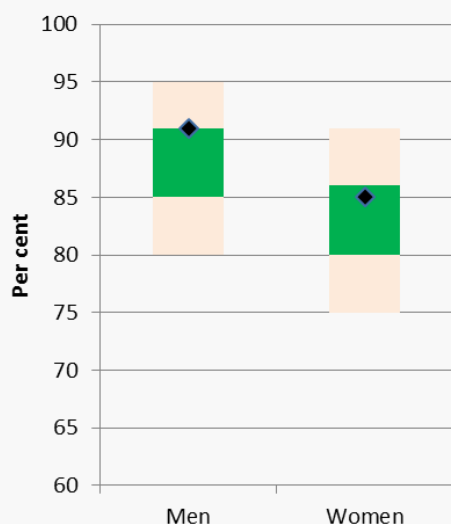
Q12. For each scenario 1 to 4, what do you think will be the PERCENTAGE FILL RATE for national recruitment to higher specialty training in psychiatry at year 4 (ST4) for each of the specialties in 2033?
A2B2



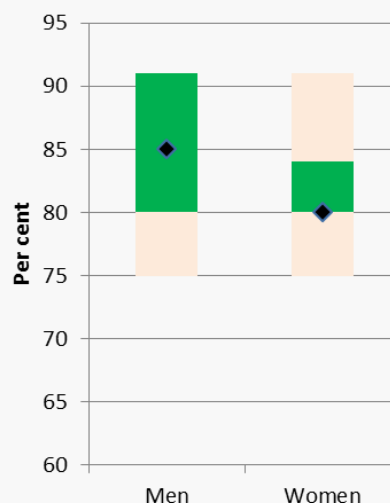
Source: Psychiatry online Delphi panel exercise (CfWI, 2013c).

Delphi panel exercise findings

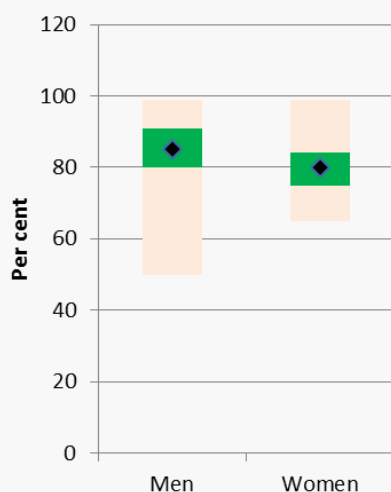
Q14. For each scenario 1 to 4, what do you think will be the AVERAGE PARTICIPATION RATE of psychiatrists, by gender, in 2033?
A1B1



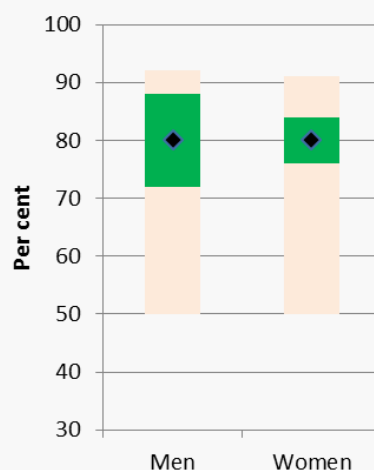
Q14. For each scenario 1 to 4, what do you think will be the AVERAGE PARTICIPATION RATE of psychiatrists, by gender, in 2033?
A1B2



Q14. For each scenario 1 to 4, what do you think will be the AVERAGE PARTICIPATION RATE of psychiatrists, by gender, in 2033?
A2B1



Q14. For each scenario 1 to 4, what do you think will be the AVERAGE PARTICIPATION RATE of psychiatrists, by gender, in 2033?
A2B2

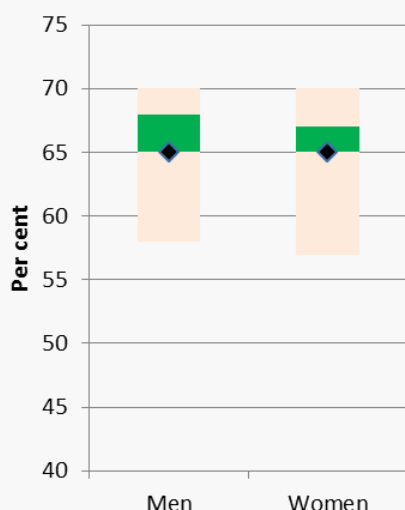


Full range of answers
 Interquartile range of answers
 Median answer

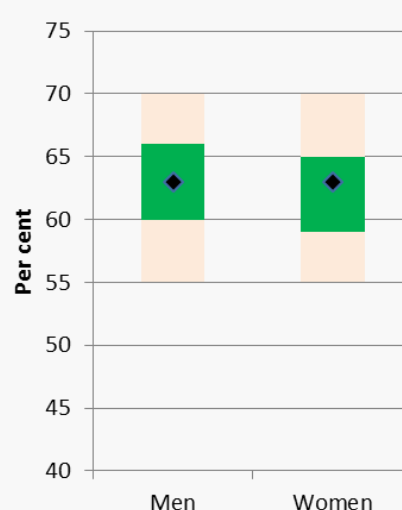
Source: CfWI modelling team (2013)

Delphi panel exercise findings

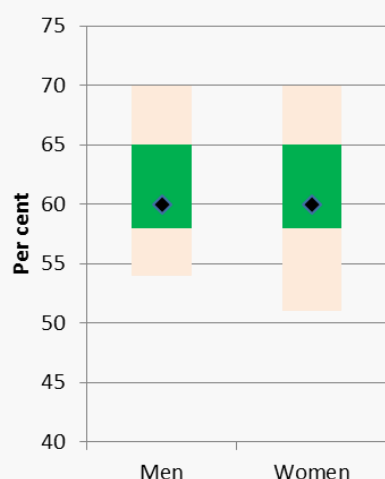
**Q16. For each scenario 1 to 4, what do you think will be the AVERAGE RETIREMENT AGE of psychiatrists, by gender, in 2033?
A1B1**



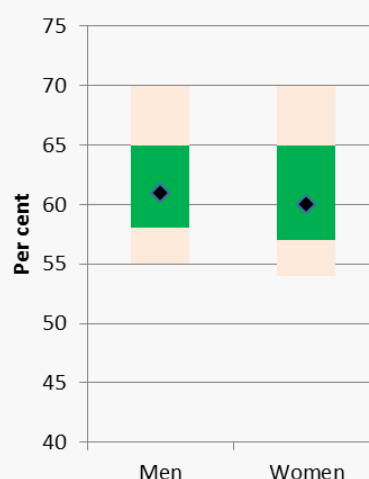
**Q16. For each scenario 1 to 4, what do you think will be the AVERAGE RETIREMENT AGE of psychiatrists, by gender, in 2033?
A1B2**



**Q16. For each scenario 1 to 4, what do you think will be the AVERAGE RETIREMENT AGE of psychiatrists, by gender, in 2033?
A2B1**



**Q16. For each scenario 1 to 4, what do you think will be the AVERAGE RETIREMENT AGE of psychiatrists, by gender, in 2033?
A2B2**



Full range of answers
 Interquartile range of answers
 Median answer

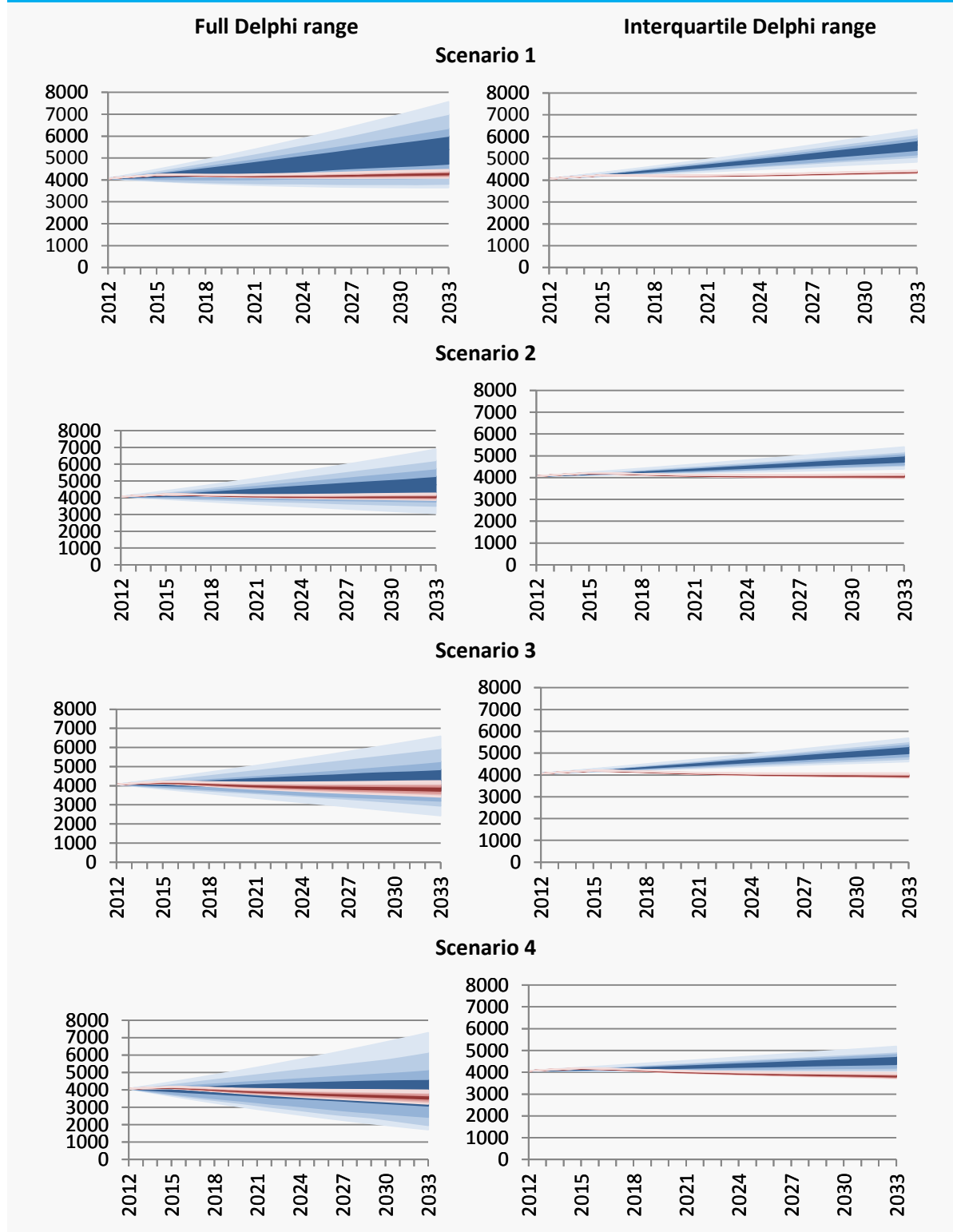
Source: CfWI modelling team (2013)

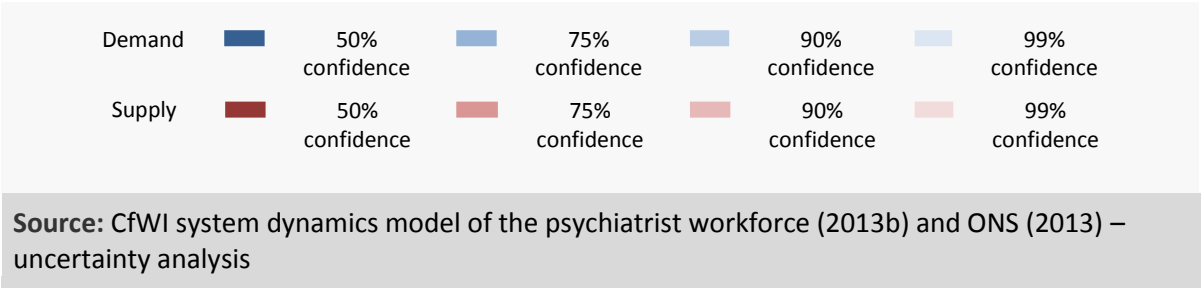
Annex F: Uncertainty analysis – testing the Delphi results

Forecasting to 2033 involves a degree of uncertainty. The CfWI recognises that it is important to test the full range of answers obtained from the Delphi panel for each question. Therefore, the team undertook uncertainty analysis to calculate the impact of the full range of values obtained via this method. Figure F1 shows the probability distribution of uncertainty for the total demand for psychiatrists for the four scenarios. The CfWI determined that although the panel gave a wide range of answers, the majority of answers clustered around the median as shown in the interquartile Delphi range analysis in Figure F1 (the right panel of charts).

Please note: the uncertainty analysis refers to the variations found in the Delphi results and does not reflect the uncertainty around future psychiatrist supply. The future psychiatrist supply is much wider due to recruitment difficulties and therefore, the CfWI modelled three possible future supply projections as explained in the *In-depth review of the psychiatrist workforce - Main report* (CfWI, 2014).

Figure F1: Uncertainty analysis for supply and demand for the total number of psychiatrists (all four scenarios)





The uncertainty analysis of the full Delphi range of answers (left panel of charts in Figure F1). The 50 per cent of responses are marked as the darker orange colour for demand and the darker blue colour for supply. The lighter shade of orange and blue shows the full variation of Delphi answers. The degree of uncertainty about demand is perhaps unsurprising, considering the complexity of the mental health system and the large variations in mental health service provision.

Annex G: Sensitivity analysis – priorities for data improvement

The CfWI conducted sensitivity analysis to ascertain which input variables (e.g. data, assumptions) have the greatest effect on the outputs from the model if the data or assumption is changed by a set amount. This identifies variables for which it is most important to seek better data.

The sensitivity analysis was undertaken by running the model and individually changing each model input data variable by 10 per cent (with a maximum value of 100 per cent allowed for data already in percentage form) and for percentage profiles shifting and redistributing the data between the specific ranges.

The results of each of these runs were then compared to the baseline run (the original model outputs) for the chosen scenario to calculate the percentage change to the 2033 supply or demand value as a result of changing a single specific input by 10 per cent. This percentage change for each variable was defined as their impact on the model outputs.

Table G1: Definitions of data quality

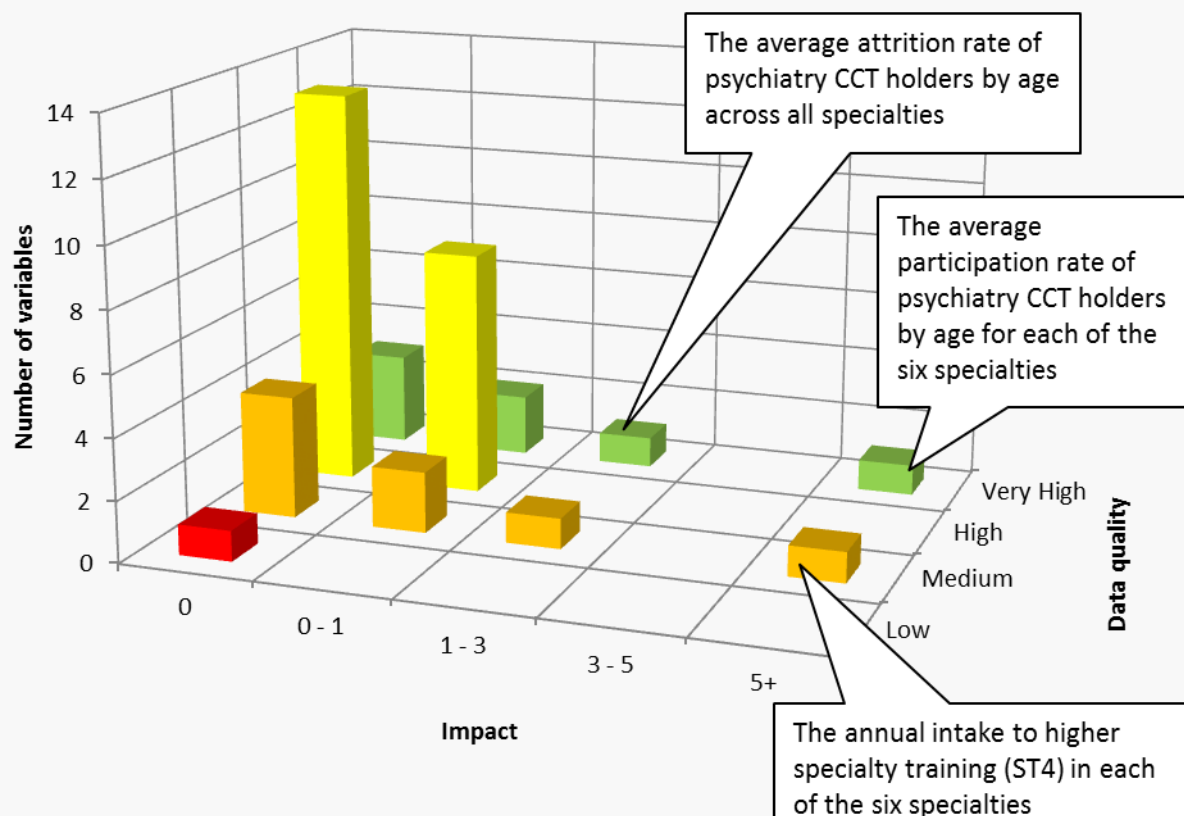
Level	Definition
Very high	Referenced data source. Direct one-to-one mapping of data to input variable.
High	Referenced data source, but not a direct one-to-one mapping to the variable.
Medium	Based on a data source with assumptions to map to model structure (may be older/incomplete data).
Low	Referenced to a similar data/CfWI judgment.
None	Value assigned but no confidence in the data value.

Source: CfWI system dynamics psychiatrist workforce model for England – sensitivity analysis (CfWI, 2013b)

Those variables located in the bottom right four quadrants of the charts indicate variables with the greatest impact, and the lowest data quality. These are the variables which should be of most concern. The only variable for supply which fulfils these criteria is the annual intake to HST. However there are no variables which fulfil these criteria for demand. In addition to this, the presence of most variables in the low-impact and/or medium-to-high data quality quadrants indicate that the model overall is stable.

Figure G1: Sensitivity analysis for supply of the total number of psychiatrists

The uncertainty analysis graphs shows that the variation in answers obtained during the Delphi panel exercise significantly change the demand and supply trends output from the model.



Source: CfWI psychiatrist workforce system dynamics model for England (CfWI, 2013b) – sensitivity analysis

Annex H: Service delivery models – case studies

This Annex provides supplementary research and analysis to Section 5.9 of the *In-depth review of the psychiatrist workforce – Main report* (CfWI, 2014). The CfWI was commissioned to investigate and understand models of service delivery which demonstrate effective practice. The CfWI carried out consultations with key stakeholders to identify trusts that have recently implemented novel and effective service delivery models. The data and analysis described below was compiled based on hospital visits, consultations with mental health staff and further data provided by the trusts.

Case study one: Tees, Esk and Wear Valleys NHS Foundation Trust (TEWV)

TEWV provides a range of mental health services including intellectual disability, eating disorders and substance misuse services for the 1.6 million people living in County Durham and Darlington, the Tees Valley, and North Yorkshire (Scarborough, Whitby, Ryedale, Harrogate, Hambleton and Richmondshire). Each of the three local areas has four clinical directorates, including:

- adult mental health and substance misuse services
- mental health services for older people
- children and young people's services
- intellectual disability services.

TEWV has around 5,700 staff working out of around 170 sites, and an annual income of £270 million. TEWV employs 250 doctors, of whom 147 (HC) and 118 (FTE) are consultant psychiatrists (HSCIC, 2013); 2,040 are qualified nurses; 1,650 are clinical support staff; 620 are qualified psychologists, allied health professionals and pharmacists; and 1,500 are admin and estates staff.

TEWV delivers its services by working in partnership with seven local authorities and primary care trusts, a wide range of voluntary organisations, as well as service users, their carers and the public. The services are spread over a wide geographical area of around 3,600 square miles, which includes coastal, rural, and industrial areas.

Innovative services

- TEWV NHS Foundation Trust was recognised by the DH for its quality improvements and innovation, which is based on a Lean methodology developed by Toyota and adapted for healthcare by the Virginia Mason Medical Centre in Seattle. The organisation comprehensively implemented *kaizen* (continuous improvement) in a healthcare setting, to the obvious benefit of patients, staff and users of resources. TEWV provides week-long rapid process improvement workshops (RPIWs) which remain fundamental to empowering staff to bring about change, eliminate waste and make improvements to services ensuring they are fit for purpose to meet the needs of patients. In 2012 TEWV held 28 RPIWs across the organisation along with three workshops to develop clinical pathways and seven 3P (production, preparation and process) events to bring about radical, rather than incremental, change.
- They also implemented the purposeful inpatient admissions model (PIPA) to manage hospital admissions and the length of stay. The PIPA model was designed to deliver quality and safety at affordable cost as well as possible, as fast as possible, and with the least intervention.

- The consultant-led model is a major component at TEWV NHS Foundation Trust, which has a historical psychiatry consultant recruitment problem.
- In 2012 TEWV extended its adult eating disorder service to provide specialist 'step-up/step-down' support for people across Teesside, County Durham and Darlington. The service is available to patients who are living at home but still need support in their recovery. The specialist team offer a two-step approach as an alternative to inpatient or residential programmes. 'Stepping up' caters for patients who may require further support to prevent admission to hospital as well as help for those awaiting admission. 'Stepping down' is for patients following discharge from hospital and aims to help prevent relapse and encourage recovery.

Impact

The Trust's quality improvement system has helped staff to transform services in all areas of the Trust. They have streamlined processes and redesigned services, improving patient care and access to services. Examples are listed below:

- Adult inpatient services in Middlesbrough redesigned the way they worked to dramatically improve patient care and reduce the time that people spend in hospital. The new assessment and care planning process was rolled out to all inpatient areas.
- Occupational therapists in older people's services in Durham have doubled the amount of clinical time they are able to spend with patients.
- Substance misuse services in Darlington have improved access to services by running evening clinics.
- Children's community services in Easington have dramatically reduced waiting times.

Case study two: Sheffield Health and Social Care NHS Foundation Trust

Sheffield Health and Social Care (SHSC) NHS Foundation Trust employs more than 3,000 people to deliver social care and health services. It provides:

- mental health services for adults and older people
- services for people with learning disabilities
- services for people with substance misuse
- a wide range of other specialist services, such as an eating disorders service, Asperger Syndrome service, maternal mental health, gender dysphoria services and psychological intervention for people with physical health problems.

Inpatient and community services are managed separately. Community services are supported by primary care, and care is delivered using a multidisciplinary team (MDT) approach. SHSC has strong liaison services where psychiatrists work closely with MDTs, the Crisis Resolution and Home Treatment service, community mental health teams, GPs and other appropriate agencies.

Innovative services

- **Service integration through collaborative leadership (SITCL)** – SHSC set up an in-house training programme, SITCL, to train managers and leaders about quality improvements and shared leadership responsibilities in the Trust. SHSC utilises the consultant-led model, and the SITCL training programme is aimed at enabling consultant psychiatrists to lead, engage and integrate with their teams successfully.

- **Targeted medical care** – the SITCL consultant-led model is designed to assess and provide targeted specialist medical care where it is most needed. Consultants are linked to one team rather than many, and their responsibilities are:
 - team supervision with an emphasis on integration and communication – ongoing support is provided and views on improvements are collected from teams
 - provision of emotional intelligence psycho-education
 - training to provide autonomy for nurses and nurse prescribers, and to promote the role of pharmacists and GPs
 - engagement in developing services such as the inclusion of the public health agenda in the medical model, and placing emphasis on physical and mental health
 - leading on systems change, e.g. the introduction of peer-support workers.

Impact:

- service improvements in shared and collaborative approaches through the introduction of the SITCL programme
- reduced hospital admission through the provision of home treatment in child and adolescent mental health services (CAMHS)
- reduced admissions to acute older adult wards through improved community services
- increases in the number of people receiving an assessment and in the diagnosis of people with a dementia.

Case study three: NAViGO Health and Social Care Community Interest Company

NAViGO is a not-for-profit provider of health and social care services free at the point of use to the 170,000 people of North East Lincolnshire. NAViGO employs around 450 staff members who are owners of the organisation through staff membership. The social enterprise allows delivery of high-quality care, and NAViGO's mission statement is to provide services that they would be happy for their own family to use.

Innovative services

At the forefront of NAViGO's services is the integration of health and social care through incentives, including the following:

- Tukes – a day service, hospital and café which provides work experience to service users of running horticulture projects, the buffet kitchen and the café. The café provides training, skills development, and work experience in a real working environment for people who are socially excluded due to mental health problems.
- Inpatient services concentrate on fostering independence; service users have access to facilities where they can do their own laundry and cooking.
- Open Minds is an innovative IAPT service set as a walk-in day centre designed to be a friendly-looking health spa. It provides mental health support and advice in Grimsby and Cleethorpes. Service users can access self-help books, attend stress control and evening sessions, or be referred to a specialist.

'Service users are involved in all decisions', a staff member said.

Impact

- Tukes won the Service Delivery (Complex Needs) category of The Guardian Public Services Award 2011 for the most imaginative and inspirational provision of social and health support to service users, and for involving people in the service they are using.
- Open Minds ranked among the top five in the country for two key areas, including user-rated recovery scores. Figures provided by the HSCIC show the scores for recovery and moving off benefits in North East Lincolnshire are among the highest anywhere in the country.

Case study four: Big White Wall (BWW)

Big White Wall provides early and preventative intervention services in an online format for individuals aged over 16, who are experiencing varying levels of psychological distress. BWW combines social networking principles with a choice of clinically informed interventions to improve mental well-being. Services are provided in partnership with the Tavistock and Portman NHS Foundation Trust with a consultant psychiatrist who is responsible for clinical standards at BWW. Access to BWW can be gained through self-referral for free if individuals' postcodes are in commissioned areas, or through prescription from the GP and independent subscription for a monthly fee. The most distinguishing feature of BWW's services is that service users remain completely anonymous based on research, which suggests that people are reluctant to share concerns with family, friends or healthcare professions. This approach is used with the view to encouraging members to share their concerns in a safe and supported way while remaining anonymous.

Innovative services

BWW provides a range of services from self-assessment to live therapy. Some of the innovative approaches to service provision include, but are not limited to:

- 24/7 access to staff, known as Wall Guides, who have some level of psychotherapy training and who ensure the anonymity, support and safety of all members (staff are available in New Zealand to provide a cover system accounting for time differences)
- community, group and 1:1 peer therapy sessions, as well as clinical tests to track progress and self-manage and a broad range of other self-care resources
- guided support which is professionally led and where groups are informed by recognised therapies (comparable to IAPT step 2)
- 'Live therapy', where individuals are able to choose their own clinicians, trained and hosted by BWW and offering immediate text, audio and video sessions on a secure platform (comparable to IAPT step 3) (live therapy can be commissioned by mental health trusts and GPs for referred patients).

Impact

Findings from an independent review of BWW found that:

- 75 per cent of members talked about an issue for the first time on BWW
- 80 per cent self-managed their psychological distress
- 95 per cent reported one or more improvements in well-being

Other findings included the following:

- two thirds of BWW members said they used the site mostly to relieve stress and loneliness

- half said they used the site to relieve anxiety and a third cited depression as their main reason for using BWW
- one quarter of users had experienced suicidal feelings and one fifth were self-harming – BWW helped them deal with their feelings.

The majority of BWW users were able to self-manage their mental well-being without recourse to further help. Others found BWW a helpful step to, or complementary with, other medical or therapeutic intervention.

Case study five: The Orchard – West London Mental Health NHS Trust

The Orchard is a women's enhanced medium secure service (WEMSS) where patients are admitted from high secure, low secure and psychiatric intensive care units. West London Mental Health NHS Trust provides enhanced interventions and treatments to patients for whom current medium secure services are not appropriate.

The Orchard service has a clear model of care underpinned by the philosophy of treating women patients in the least restrictive environment, with a focus on dynamic care planning and active engagement.

Innovative services

The Orchard was opened in late 2007 in response to the Department of Health's initiative to achieve a mainstream approach to gender in mental health service configuration and delivery (DH, 2002). To develop the unit and to provide innovative solutions to areas that could put patients at risk, extensive research was conducted to ensure developers fully understood end user needs so the unit was tailor made.

Impact

- Of the three national pilot WEMSS, The Orchard is the largest and marks the end of women patients being detained at high security Broadmoor Hospital.

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