Exploring Mental Health Inpatient Capacity
accross Sustainability and Transformation Partnerships in England

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Foreword

The pressure on mental health inpatient services in England is growing, and the impact of this pressure on people who use these services and on clinical staff cannot be underestimated. Staff working in mental health units want to deliver safe and effective services for patients, but these aims are severely challenged when wards are fully occupied. The use of inappropriate out of area placements means that individuals are separated from their families and social networks for the duration of their inpatient care. Of even more concern is that people who have received inpatient care out of area have a higher risk of suicide when they return home than those who are treated locally.

For these reasons it is timely to carry out a detailed analysis of mental health inpatient capacity in England, with a focus on Sustainability and Transformation Partnerships. This work builds on the 2016 Independent Commission on adult acute mental health care, delivering a thorough analysis of the number of mental health beds available, the use of these services and the changing patterns of morbidity of those who are admitted. The analysis is enhanced by interviews with members of the Royal College of Psychiatrists and a review of the evidence base.

The NHS must take advantage of commitments to increase funding for mental health, finding enduring solutions to this longstanding issue.

Contents

Executive Summary

Introduction

Building on the Commission to review the provision of acute inpatient psychiatric care for adults published in 2016, this report describes the pressures on mental health inpatient services, exploring the factors that drive these pressures and the consequences for patients, carers and staff.

What the data told us

An average STP manages approximately 440 mental health beds, one bed for every 3000 residents. An average STP will admit and discharge approximately seven patients each day. The patients receive care in hospital for an average of seven weeks.

Since 1987/88 the number of mental health beds in England have fallen by 73 per cent from around 67,100 to 18,400. Mental health bed occupancy currently exceeds 90 per cent. In comparison over the same period there has been a 44 per cent reduction in general and acute hospital beds, from 181,000 to 101,000.

Acute hospitals have managed the decreasing bed numbers and increasing demand by reducing the average length of stay per patient. However, this analysis shows while the average length of stay in mental health inpatient unit use has varied over the past 15 years it has not fallen. The reducing number of beds available in mental health services have been managed largely through a reduction in the number of people admitted to hospital, and in some regions by the use of out of area placements.

The thresholds for admission to a mental health bed have increased; the level of mental ill health of people admitted to hospital in 2018 was higher on average than individuals admitted in 2013. Furthermore, patients discharged in 2018, although deemed clinically fit for discharge, were on average less well than patients leaving hospital in 2013.

The use of out of area placements which are not clinically indicated remains high and some services report having a 'waiting list' for admission. This provides clear evidence that many areas are struggling to manage levels of demand within the available bed capacity.

In addition, there has been a striking rise in the number of spells of care in general and acute hospitals for people with a primary mental health diagnosis, but no related increase in the total number of bed days spent in general and acute hospitals. In part this reflects older adults with dementia awaiting a mental health bed, it may also reflect better identification of mental health needs in general and acute services hospitals, and the development of Liaison Psychiatry Services.

Seven STPs report particularly high levels of inappropriate out of area placements after adjustment for population size and need; Bristol, North Somerset and South Gloucestershire, Devon, Lincolnshire, Norfolk and Waveney, Nottinghamshire, Lancashire and South Cumbria and Hampshire and the Isle of Wight. Mental health bed occupancy rates in Devon and five other STPs (Birmingham and Solihull, Cornwall, Mid & South Essex, North Central London, South East London, and Sussex & East Surrey) regularly or routinely exceeds 95%.

What Royal College of Psychiatrists' members told us

Interviews were carried out with 12 clinicians working in community and inpatient settings, and College members were invited to participate in an on-line survey.

There was a unanimous view across all clinicians interviewed and among 85 per cent of those who responded to the survey that pressure on inpatient services had increased in the last year, with reports of growing waiting lists, and of people being placed out of area or waiting in acute and general hospital beds for a mental health bed to become available.

This was ascribed to wider system pressures and to social and demographic change.

The system pressures included the reduction in total bed numbers, challenges from staff shortages, pressures on community health services and the lack of 24/7 access to crisis services. Social and demographic changes were reflected by the increase in people presenting with drug and alcohol abuse problems, rising dementia rates, and increased homelessness.

Interviewees described a range of approaches used to manage these pressures. These included work on prevention or early intervention, crisis management and improving resource management. They also identified liaison and street triage teams, and a range of crisis services from crisis houses and cafes to crisis teams and psychiatric decision units. A number reported the implementation of resource management functions such as enhanced bed management and the formation of centralised teams to coordinate service response. However as one member responded when asked about ways of managing pressures on inpatient services;

> *"If there was a magic solution, I think we would have found it by now."*

The consequence of these pressures was described in some detail during interviews. For patients there was less time for comprehensive discharge planning, and out of area placements were seen as an unfortunate necessity simply because of lack of capacity. High occupancy rates increased the risk of violent incidents on units, taking a toll on staff mental health and on recruitment and retention. Several participants commented on increased thresholds for admission, and the increased use of the Mental Health Act.

Across the interviews and the survey there was strong support for the view that the long-term solution to pressures on beds lay in developing community mental health services.

What the evidence tells us

A review of evidence was carried out, focusing primarily on systematic reviews and Cochrane reviews published over the past five years, to identify interventions that can reduce the use of mental health beds.

It identified early intervention in psychosis as effective in reducing hospitalisation and the number of bed days used, while the evidence for the effectiveness of primary care mental health initiatives was inconclusive.

In terms of the general care of people with mental health problems the evidence of the effectiveness of CMHTs was mixed, although it is acknowledged that the form and function of CMHTs has evolved considerably since this evidence was published. Talking therapy (IAPT) has been shown to reduce crisis contacts and acute bed days.

Crisis resolution teams may be effective in crisis management and admission avoidance, however most of the evidence comes from low quality studies. Models of enhanced psychiatric assessment are developing across the country and evidence from a small-scale study and case reports suggest such models are effective in reducing emergency admissions. Case study evidence suggests crisis cafes and help lines linked to local services may also be effective at reducing emergency admissions.

The limited observational studies of liaison psychiatry services such as Rapid Assessment, Interface and Discharge, indicate that these services may be effective in avoiding admissions and enhancing discharge rates from general acute beds. Cognitive behavioural therapy was found to be effective at reducing readmission rates and the duration of hospitalisation for people with psychosis and schizophrenia, and family intervention is reported to reduce hospital admissions.

Response from the Royal College of Psychiatrists

Mental health services in the UK have been transformed in the space of a generation. While long-term institutional care used to be the norm for people with severe mental illness, admissions to inpatient mental health facilities are now comparatively rare. Despite many challenges and setbacks, this represents a huge advance in care and treatment to the benefits of countless individuals and their families.

But this is an incomplete revolution. The closure of the old hospitals was never backed by a corresponding investment in community mental health services, social care and vital infrastructure. This includes areas such as supported housing that can have a substantial positive impact on the lives of people with serious mental illness, and can be a lifeline for older adults, homeless people and people with intellectual disabilities. This has been exacerbated in recent years with the hollowing out of many local authority social services. Meanwhile there has been a continuous reduction in the number of inpatient mental health beds. As a result, too often the lived experience of patients in a mental health crisis is that an adult acute inpatient bed is not available when they need it.

We commissioned this analysis to support our ambition that a psychiatric bed is readily and locally available for anyone who is acutely ill and in need of inpatient care. It is unacceptable for anyone under these circumstances to experience a lengthy stay in the emergency department, to be sent away from their local area to receive the care they need, or to be admitted to a general and acute bed where there is a relative lack of dedicated mental health nursing and psychiatric expertise. It is also a matter of equality. It would never be deemed acceptable for someone requiring acute coronary care to be admitted to a psychiatric ward.

This is not a new problem. In 2016, the Commission to review the provision of acute inpatient psychiatric care for adults in England[1], chaired by Lord Crisp, set out the pressures on mental health beds and established a clear way forward through a quality improvement approach. Two of its foremost recommendations were for the practice of sending acutely ill patients long distances for non-specialist treatment to be phased out by October 2017; and to support this, for local areas to undertake a service capacity assessment and improvement programme to ensure that they have an appropriate number of beds, as well as sufficient resources to meet the need for rapid access to high quality care.

The government subsequently set an ambition to eliminate inappropriate out of area placements in mental health services for adults in acute inpatient care in England by 2020/21. This has been coupled with an unprecedented focus on and investment in improving mental health services, from

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[1] The Commission also published a companion report for Northern Ireland, *Building on Progress*, in June 2016.

the Five Year Forward View for Mental Health to the NHS Long Term Plan. The latter includes plans to work with local areas with a long length of stay to bring this down to the national average of 32 days, as well as welcome commitments to improving community mental health treatment.

Three years on from the Crisp Commission, we have not seen sufficient action on its recommendation for local service capacity assessments to be undertaken. That is not to say that local areas are not doing their best to improve the care they provide to people in a mental health crisis. But what is clear from this report is that there is not sufficient capacity across the system to meet the level of need. It demonstrates that despite the positive work and commitments by NHS England, pressures on inpatient beds have not subsided. The challenges to reduce the persistently high rates of inappropriate out of area placements and provide timely access to and discharge from acute inpatient services remain substantial. Mental health bed occupancy has risen in most areas above the 85 per cent occupancy level recommended by the College and waiting lists for mental health beds have grown. It cannot be right that a patient in mental health crisis is in some circumstances more likely to be admitted to a general and acute ward than they are to a specialist inpatient ward.

The College believes that patients should get the right care when and where they need it. In the medium and long term that can only be sustainably delivered on the firm foundation of excellent community mental health and social services rather than simply increasing inpatient beds.

But we also need action now. As this report shows, services in many parts of England are dealing with a dangerously high pressure on beds resulting in poor patient and carer experience and less than optimal outcomes. Providers are forced to send patients many miles from home for care that is inappropriate to their needs and wastefully expensive. The College is calling for additional funding for adequately staffed and resourced specialist mental health beds in priority areas to relieve the current unsustainable pressure they are facing. This would create the breathing space that services in many regions need to get out of the beds trap and move forward with the ambitious vision for mental health services set out in the NHS Long Term Plan. The Government's decision to invest a further 2.3 billion pounds a year in mental health services in real terms by 2023/24 through this plan – with a new emphasis on community services – provides us with an opportunity to move decisively towards parity for people with mental illness. We must ensure that services in all parts of England are able to grasp that opportunity.

Professor Wendy Burn
President, Royal College of Psychiatrists

Setting out a complex solution to a complex problem

There is no single solution to this complex issue and several important factors to consider. The declining trend in bed numbers has been a significant contributor to the challenge of meeting the 85 per cent recommended bed occupancy rates. However, bed occupancy is far from the only determinant, and a whole-service perspective is needed, including capacity in crisis teams and community mental health services, as well as a focus on supporting timely discharge of patients. It is also important to acknowledge the interdependency across the system, such as where changes in the availability of appropriate alternatives to inpatient admission in the community setting will impact on bed occupancy rates in hospital, and vice versa. Finally, there are limitations in the available data, including that bed occupancy is not broken down to specific types of mental health bed. For example, there is no routinely collected data on the number and use of specialist inpatient substance misuse beds, yet we know that many of these specialist units have closed down.

The College believes that a blended and complementary approach is required in the short, medium and long term.

1. **Immediate: additional mental health beds are required in priority areas**

    While this report found that an additional 1,060 inpatient beds would be required to meet the recommended rate of 85 per cent bed occupancy across all STPs, we do not believe that the response should be the same in each area as bed shortages are unevenly distributed around England.

    This analysis shows that there are priority areas where the pressures on the mental health system have reached unacceptable levels. While we know that these areas are actively working to address these challenges, we believe immediate action is required. Of particular concern are those STP areas with consistently high rates of inappropriate out of area placements. As this report shows, the following areas have the highest level of inappropriate out of area placement over the past two years (often having three or more new placements per month per 100,000 population weighted for mental health need):

    - o   Bristol, North Somerset and South Gloucestershire
    - o   Devon
    - o   Hampshire and the Isle of Wight
    - o   Lancashire and South Cumbria
    - o   Lincolnshire
    - o   Norfolk and Waveney
    - o   Nottinghamshire.

    We believe these areas should be investing in additional inpatient bed capacity to ensure a local bed is available for all patients who have been sent inappropriately out of area. As these additional local beds become available, and the number of inappropriate out of area

placements declines, there should be a phased diversion of resources from the latter to cover the ongoing costs of the additional local beds.

As this report also demonstrates, inappropriate out of area placements are not the only adverse consequence of high bed occupancy. It also reduces the time for comprehensive discharge planning, puts an unrelenting pressure on staff and increases the risk of violent incidents on units. The College therefore believes that those areas without high rates of inappropriate out of area placements but with persistent 95 per cent plus bed occupancy should also consider investing in additional local psychiatric beds as a part of their transformation plans to deliver the NHS Long Term Plan. This includes the following STP areas (often with bed occupancy over 95 per cent in the last two years):

- o Birmingham and Solihull
- o Cornwall
- o Mid and South Essex
- o North Central London
- o South East London
- o Sussex and East Surrey.

It is vital that the introduction of these additional beds is aligned with local service delivery and mental health workforce planning to ensure they are properly staffed and resourced. Consideration of the physical estate for these new beds is also needed to ensure they provide a safe therapeutic environment.

2. **Over the next two years: maximise the therapeutic value of inpatient stays and undertake a local service capacity assessment**

Inpatient services are the most expensive and constrained component of the mental health system. And yet there appears to be little consistency in the way different health economies use these services. There is considerable variation in need-adjusted bed numbers, admission rates and average length of stay and no agreed clinical criteria for admission or discharge. As much as 10 per cent of all mental health beds are occupied by patients who are well enough to go home. Average lengths of stay in general hospitals have fallen considerably over the past 20 years. Similar reductions have not been seen in mental health services.

We call for a national programme to support mental health providers to ensure that every day that a patient spends in hospital is a day well spent, with clear clinical objectives. Initiatives such as the Red2Green campaign provide some indication of what is required. We must be clear why a patient has been admitted and when a patient is well enough to be discharged. Reaching a clinical consensus on these issues, codifying the results and introducing mechanisms to assess patients daily will not be straightforward. But it is clear that any proposed solution to the

problem of high bed occupancy which does not consider how those beds are used, will be incomplete.

We also reiterate our support for the recommendation in the Crisp Commission for local areas (at STP/ICS level) to undertake and publish a service capacity assessment and improvement programme if they have not already done so. This should adopt a quality improvement approach to:

- Establish the base line for demand, identifying peaks and troughs, and introduce processes for continual measurement of demand and capacity
- Provide robust data on the number and use of inpatient beds, broken down by type of mental health bed
- Introduce interventions designed to reduce demand or increase capacity (e.g. strengthening crisis teams, adding more beds on a temporary or permanent basis, auditing whether the care received by patients is concordant with NICE guidelines, improving bed management or reducing delayed discharges)
- Study the result of the individual interventions, ensuring that the adverse effects of any interventions are captured in the measurement system
- Make adjustments as necessary
- Embed effective interventions into standard work and normal practice.

3. **Over the next two to five years: invest in high quality community mental health services**

Whilst investing in additional beds in priority areas, and assessing and maximising the value of inpatient services, are important, our members are clear that the long-term focus should be to increase the capacity and capability of community mental health services. This was the primary conclusion of the 2016 Crisp review, and it remains a core action area. For example, ensuring there are appropriate community services to support older adults and those needing rehabilitation support when they are ready to be discharged will substantially improve their quality of life.

In line with the NHS Long Term Plan, its mental health implementation plan and the new Community Mental Health Framework for Adults and Older Adults, all STPs and ICSs must engage stakeholders to develop a consensus on how to strengthen primary and community services to move demand away from inpatient beds and into community settings. In some areas these discussions will already be well-progressed, in other areas these discussions must be initiated as a matter of urgency to ensure the benefits of the new funding coming through the NHS Long Term Plan are realised.

This planning must lead to quantified plans for service development and service delivery which are widely understood and supported by staff and patient groups. The plans must set out the

STP/ICS's forecasts for the numbers of people with mental illness by diagnostic group; the referrals, caseload, throughput and staffing levels of each of its community team types (e.g. early intervention, CMHT, crisis resolution etc); the numbers of inpatient beds and staff, and the rate of admission to and occupancy of these beds. The plans should include clear milestones so that actions can be tracked, and progress can be evidenced. They will also need to reflect the changing profile of community service referrals and the associated pressure on staff where community teams are increasingly now assessing and treating patients that previously would have be treated in an inpatient setting.

Uncertainty is inherent in long-term service planning. But this report highlights that planning uncertainty is exacerbated by the paucity of evidence relating to community interventions which reduce demand on mental health beds. We call on researchers and academic institutions to address these gaps and thereby reduce planning uncertainties. In the meantime, STP/ICSs should also make clear their assumptions about the extent to which future investment in community service provision will offset the need for mental health beds.

NHS England and healthcare regulators should assure themselves that STP/ICS plans are robust, underpinned by extensive stakeholder discussions and sound analysis, and that implementation arrangements are adequately resourced.

The Royal College of Psychiatrists will work with stakeholders to support action in these areas and will use its monitoring tool, Mental Health Watch, to track progress and highlight the areas that are succeeding in reducing pressures on in-patient beds and those that are not.

1. Introduction

1.1   Background and objectives

Inpatient services form a critical component of mental health provision, providing clinicians with a means of rapidly reducing the risk of suicide, self-harm and harm to others and an environment in which complex treatment regimens can be safely initiated and calibrated.

In 2015, the Royal College of Psychiatrists established an independent commission in response to concerns about the provision of acute inpatient psychiatric services. The Commission, chaired by Lord Nigel Crisp, found that many people were unable to access high-quality acute care when needed.

The commission made twelve recommendations which were widely endorsed.

Whilst some progress has been made in the four years since the commission reported its conclusions, concerns about the capacity of inpatient mental health services remain. This report reviews the current situation relating to mental health bed capacity, drawing on an analysis of the data, interviews and surveys with members of the Royal College of Psychiatrists and a review of the latest evidence.

1.2   Report structure

The report has four substantive chapters. Chapter 2 uses administrative and clinical data to explore trends in the demand for mental health beds, the number of beds available and the effects of high bed occupancy on patterns of service use. Data is presented on admission thresholds, delayed transfers of care, out of area placements and the use of general hospital beds for patients presenting at A&E departments with a mental health problem.

Chapter 3 draws on semi-structured interviews and a survey of a sample of Royal College of Psychiatrists' members to explore clinicians' attitudes towards pressures on inpatient services, the impact these pressures have on clinicians, their practice and the strategies that have been or might be adopted to manage these pressures.

Chapter 4 reviews the latest evidence to understand which interventions have been shown to reduce admissions or bed use in mental health inpatient facilities.

Chapter 5 draws together the findings to visually represent the factors that cause pressure on mental health beds and the consequences of these pressures.

Figure 1: Recommendations of the Commission to review the provision of acute inpatient psychiatric care for adults[2]

1 A new waiting time pledge is included in the NHS Constitution from October 2017 of a maximum four-hour wait for admission to an acute psychiatric ward for adults or acceptance for homebased treatment following assessment.

2 The practice of sending acutely ill patients long distances for non-specialist treatment is phased out by October 2017.

3 Commissioners, providers and clinical networks in each area together undertake a service capacity assessment and improvement programme to ensure that they have an appropriate number of beds as well as sufficient resources in their Crisis Resolution and Home Treatment teams to meet the need for rapid access to high quality care by October 2017.

4 Service providers, commissioners and Health and Wellbeing Boards work together to improve the way the mental health system works locally – sharing information, simplifying structures where appropriate, and finding innovative ways to share resources and deliver services.

5 There is better access to a mix of types of housing – and greater flexibility in its use – to provide for short-term use in crises, reduce delayed discharges from inpatient services and offer long-term accommodation.

6 A single set of easy to understand and measurable quality standards for acute psychiatric wards is developed nationally with the involvement of patients and carers and widely promoted and communicated.

7 The growing awareness and use of quality improvement methodologies in mental health is nurtured and accelerated.

8 Patients and carers are enabled to play an even greater role in their own care as well as in service design, provision, monitoring and governance.

9 A Patients and Carers Race Equality Standard is piloted in mental health alongside other efforts to improve the experience of care for people from Black and Minority Ethnic communities.

10 The collection, quality and use of data is radically improved so it can be used to improve services and efficiency, ensure evidence-based care is delivered and improve accountability.

11 All mental health organisations promote leadership development and an open and compassionate culture with particular reference to better ward management, values-based recruitment, and staff training and development.

12 Greater financial transparency, removal of perverse incentives and the reduction of waste is coupled with investment in the priority areas identified here – acute care capacity, housing, information systems and staff – and guarantees about financial parity with physical health.

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[2] The Commission to review the provision of acute inpatient psychiatric care for adults, Old Problems, New Solutions: Improving acute psychiatric care for adults in England, Final Report, February 2016

2.   Data analysis

In this chapter, we use administrative and clinical data to explore trends in the demand for mental health beds, the number of beds available and consequences of high bed occupancy on patterns of service use. The analysis goes on to review the variation in bed occupancy and bed use between Sustainability and Transformation Partnerships (STPs) and investigates the factors that are associated with high bed occupancy.

2.1   Methodology

The following routine datasets have been used in this chapter:

- KH03 returns – NHS beds available and occupied

- Hospital Episode Statistics – Admitted patient care

- Mental Health services dataset and its predecessors (MHLDDS and MHMDS)

- KP90 returns - Admissions, changes in status and detentions under the Mental Health Act

- NHS Out of area placements collection

- NHS England SitRep returns - Delayed transfers of care

- NHS Programme budgeting data

Further details of these datasets are supplied in appendix A.

Analysis was conducted using SQL Server Management Studio (version 14.0) and R (version 3.5.1).

2.2   Bed numbers and bed occupancy

The NHS in England collects data about the number of consultant-led NHS beds via the KH03 returns. Each NHS trust submits data on a quarterly basis setting out the numbers of beds available and occupied by type (overnight or day bed), sector (general and acute, mental illness[3], learning disabilities and maternity) and clinical specialty. Figures submitted represent the average number of beds available and occupied at midnight over the course of the reporting period.

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[3] Including beds in forensic mental health facilities.

The reported number of mental health beds have fallen by 73%, from 67,100 in 1987/88 to 18,400 in 2018/19[4]. There was a period of rapid reduction between the mid-1980s and 1990s as the government policy of 'care in the community' took effect.[5] Since the mid-1990s bed reductions have continued but at a slower pace.

Over the same period, there have also been substantial reductions in general and acute beds (44%), maternity beds (52%) and learning disability beds (97%).

In the second quarter of 2018/19, mental health providers report that 18,300 beds are available.

Figure 2i: Long term trends in bed numbers by type, England 1987/88 – 2017/18
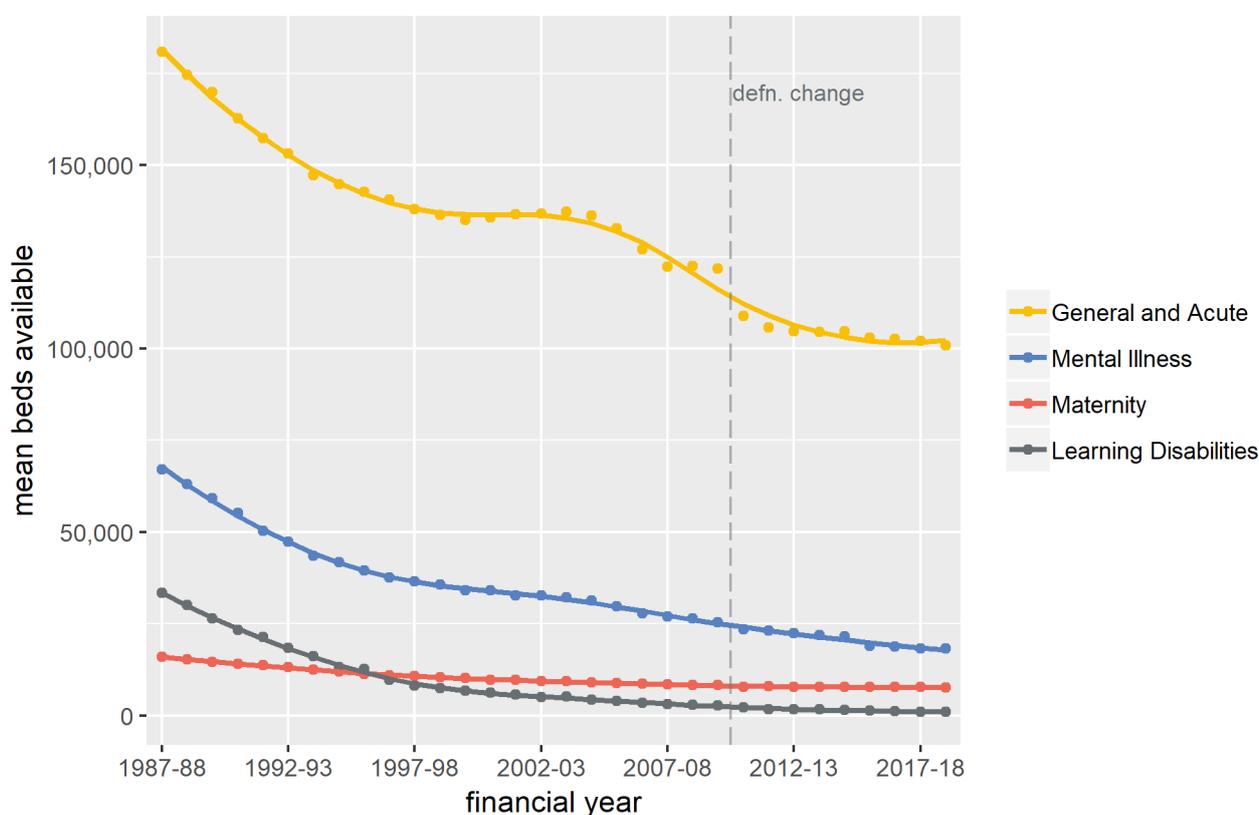
Source: KH03 returns

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[4] Data on bed availability has been collected systematically by the NHS since 1987/88.
[5] The introduction of the 'board and lodging allowance' in 1981 may have altered the incentivises to transfer patients from hospitals to residential care homes (see McFarlane A, Pollock A, Statistics in Society, 1998 252-62)

Whilst the number of mental health beds that are occupied have also reduced, they have done so at a slower rate, resulting in a steady increase in bed occupancy rates.[6]

The Royal College of Psychiatrists recommend that occupancy rates for inpatient mental health services do not exceed 85per cent pointing out that it is more challenging to deliver high quality, safe care in units where occupancy rates are very high.[7] By 2018-19 occupancy rates for England as a whole reached 90 per cent Similar increases have been seen in general and acute beds.

Figure 2ii: Trends in mental health beds available and occupied, England Q3 2010/11 – Q1 2018/19
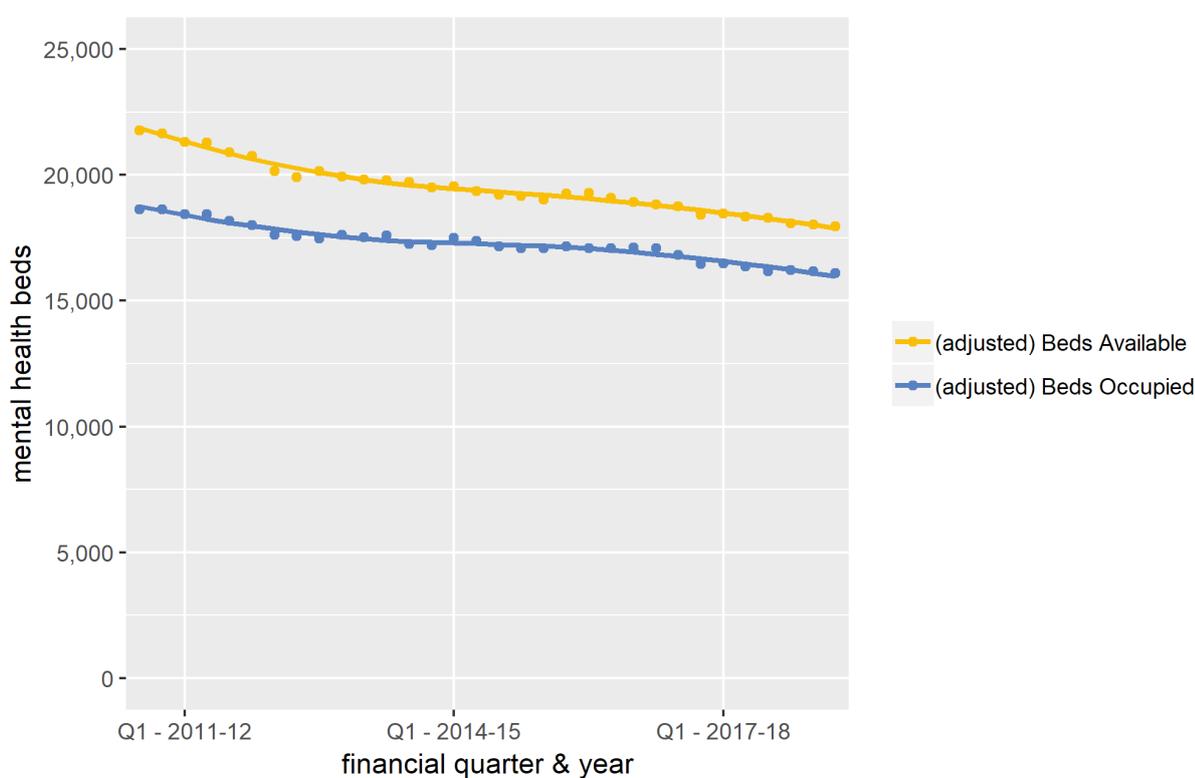
*Source: KH03 returns*

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[6] Note that a detailed review on KH03 data indicates gaps in submissions from certain mental health trusts. The data used to construct figure 2ii has been adjusted to provide a consistent trend in beds available and occupied.

[7] Royal College of Psychiatrists, Do the right thing: how to judge a good ward. Ten standards for adult in-patient mental healthcare; June 2011

Figure 2iii: Trends in bed occupancy by type, England 2010/11 – 2017/18
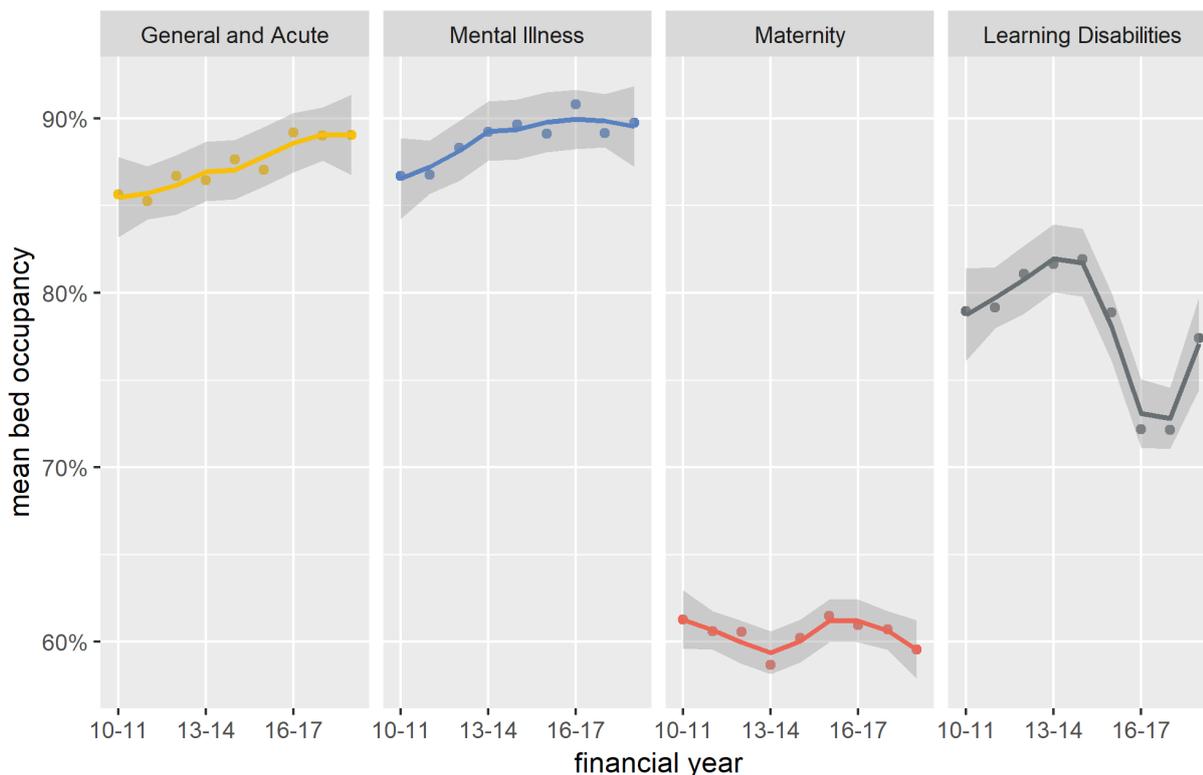
Source: KH03 returns

The KH03 returns also contain information on the number of occupied beds in five mental health specialties; adult mental illness, child and adolescent psychiatry, forensic psychiatry, psychotherapy and old age psychiatry. Between 2010 and 2019 beds occupied in the forensic psychiatry and child and adolescent psychiatry specialties increased modestly. Beds occupied in the old age psychiatry specialty have reduced by more than 40 per cent since 2010, twice the rate of reduction seen in the adult mental illness specialty.

2.3   Admissions, bed use and length of stay

The number of beds occupied, or the bed days used over the course of a year, is a function of the number of inpatient spells and the average length of stay of these spells. General and acute hospitals have managed bed reductions despite increases in demand, through substantial reductions in the average length of stay of patients. However, analysis of Hospital Episode Statistics shows that reductions in mental health bed use has been primarily managed by reductions in the number of people admitted to hospital. Admissions to mental health inpatient beds in 2016/17 occurred at approximately half the rate of 2000/01. Indeed, in the period from 2000 to 2006, bed day use reduced despite

increases in the average length of stay of patients that were admitted. Since 2006, reductions in length of stay have contributed modestly to reductions in bed day use.[8]

It is worth noting that these reductions in hospital admissions occurred over a period when the population of England grew by 12 per cent.

If the reduction in mental health spells has been achieved by diverting large numbers of low acuity, short-stay admissions, leaving a reduced cohort of more complex cases, then this may obscure efficiency improvements as observed through length of stay reductions.

Figure 2iv: Trends in mental health spells, lengths of stay and bedday use, England 00/01 – 16/17
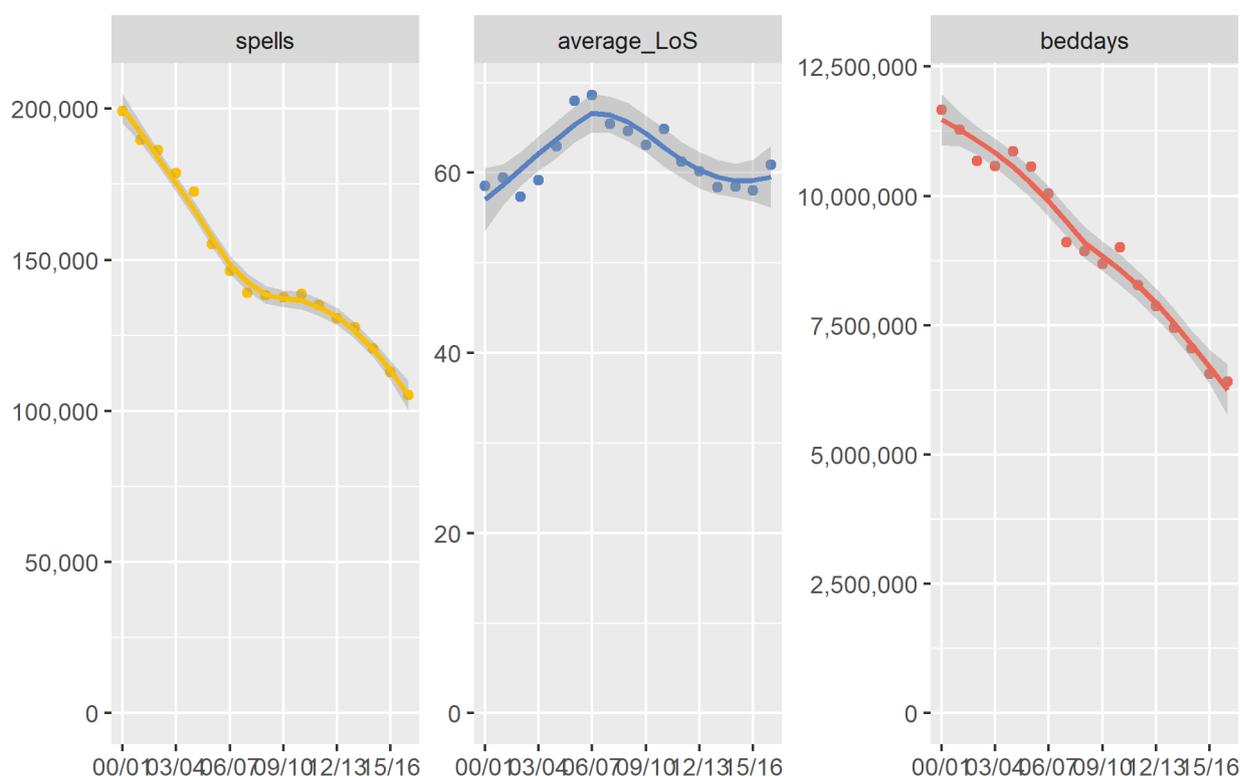
Source: Hospital Episode Statistics – Admitted Patient Care

[8] Note that these figures include admissions to forensic psychiatric units. Whilst a comparatively small in number, spells in these units are frequently lengthy and this influences the overall average length of stay in mental health beds. Excluding these spells would reduce the average length of stay by c 10 days.

The average (mean) length of stay in a mental health bed in 2016/17 was approximately seven weeks (median four weeks). The length of stay distribution is broad and right-skewed. More than one third of patients are discharged within two weeks, but seven per cent are still in hospital after six months. Most very short duration stays in mental health units (e.g. <= 3 days) occur when patients discharge themselves contrary to clinical advice or consent.

The durations of spells in mental health units commonly occur as multiples of full weeks (i.e. 7, 14, 21, 28 etc days). Stays which incorporate part weeks occur somewhat less frequently. It seems likely that this pattern is driven by some operational process rather than by clinical need.

Figure 2v: Distribution of length of stay (weeks) in mental health beds, England 2016/17
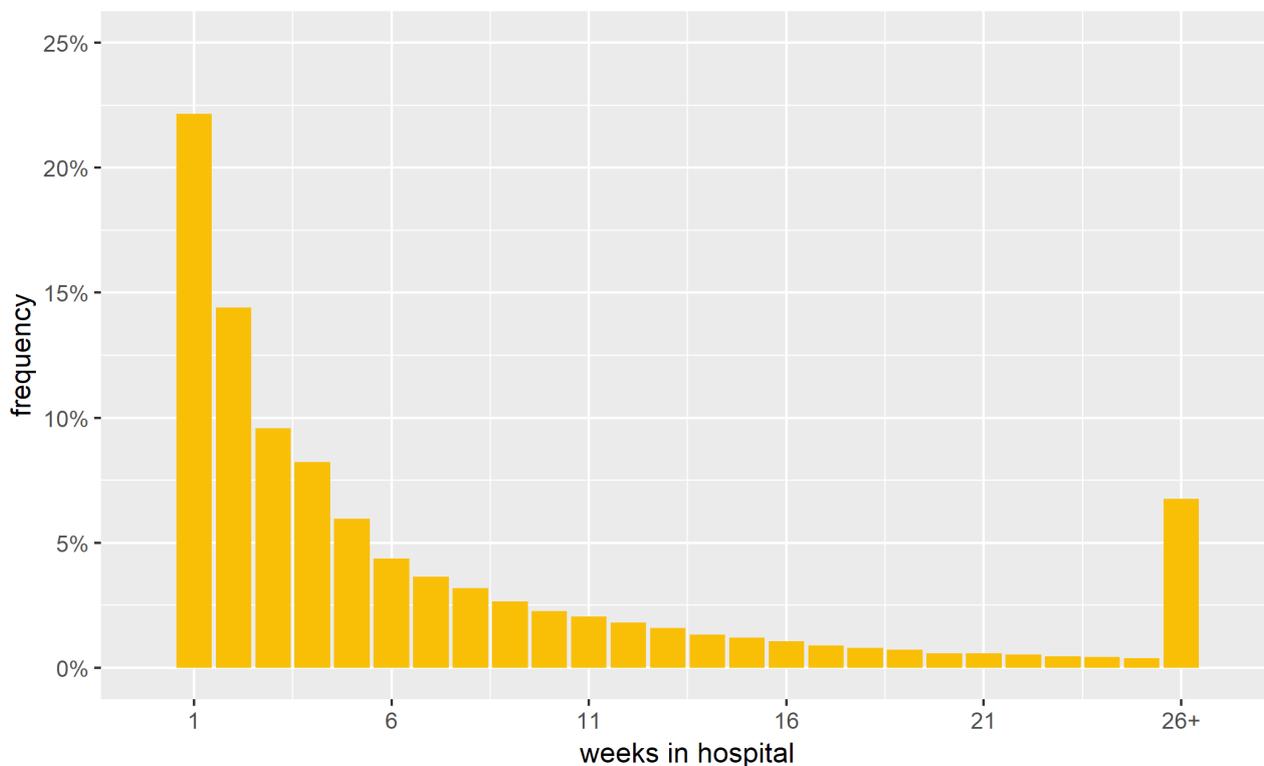
Source: Hospital Episode Statistics – Admitted Patient Care

Whilst data on the diagnosis of patients admitted to a mental health bed is not complete, the data that is available is sufficient to provide some indication of the distribution of spells and bed days by diagnosis group and the changes in these quantities over time.

Schizophrenia is the most common diagnosis on admission, followed by mood disorders and neurotic and personality disorders. Admissions for dementia and other organic and degenerative conditions are considerably less common. Given that the duration of hospital stays for patients

experiencing schizophrenia are longer than for many other conditions, admissions of this type consume a substantial proportion of all mental health bed days.

Figure 2vi: Spells and beddays in mental health beds by diagnosis 2016/17

Proportion of spells		Proportion of bed days	
Schizophrenia - 24%	other / not known - 25%	Schizophrenia - 38%	other / not known - 25%
Mood disorders - 18%	Neurotic & personality disorders - 18%	Mood disorders - 14%	Neurotic & personality disorders - 10%
	Psychoactive subst. - 8%	Other organic/ degen. - 3%	Other organic/ degen. - 5%
		Dementia - 3%	Dementia - 5%
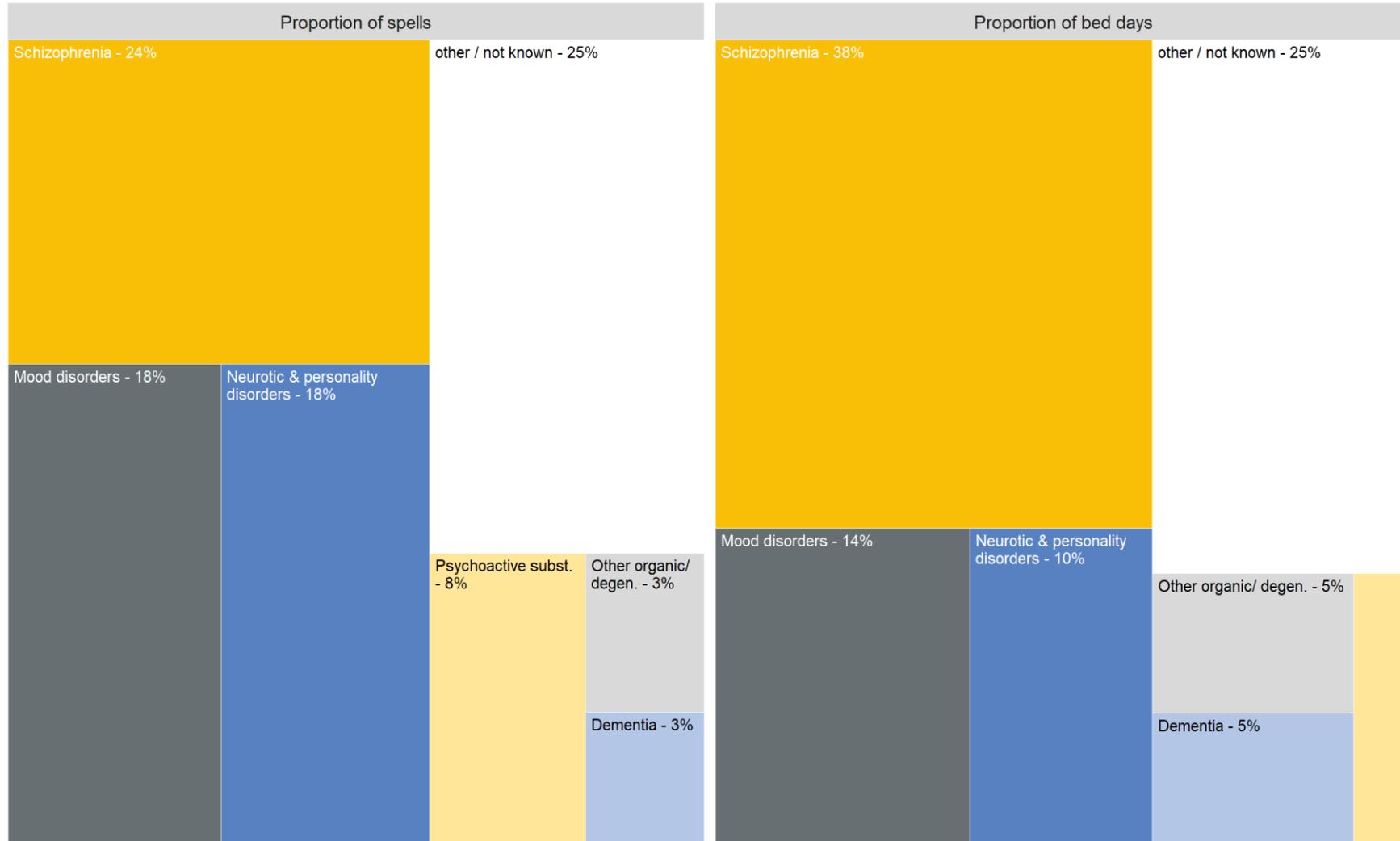
Source: Hospital Episode Statistics – Admitted Patient Care

Admissions for all diagnoses have fallen over time, but the reductions are less marked for schizophrenia and neurotic and personality disorders (see appendix C).

Spells and admissions in young men are particularly high, peaking around the age of 30. 18% of all spells and 26% of all beddays in 2016/17 were occupied by adults aged 65 years and over.

Figure 2vii: Spells and beddays in mental health beds by age and gender 2016/17
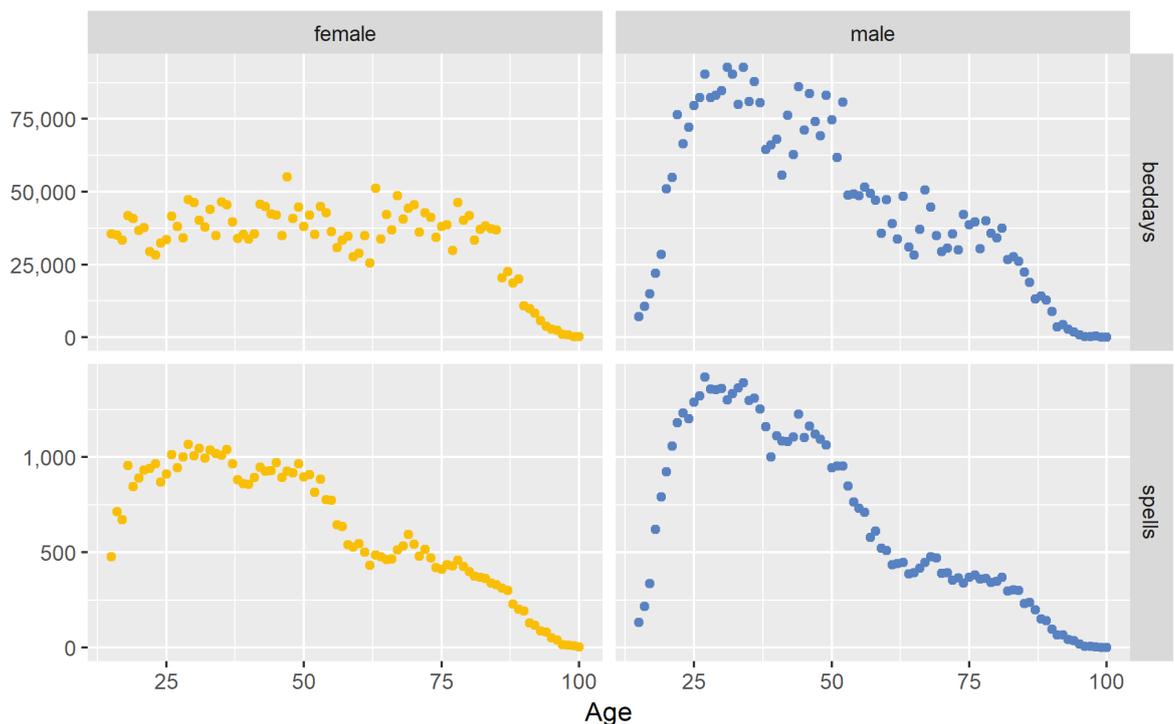
In recent years the greatest reduction in activity has been seen in patients aged 65 and over. In this group, spells and beddays reduced by approximately two thirds between 2000/01 and 2016/17.

2.4   Admission and discharge thresholds

Here we use measurements of patient's mental health status to explore changes in admission and discharge thresholds that have occurred over time. We use HoNOS (Health of the Nation Outcome Scales) scores derived at the point of admission and discharge to hospital to indicate the acuity of a patient's condition. Whilst HoNOS was not specifically designed to assess a patient's suitability for admission or discharge from hospital, it is a

well validated and reliable measurement scale which provides insight into the nature and severity of patients' mental health status.

HoNOS (Health of the Nation Outcome Scales) is a tool used to assess the health and social functioning of people with severe mental illness. Developed by the Royal College of Psychiatrists in 1993, the instrument is comprised of 12 scales. When assessing a patient using the instrument, a clinician assigns a value between 0 and 4 against each scale to reflect the degree of severity or need.

HoNOS scales

1. Behavioural disturbance.
2. Non-accidental self-injury.
3. Problem drinking or drug use.
4. Cognitive problems.
5. Problems related to physical illness or disability.
6. Problems associated with hallucinations and delusions.
7. Problems associated with depressive symptoms.
8. Other mental and behavioural problems.
9. Problems with social or supportive relationships.
10. Problems with activities of daily living.
11. Overall problems with living conditions.
12. Problems with work and leisure activities and the quality of the daytime environment.

HoNOS scores are routinely recorded in the national Mental Health Services Dataset (MHSDS) and its predecessors, the Mental Health and Learning Disabilities Dataset (MHLDDS) and the Mental Health Minimum Dataset (MHMDS).

Analysis of patient HoNOS scores recorded on the day of admission to a mental health bed suggest that admission thresholds have increased. Patients admitted to mental health beds in 2018 are on average more severely ill than patients admitted in 2013. The data also suggests that on average patients are discharged with higher HoNOS scores than in 2013; i.e. that discharge thresholds have fallen. Increases in severity at the point of admission and discharge are particularly notable in four of the 12 HoNOS scales; 'non-accidental injury', 'overactive, aggressive, disruptive or agitated behaviour', 'problems

associated with hallucinations or delusions' and problems associated with 'depressed mood'.

One possible explanation for these findings might be that improvements in the capability and capacity of community mental health teams since 2013, mean that it is now feasible to manage patients with substantial needs in community settings, delaying the point of admission and bringing forward the point of discharge. However, the trends in bed occupancy rates imply a more likely explanation; that changes to admission and discharge thresholds have occurred out of necessity and in response to a shortage of beds.

Figure 2viii: Average HoNOS score (11 scales) on admission and discharge, England Apr 13 – Mar 18
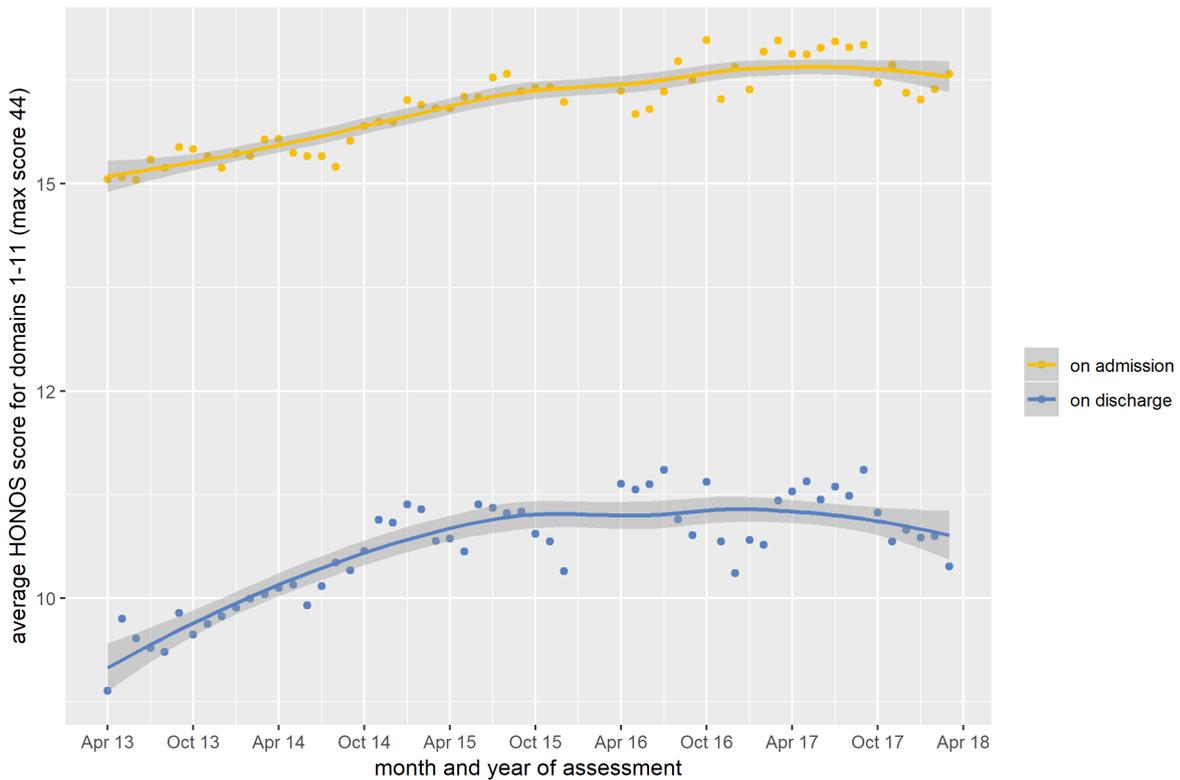
Figure 2ix: Four HoNOS scales on admission and discharge, England Apr 13 – Mar 18
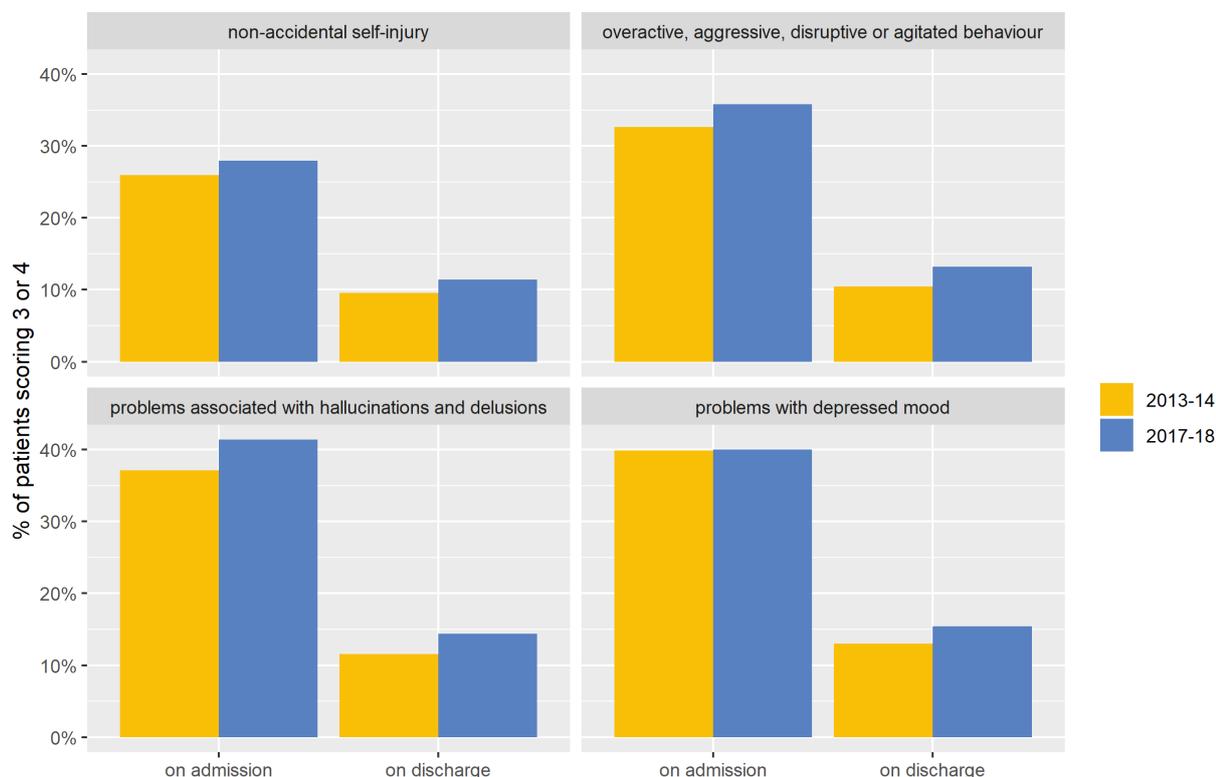
Source: MHMHS, MHLDDS & MHSDS

2.5   Compulsory detentions

Patients may be admitted to a mental health bed on a compulsory basis, under one or more sections of the Mental Health Act 1993 and 2007, or on a voluntary basis. Until 2015/16 data on compulsory detentions was recorded as part of the KP90 returns supplied by NHS Trusts to NHS Digital. Since 2016/17 the primary source for this information has been the Mental Health Services dataset (MHSDS). NHS Digital acknowledge that MHSDS is not yet a reliable source of data on Mental Health Act detentions. A third source of data on rates of Mental Health Act detentions are supplied by the NHS Benchmarking Network[9], but these cannot be readily reconciled with data from either the KP90 returns or MHSDS. The Government's recent review of the Mental Health Act calls for urgent work to improve the quality and completeness of MHSDS data relating to detentions.

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[9] https://s3.eu-west-2.amazonaws.com/nhsbn-static/Other/2019/Mental%20Health%20Services%202018/19%20highlights.pdf

Over the period where reliable and consistent data is available, 2005/6 to 2015/16, Mental Health Act detentions increased whilst the total number admissions to mental health beds reduced. If these trends have continued, then the largest proportion of admissions now occur on a compulsory basis.

Figure 2x: Mental health admissions and MH Act detentions, England 2000/01 – 2016/17
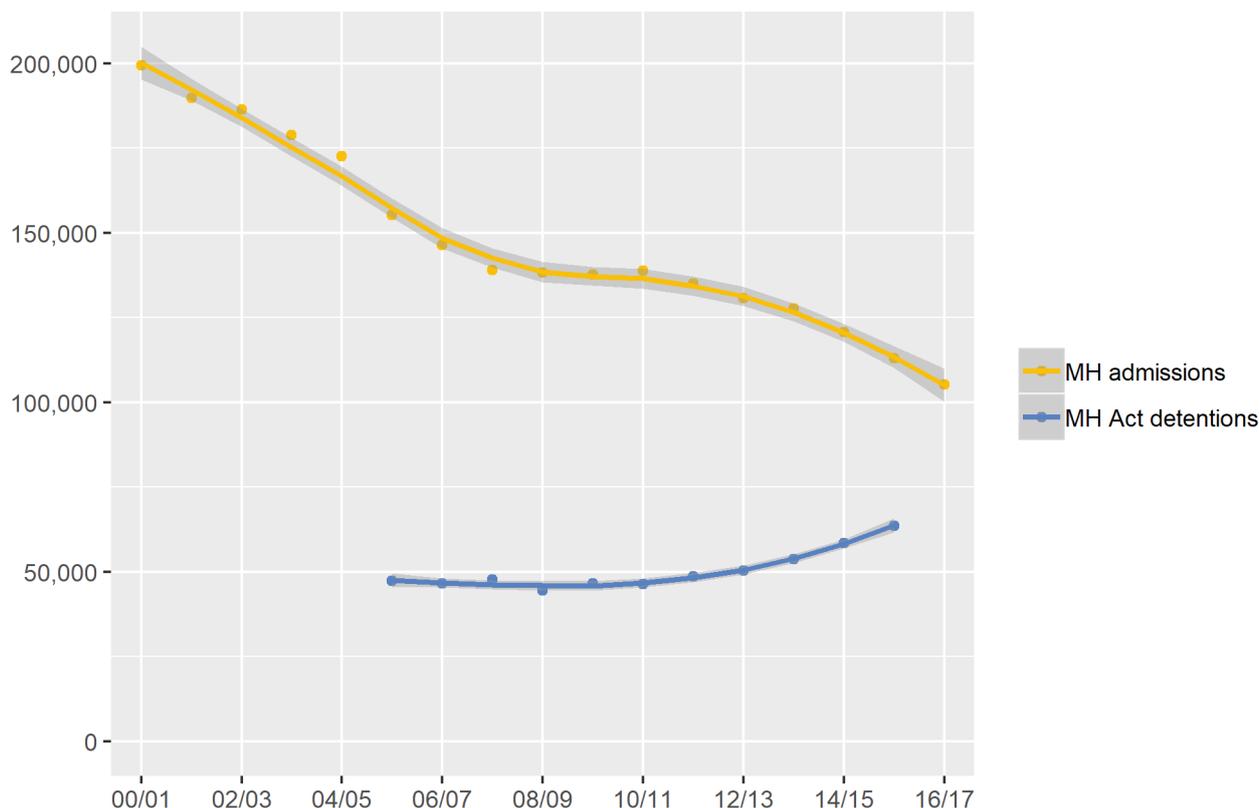
Source: Hospital Episode Statistics – Admitted Patient Care & KP90 returns

In its recent review of the increased use of the Mental Health Act to detain patients, the Care Quality Commission point out that '*As bed numbers have fallen, more people with severe mental health problems are living outside of a hospital setting and so are at greater risk of being detained.*'[10]

Alternative perspectives were offered as part of the independent review of the Mental Health Act 1983 instigated by the UK Prime Minister, Theresa May.

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[10]https://www.cqc.org.uk/sites/default/files/20180123_mhadetentions_report.pdf

'Lack of availability of beds (evidenced by reduction in bed numbers or increased bed occupancy rates) means that patients have longer to wait for a bed and are therefore more unwell at the time of admission; or are admitted involuntarily in order to secure a bed; or are discharged prematurely and therefore more vulnerable to relapse and compulsory readmission' [11]

The relationship between detention rates and bed numbers was examined in a BMJ paper in 2011. The authors found that;

'The annual reduction in provision of mental illness beds was associated with the rate of involuntary admissions over the short to medium term, with the closure of two mental illness beds leading to one additional involuntary admission in the subsequent year.' [12]

2.6   Delayed transfers of care

NHS England define a delayed transfer of care as follows;

"A delayed transfer of care occurs when a patient is deemed ready to depart from their current care, but is unable due to non-clinical reasons."

In 2017/18, mental health providers report that more than 400,000 bed days were consumed by patients who were clinically fit for discharge, but unable to leave hospital for non-clinical reasons. Approximately half of these delayed transfers were attributed to issues with health service provision and half to social care. In many areas, eliminating delayed transfers of care would be sufficient to reduce the in-patient occupancy rate below 85 per cent.

NHS Trusts submit data on the number of days patients are delayed and assign one on 10 reasons for the delay. The chart below shows the trends in the numbers of days delayed by reason for NHS Trusts providing inpatient mental health services.

Most delays occur when patients are waiting for a placement in a residential or nursing home or for a home care package. Delays reached a peak in 2016 and have subsequently reduced. However, delays due to housing issues continue to rise.

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[11]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/778897/Modernising_the_Mental_Health_Act_-_increasing_choice__reducing_compulsion.pdf
[12] Keown P, Weich S, Bhui K, Scott J, Association between provision of mental illness beds and rate of involuntary admissions in the NHS in England 1988-2008: ecological study, BMJ 2011; 343

Figure 2xi: Delayed transfers of care, mental health trusts, England Apr 2011 – Feb 2019
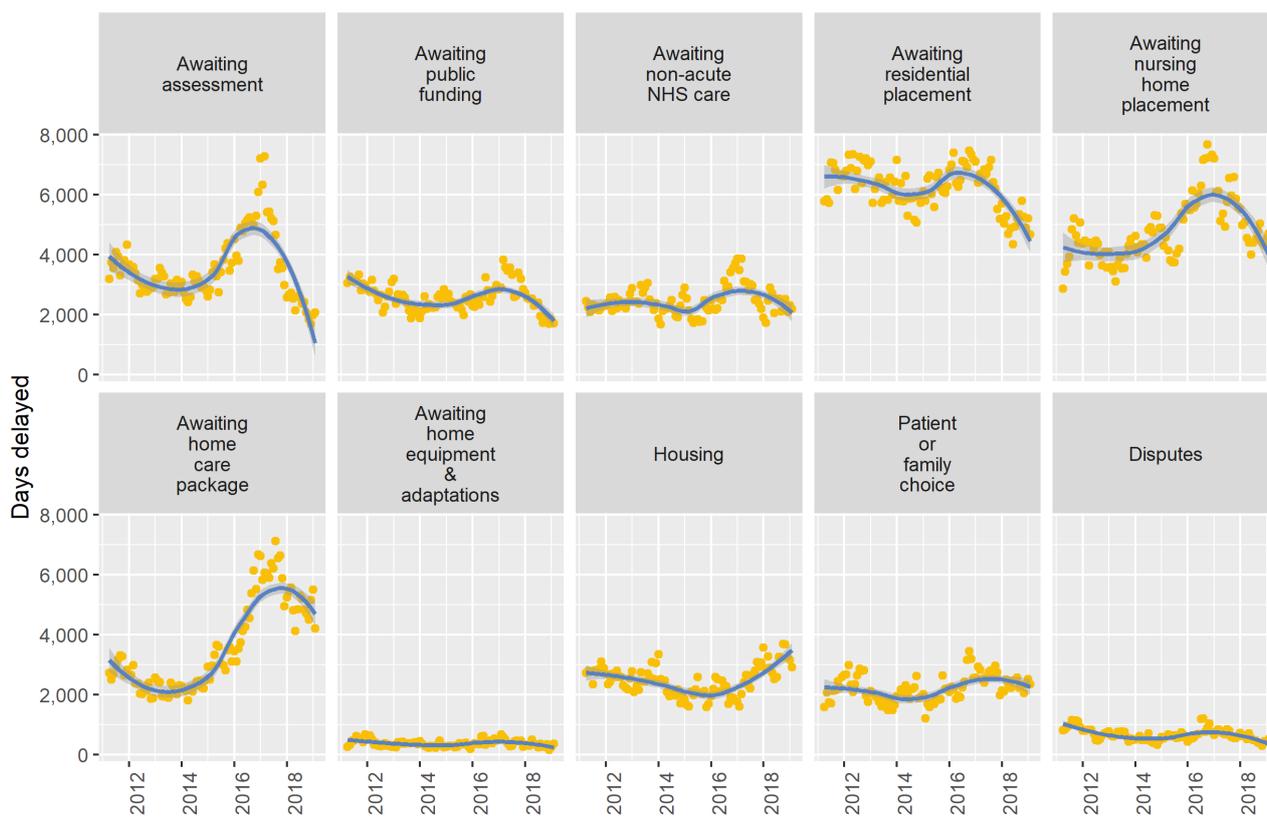
Source: NHS England SitRep returns – delayed transfers of care

2.7 Out of area placements

Out of area placements are commonly attributed to high levels of mental health bed occupancy. Since November 2016, the NHS in England has tracked the level of out of area mental health placements and since September 2017, these have been categorised as either appropriate or inappropriate. A placement is defined as inappropriate when a patient is sent out of area because no bed is available for them locally.

Since November 2017, the number of out of area placements has increased marginally and those that are defined as inappropriate consistently represents the vast majority of all out of area placements.

There is considerable variation in the level of out-of-area placements between STPs. Some of this variation can be explained by differences in population size and need, but variation remains after adjustment for these factors. Seven STPs report consistently high levels of out of area placements per head population weighted for mental health need; Bristol, North Somerset and South Gloucestershire, Devon, Lincolnshire, Norfolk and Waveney, Nottinghamshire, Lancashire and South Cumbria and Hampshire and the Isle of Wight.

Figure 2xii: Out of area placements, England November 2016 – December 2018
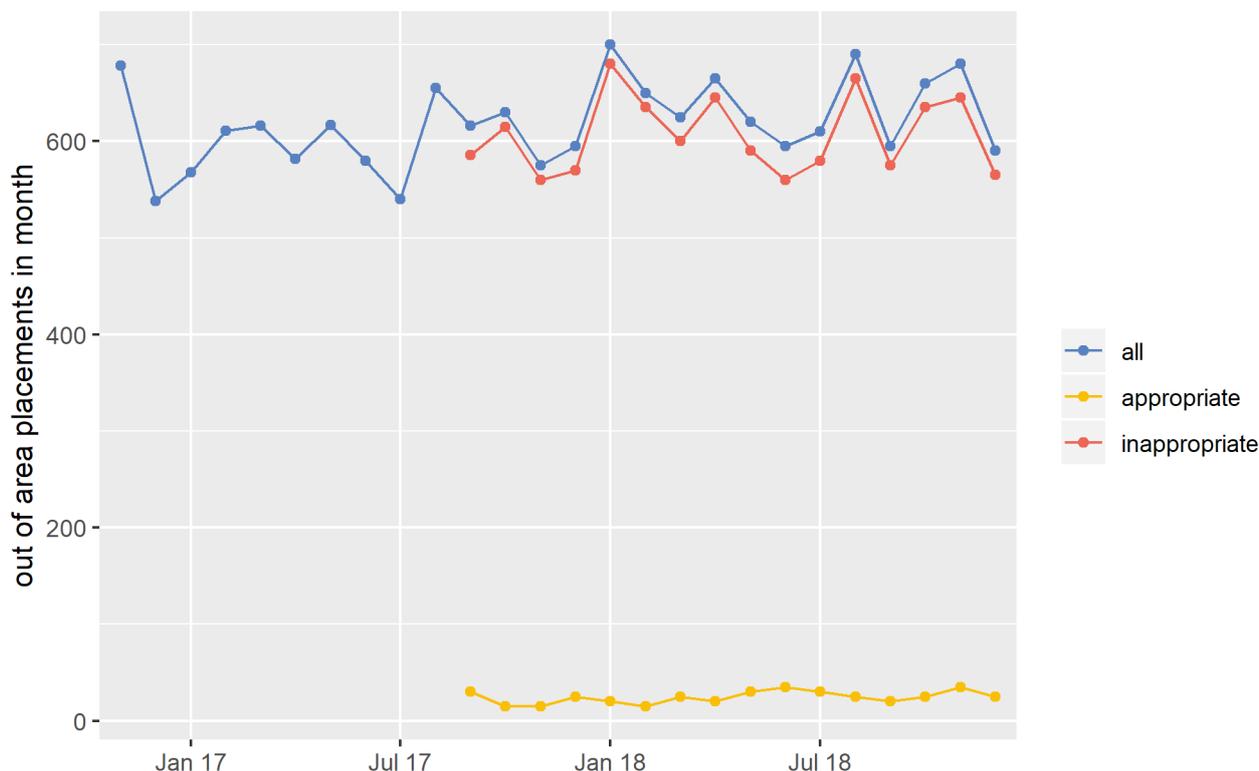
Source: NHS Digital Out of Area Placements

2.8 Use of general hospital beds by patients with a primary mental health diagnosis

Whilst the number of admissions to mental health beds has declined rapidly since 2000, there has been an increase in the number of admissions of patients to general hospital beds where the primary reason for admission was the patient's state of mental health. Since 2015/16, the number of mental health patients admitted to general hospital beds has exceeded the number of admissions to mental health beds. The total number of admissions of mental health patients, to mental health and general hospital beds combined has fallen marginally over this period.[13]

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[13] It is unlikely that the growth in mental health patient admissions to general hospitals can be attributed to changes or improvements in coding practice. This analysis relies on the primary diagnosis and specialty codes only. These codes have been almost fully completed in HES for many years.

Figure 2xiii: Trends in spells & bed day use in mental health & general acute beds, England 2000/01 – 2016/17
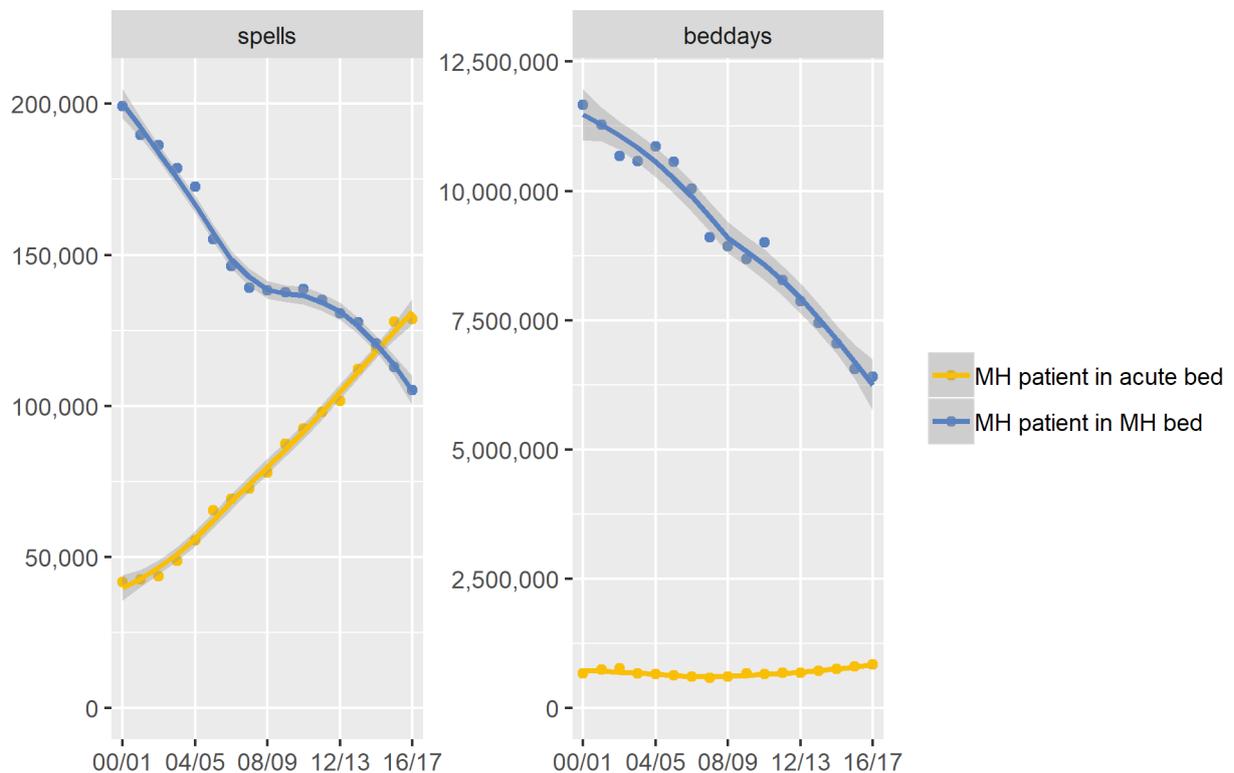
General hospitals have managed the impact of these increases by reducing the average length of stay of patients admitted so that the total bed use of patients with a primary mental health diagnosis has grown only marginally.

In 2017/18, more than half of the mental health patients admitted to a general hospital are discharged the same or the next day, suggesting that these admissions were used for short term assessment or treatment or as a place if safety.

Further analysis of mental health patients admitted to general hospital beds, suggests that there has been an increase in admissions for all diagnosis subgroups. Growth is particularly notable in admissions relating to alcohol and drug use.

Figure 2xiv: Spells in general acute beds by diagnosis group, England 2000/01 – 2016/17
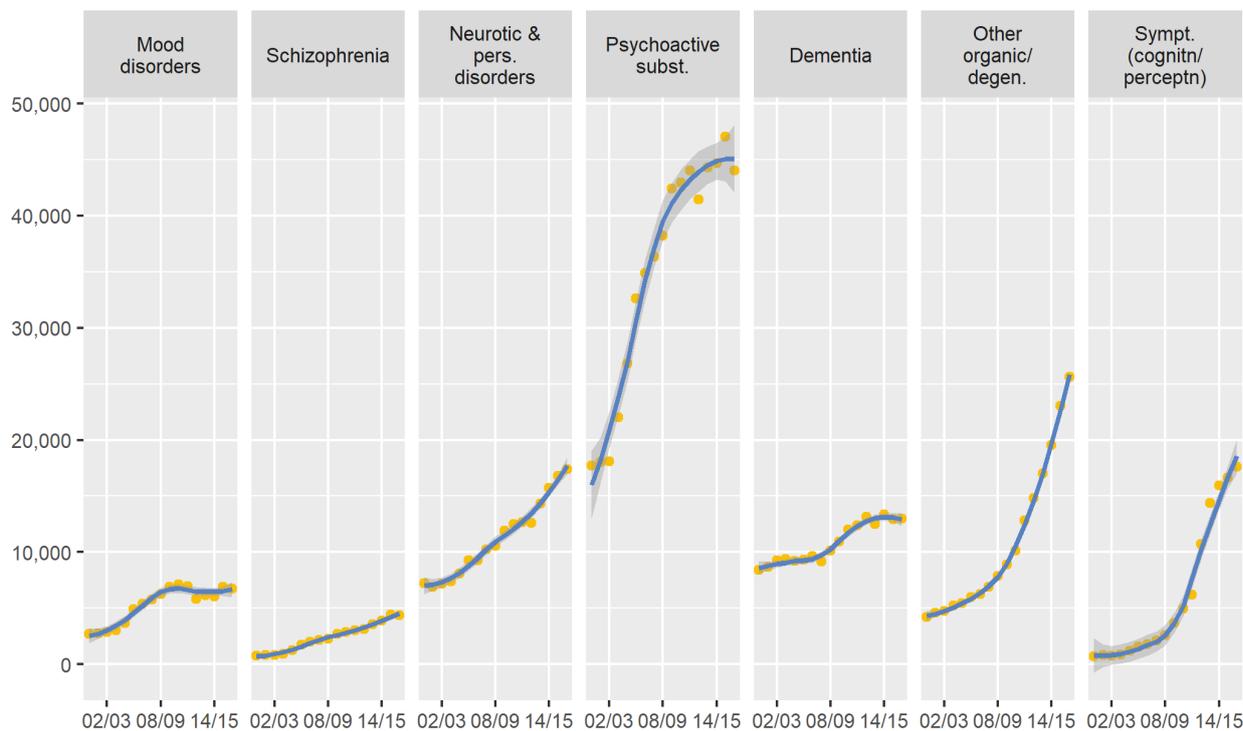
Source: Hospital Episode Statistics – Admitted Patient Care

2.9   STP variation in mental health bed occupancy

There is considerable geographic variation in the occupancy rates of mental health beds. In the second quarter of 2018/19, occupancy rates varied from 80.5 per cent in Norfolk and Waveney STP, to 100 per cent in South East London STP. Using data on the number of available and occupied beds, it is possible to estimate the number of additional beds that would be required so that occupancy rates would not exceed 85 per cent in any STP. In total, 1060 (c. 6%) additional beds would be required.

Six STPs report mental health bed occupancy rates which regularly or routinely exceed 95 per cent; Birmingham and Solihull, Devon, Cornwall, Mid & South Essex, North Central London, South East London, and Sussex & East Surrey.

However, given that the current system is operating under pressure with waiting lists for beds and admission thresholds elevated by occupancy rates, then it is unlikely that any

substantial or immediate improvements in occupancy rates would result if additional beds were made available.[14]

Figure 2xv: Bed occupancy by STP, England 2018/19
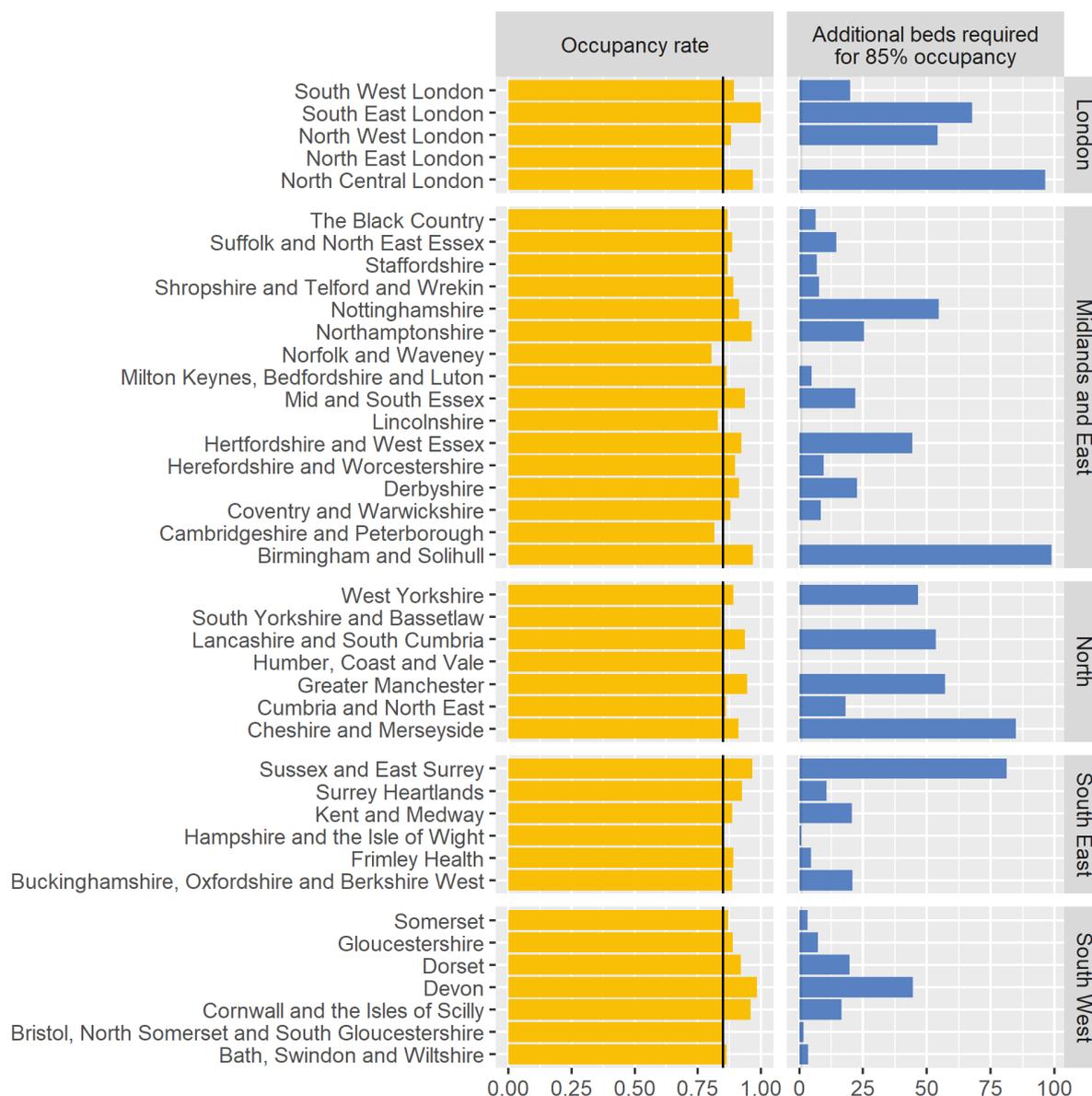
Source: Derived from KH03 returns

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[14] Roemer's law describes this mechanism. It states that "*in an insured population, a hospital bed built is a filled bed*". Empirical studies have found evidence of this effect (Delamater PL et al. (2013) Do More Hospital Beds Lead to Higher Hospitalization Rates? A Spatial Examination of Roemer's Law. PLoS One. 8(2)). Note that Roemer's Law does not in itself, provide evidence for supply induced demand.

An analysis of the flows of patients between STPs (see appendix B) illustrates that some of the STPs with the highest average occupancy rates (e.g. Birmingham and Solihull, South East London and Sussex & East Surrey), receive a considerable flow of patients from neighbouring STPs.

There is also wide variation between STPs in terms of admission rates, average length of stay and bed day use. A considerable proportion of this variation can be explained by difference in mental health prevalence and population need. However substantial variation exists after adjusting for these factors.

Figure 2xvi: STP Indirectly age, sex & deprivation standardised ratios -spells, length of stay & beddays, England 2016/17
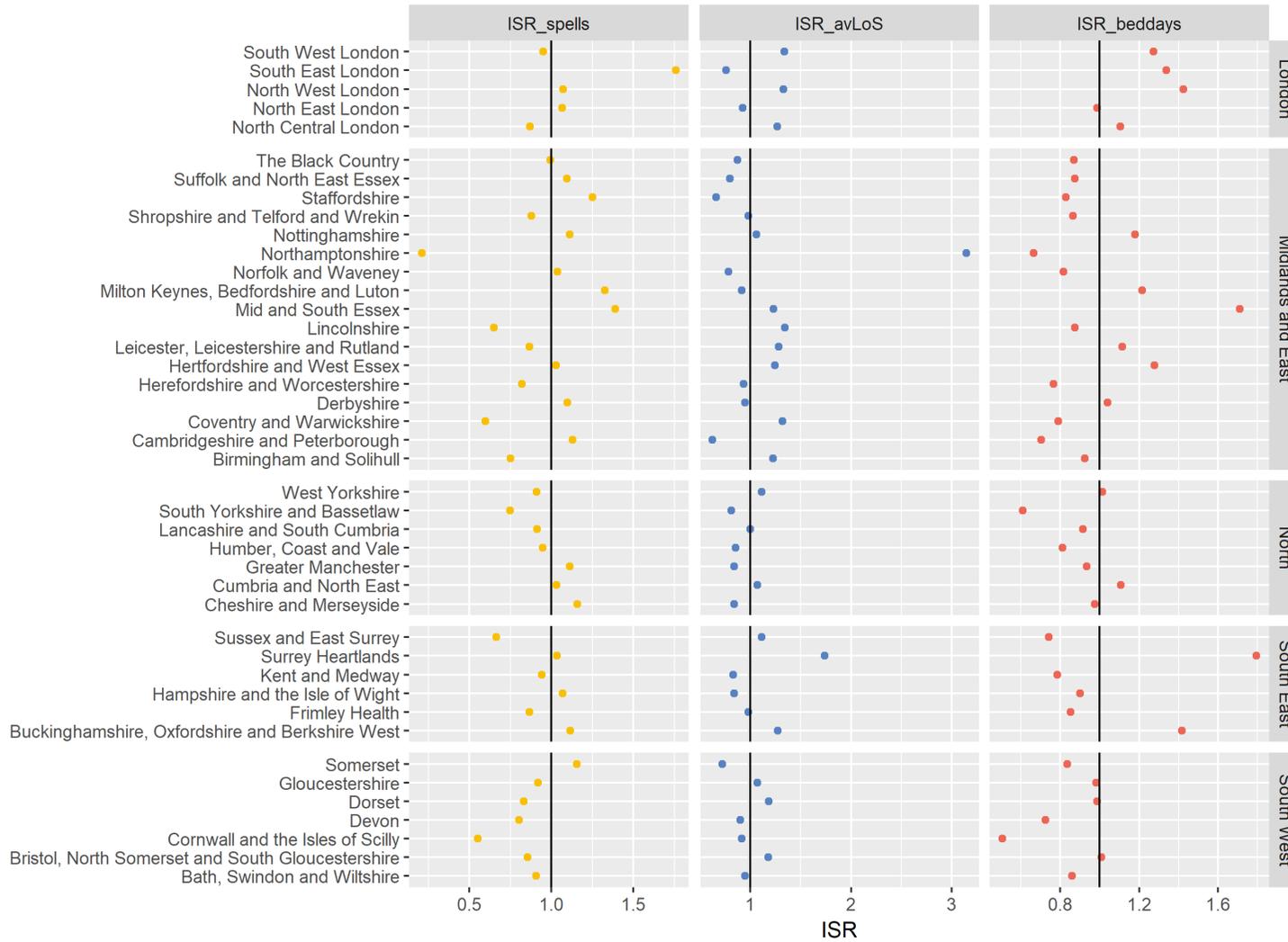
2.10 Factors associated with high bed occupancy

There are a range of potential factors driving bed occupancy; bed numbers, admissions thresholds, the lengths of inpatient stays and the robustness and capacity of community mental health services.

The presence of inter-STP variation provides an opportunity to explore these causal hypotheses. The matrix below shows the relationship between ten variables measured across the STPs in England. (See appendix A for details of the variables and data sources.)

The plots on the leading diagonal of the matrix shows the distribution of these variables across STPs. The charts in the lower left-hand portion of the matrix show the relationship between the variables named above and to the right of the chart. The values in the upper right-hand portion of the chart show the Pearson correlation coefficient for the variables listed above and to the right. [Note that for each variable, STP values lying more than 2 standard deviations from the mean were excluded from this analysis].

As we might expect, STPs with lower levels of mental health beds, admissions, mental health spend and general and acute bed use per head of (MH) weighted population tend to have higher levels of bed occupancy although these relationships are weak and fall below the usual thresholds for statistical significance. Furthermore, STPs with lower levels of bed occupancy tend to be those with higher levels of spend on community mental health services and higher levels of out of area placements, but these too are weak and statistically insignificant correlations. However, a moderate and statistically significant association is found between bed occupancy and average length of stay (r = 0.36).

Figure 2xvii: Relationships between bed occupancy and other variables

	bed occupancy	beds^	admissions^	beddays^	av. len. of stay	out area plc.^	acute adms^	acute beddays^	£ MH^	£ MH comm.^
bed occupancy		-0.27	-0.27	-0.13	0.36 (*)	0.13	-0.08	-0.02	-0.30	0.15
beds^			0.13	0.40 (*)	-0.04	0.05	0.05	0.01	0.32 (*)	-0.04
admissions^				0.48 (**)	-0.57 (**)	0.07	-0.11	0.02	0.16	-0.06
beddays^					0.34 (*)	0.13	-0.29	-0.25	0.21	0.15
av. len. of stay						0.01	-0.21	-0.29	-0.12	0.10
out area plc.^							0.05	0.25	0.37 (*)	0.11
acute adms^								0.80 (**)	0.39 (*)	0.05
acute beddays^									0.49 (**)	0.06
£ MH^										0.22
£ MH comm.^										
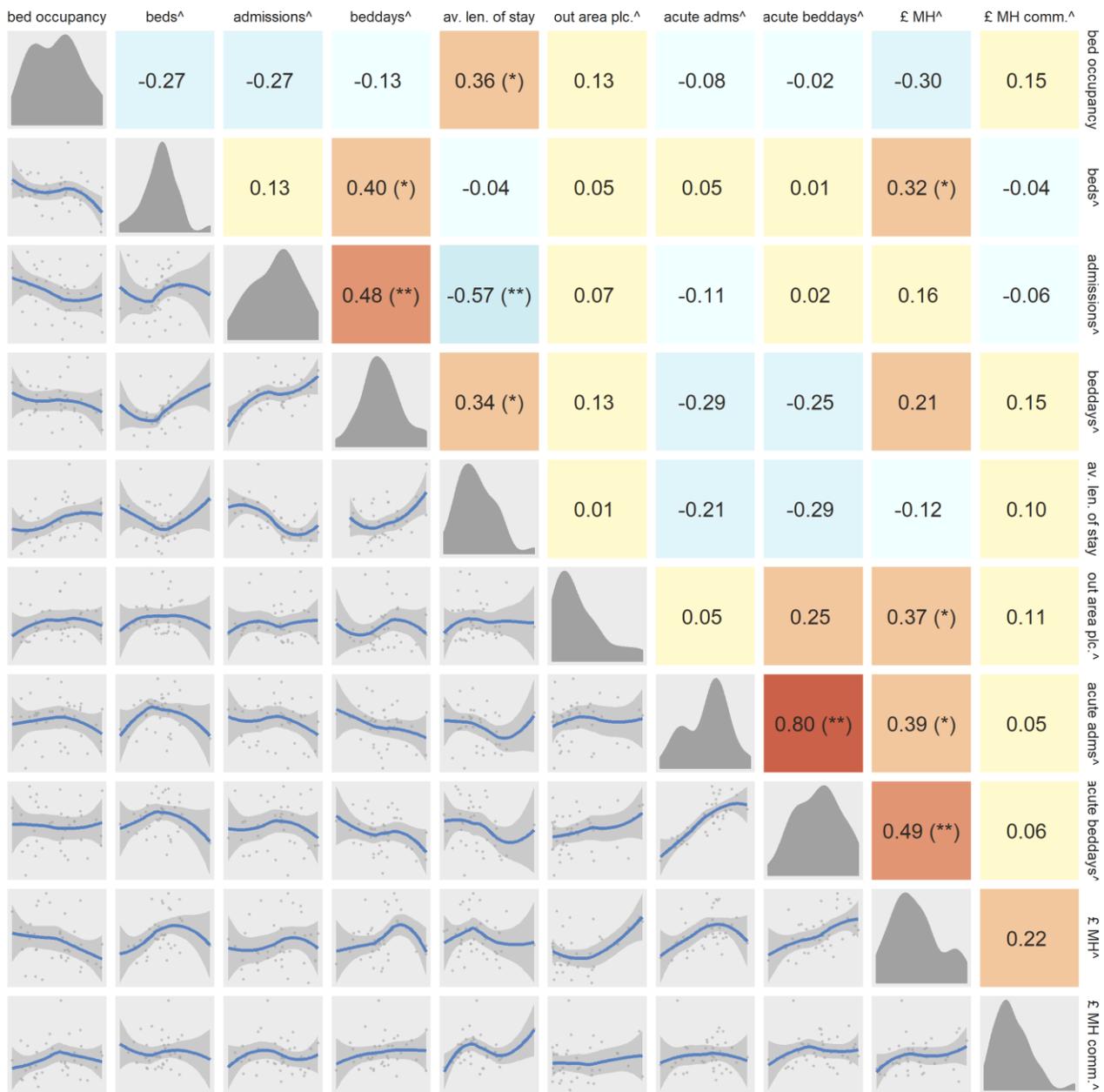
^ per head of mental health weighted population[15]

* statistically significant at 95% level

** statistically significant at 99% level

Sources: See appendix A

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[15] Given the data available, it was not feasible to standardise these quantities for age, sex, deprivation as in section 2.9. We instead use the mental health weighted population estimates from the latest CCG allocation formulae to adjust activity or supply for different levels of need in each STP.

2.11 Summary of findings

Mental health bed numbers have fallen by 73 per cent since 1987/88.

Mental health bed occupancy has risen steadily and exceeded 90 per cent since 2016/17, well in excess of the recommended bed occupancy levels (85%).

Reductions in bed numbers have been largely driven by reductions in admissions rather than by reductions in average length of stay.

In recent years, the greatest reductions in mental health bed use has been seen in patients aged 65 years and over.

Trends in HoNOS scores suggest that admission thresholds have risen steadily since 2013. Patients admitted in 2018 are more acutely ill than their counterparts in 2013. Over the same period discharge thresholds have fallen, so patients are now discharged from hospital with higher levels of need than in the past.

Delayed transfers of care reached a peak in 2016 and have subsequently reduced. However, delays due to housing issues continue to rise.

Since November 2017, the number of out of area placements has increased marginally and those that are defined as inappropriate consistently represents the vast majority of all out of area placements.

Whilst the number of admissions to mental health beds has declined rapidly since 2000, the number of admissions of patients with primary mental health diagnoses to general and acute hospital beds has increased. Since 2015/16, the number of mental health patients admitted to general and acute hospital beds has exceeded the number of admissions to mental health beds.

1060 (c. 6%) additional beds would be required to deliver 85 per cent occupancy rates in all STPs. However, given that the current system is operating under pressure with waiting lists for beds and admission thresholds elevated by occupancy rates, then it is unlikely that any substantial or immediate improvements in occupancy rates would result if additional beds were made available.

There is wide variation between STPs in terms of admission rates, average length of stay and bed day use. A considerable proportion of this variation can be explained by differences in mental health prevalence and population need. However substantial variation exists after adjusting for these factors.

There is a moderate and statistically significant association between bed occupancy levels in STPs and average length of stay of admitted patients.

Seven STPs report particularly high levels of inappropriate out of area placements after adjustment for population size and need; Bristol, North Somerset and South Gloucestershire, Devon, Lincolnshire, Norfolk and Waveney, Nottinghamshire, Lancashire and South Cumbria and Hampshire and the Isle of Wight. Mental health bed occupancy rates in Devon and five other STPs (Birmingham and Solihull, Cornwall, Mid & South Essex, North Central London, South East London, and Sussex & East Surrey) regularly or routinely exceeds 95 per cent.

3.   Qualitative research

This chapter adds context to the quantitative analysis of chapter two, by exploring clinicians' attitudes towards inpatient bed pressures, the impact these have on clinicians and their practice and the strategies that have been or might be adopted to manage these pressures.

3.1   Methodology

Two qualitative research methods have been used in this chapter:

- Semi-structured interviews with mental health clinicians
- Survey of members of the Royal College of Psychiatrists relating to mental health inpatient bed pressures

Semi-structured interviews

Twelve interviews were conducted in March and April of 2019 with clinicians working in community and inpatient mental health settings. Participants were selected where they represented areas with particularly high admission rates, length of stay or bed day use based on initial quantitative findings. A further STP was selected which performed close to the national mean across these areas. Ensuring a wide geographical spread of participants was also a factor. STP areas that were selected for this study under these criteria were:

- Devon
- Cornwall and the Isles of Scilly
- Northamptonshire
- South East London
- Coventry and Warwickshire
- West Yorkshire and Harrogate

Each interview lasted between 45-60 minutes. Participants were provided with a summary of the quantitative analysis from chapter two prior to the interview. The topic guide for the interviews can be found in appendix B.

The interviews were recorded and transcribed, and the resulting transcripts were used as the basis of a thematic analysis. Thematic analysis is the process of identifying patterns and themes within qualitative data. We grouped findings according to the themes set out in the topic guide, with the semi-structured approach allowing for additional themes to emerge.

Interview findings are anonymous so where quotations are used in this chapter, they are assigned only to the STP area from which they originated.

As these findings are provided from a sample of STPs, no attempt is made here to suggest any one STP could be representative of a larger group. Rather, findings are presented as either a collective view of those involved or as a unique position reflecting specific local context.

Survey of Royal College of Psychiatrists' members

In January 2019, Royal College of Psychiatrists' members were sent a survey containing two additional questions relating to this study. They asked clinicians to provide their impressions of inpatient bed pressures and where resource might have the most impact in improving mental health services. The findings relating to the survey responses are discussed below.

3.2 Demand for mental health inpatient beds

All participants described the current demand for inpatient beds as high and increasing: the past 3-4 years especially were viewed as a period of sustained pressure:

"I remember coming here and being presented with five empty beds, which is an absolute fantasy now."

Clinician 1, Devon STP

Waiting lists for inpatient beds were reported by most participants. A significant proportion of people waiting for an inpatient mental health bed are held in general and acute beds according to participants, with others supported by community mental health teams.

"Generally, there are [people waiting for a bed]- today we've got two older adults waiting for physical frailty beds- three female patients waiting for a bed in each acute hospital... I don't think a day has gone by in the past year or 18 months where someone hasn't been waiting for a bed."

Clinician 4, Coventry and Warwickshire STP

Interventions have been put in place in general and acute settings to reduce the length of time patients are waiting for an inpatient mental health bed. This issue has been alleviated to some extent in Cornwall, by, according to one clinician in the area, opening additional mental health beds as part of a fast stream rehabilitation ward model. 24-hour liaison

psychiatry services for general and acute wards are also designed to prevent 'bed blocking' but the impact of this on use of mental health inpatient beds is not expected to be significant, with interviewees commenting that it will not change the care decisions made.

Coventry and Warwickshire reported relatively high use of out-of-area placements as a response to bed pressures, whereas the majority of areas suggested this practice was more exceptional. They identified clearly that for some specialist functions such as eating disorder services, each area will not need its own units, although these clinically appropriate placements will be recorded as out of area placements. Where specialist facilities for complex cases were not available locally, clinicians highlighted the significant cost implications:

"I mean these are ongoing issues of low bed numbers, of not having enough resource for certain complex cases which need to go out of area and cost a bomb, but to say that we can't move ahead with funding of progressive mental health interventions because we can't bring more patients back out of area.., is naïve at best"

Clinician 4, Coventry and Warwickshire STP

3.3   Causes of inpatient bed pressures

A number of reasons were suggested by participants for the increased demand for inpatient beds. These can be categorised as arising from either system pressures or social and demographic change.

System pressures

Workforce: Difficulties in recruitment and retention of staff across mental health services has increased pressure on service delivery. Lack of staff was also an issue of concern beyond mental health services where it was felt that budget reductions in areas such as public health, housing and social care had drawn the mental health workforce to become involved more generally in people's social care and social welfare than has historically been required.

The majority of participants were not confident that there was sufficient trained workforce locally to sustain existing mental health services and increasing this workforce capacity should be a priority.

Specifically relating to mental health inpatient wards, recruiting and retaining staff was described by one interviewee as very challenging because of its reputation as a particularly stressful and difficult place to work.

Bed reductions: Reduction in inpatient bed numbers without reducing demand had increased pressures on beds. In one STP for example, the recent reduction in bed numbers has meant that while they had been running close to 85 per cent bed occupancy, they are now running closer to 100 per cent on a regular basis.

Pressure on community mental health services: Due to the increasing volume of activity in community mental health services, participants with expertise in this area stated that they could not provide adequate support to patients, especially those with more acute illness, and therefore intervention to avoid the need for an inpatient bed had become more challenging.

Lack of appropriate discharge support: Discharging patients safely is more difficult where the right supported accommodation, home treatment or other community support is not available. Resource challenges in these areas has meant patients are often not able to be discharged at the appropriate time. One participant from Northamptonshire stated the main reason why discharges are delayed was because of a lack of appropriate accommodation. This confirms the findings relating to delayed transfers of care in chapter two.

Pressure not to place patients out-of-area: Due to the comparatively high cost of out-of-area placements, as well as the negative impact on the patient and their families, participants reported pressure not to use this resource to alleviate bed pressures.

Lack of 24/7 mental health service: Where out-of-hours crisis and home treatment teams do not work 24/7, an admission is more likely if patients present out of hours.

Use of Mental Health Act: One participant described an increased use of the Mental Health Act to detain people as a result of a reluctance on the part of clinicians to accept the risk of not admitting patients. It should be noted however that other clinicians expressed the view that they were prepared to accept more risk around admitting patients. This suggests a lack of consistency nationally. The findings in chapter two confirm the increasing proportion of inpatients who are detained.

Changing mix of needs of people being admitted: Participants reported that more patients with learning disability and/or autism are being admitted to general adult mental health inpatient services, and they have a longer than average length of stay.

Social and demographic change

Drug and alcohol misuse: The majority of participants described more patients presenting with conditions linked to drug and alcohol misuse. This was also linked to cuts to prevention services highlighted in the previous section.

Rising numbers of dementia cases: It was suggested that a loss of appropriate nursing care home places have led to admissions being carried out to assess and stabilise people with dementia in crisis. The loss of places also makes it harder to discharge patients with dementia into an appropriate setting.

Population change: Where high risk groups, for example, asylum seekers, are prevalent, pressures on inpatient admissions are reported to have intensified.

Increase in homelessness: Homelessness is linked to a high risk of mental illness; rising levels of homelessness nationally therefore leads to higher pressures on mental health services.[16]

Increase in acute mental illness: Participants reported an increase in patients presenting with mania, depression and personality disorders and an increase in patients at risk of self-harm or suicide.

3.4   Approaches to managing increased pressures

Participants highlighted a range of interventions that have been deployed to alleviate pressures on inpatient beds. No one option was viewed as the solution and the evidence-base was viewed as inconclusive. One respondent summed this up:

"If there was a magic solution [to bed pressures], I think we would have found it by now."

> Clinician 2, Devon STP

There was a view that rather than considering new service models, if the current suite of services and interventions were fully resourced (for example 24/7 crisis services), these would significantly reduce inpatient pressures.

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[16] Mental Health Foundation. 'Mental health statistics: homelessness'. Available at
https://www.mentalhealth.org.uk/statistics/mental-health-statistics-homelessness (accessed 17/04/2019).

The interventions described by participants can be categorised as follows:

- Prevention or early intervention
- Crisis management
- Resource management

Note that the evidence base for the impact of interventions is discussed more fully in the next chapter.

Prevention or early intervention

Liaison teams: Participants report that liaison teams had had significant success in avoiding general hospital admissions by assessing patients presenting with mental illness and signposting them to the appropriate service. The impact on mental health beds was thought to be more limited.

Street triage: Street triage has been used to assess patients with mental health issues in the community and one participant reported some success in reducing A&E presentations for less complex cases.

Crisis management

Crisis houses: Crisis houses provide intermediate care in the community offering less formal, less medicalised care provision to hospital admission. There was broad support for this intervention as a useful community service but mixed views on whether there was sufficient evidence to suggest they directly reduced inpatient admissions.

Crisis cafes: Crisis cafes are drop-in centres for people in a mental health crisis. Several participants described them as a useful intervention for less complex cases.

Crisis resolution and home treatment teams: These teams have been described as vital for managing people with acute needs in their own homes. Where these teams are appropriately resourced, one interviewee argued, only patients who cannot under any circumstances be managed at home are admitted.

Psychiatric clinical decision unit: This has recently been implemented in Coventry and Warwickshire but other versions exist elsewhere. The Unit there is managed by an acute medical director, allowing all care options, including admission, to be considered fully. The impact of this service on admissions has not yet been evaluated.

Resource management

Central bed management systems: These live bed tracking systems across areas that provide admission and discharge information were reported by one participant to improve the efficiency of mental health inpatient services.

Home treatment teams supporting early discharge: In addition to their role in crisis prevention, home treatment teams have been used to provide additional resource for patient assessment to support discharge.

Centralised team to reduce Section 136 police detentions[17]: Specifically reported in South East London, this centralised team assesses cases where someone has been detained by the police. By joining up working between health, police and social services, the participant reported that this service has drastically reduced Section 136 detentions in police cells.

Increase bed capacity: Some trusts have purchased places in local private sector units or increased their own capacity in order to alleviate bed pressures and avoid out-of-area placements.

Operation red to green: This service improvement tool had been used in South East London. The approach is to avoid 'red' days where a patient in a bed receives little or no value-added acute care. 'Green' days are designated where patients receive care that could only have been received in that setting and are progressed towards their discharge.

3.5   Considering the data analysis alongside practical experience

As part of the qualitative research process, participants were sent a summary of the quantitative analysis from chapter two prior to their involvement. During the interviews, participants were asked to reflect on this analysis in light of their experience.

Experienced pressure on inpatient beds was felt across all areas: The data suggested that the occupancy rate for mental health inpatient beds nationally was 90 per cent. As described in the introduction to this chapter, all but one of the areas involved in this study

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[17] Section 136 (s136) is part of the Mental Health Act which gives the police the power to take someone to a place of safety where they suspect the individual has a mental health problem and requires immediate care or control.

were chosen because of their deviance from the national mean. Despite this however, participants descriptions of the level of pressure on beds felt on the wards was not markedly different.

In Cornwall, for example, which has the lowest indirectly standardised ratio for bed day use of all the STPs, one participant expressed surprise that the national bed occupancy rate was only 90 per cent and as far as they were aware, all of the available beds were occupied. Indeed, all participants indicated that they expected the occupancy rate in their area would be closer to 100 per cent than the analysis had shown. Participants did not feel that the quantitative findings reflected the relentless pressure on inpatient beds. Indeed, an 85 per cent target nationally was no longer viewed as achievable:

"The Trust keeps telling me that we should be aiming for 85 per cent, but realistically speaking I don't think it's possible. There are so many people on the waiting list, so many people who are wanting to come in... I would say our occupancy rate is 110, 120 per cent."

Clinician 10, Northamptonshire STP

Understanding local variation: One participant from South East London expressed their surprise that there was such variation nationally and sharing ideas from Trusts that were experiencing less pressure would be a useful exercise.

A number of participants pointed to the provision of highly specialised services as a legitimate reason for some out-of-area placements. For example, South East London provide national eating disorder services which treat people from out of the area. Data on out-of-area placements needs to be read with an understanding of the local service context.

Participants also stressed the need to describe and understand better the local social demographic factors that impacted on pressures for inpatient beds. These have already been described above and are important in determining local responses. In Cornwall, for example, the number of dementia admissions was described as a particular pressure. It is likely that STP areas with comparatively older populations would experience a similar trend.

Rate of change: Participants also noted that trends may shift so fast that the quantitative data presently produced is not always up to date. In West Yorkshire and Harrogate, for example, although the data suggests a relatively 'normal' level of admissions and bed days, participants from the area suggested occupancy rates had risen from around 85 per cent to closer to 100 per cent in the past seven months due to a reduction in number of beds, a finding outside of the data collection period.

3.6 Describing the consequences of pressure on inpatient beds

As suggested above, in reviewing the data, all participants described a relentless pressure on mental health inpatient beds. There were a number of impacts of this relating to patients, staff and services.

Impact on patients

Effective discharge planning: In efforts to reduce the length of stay of patients and free up beds for new admissions, several participants described a negative impact on the quality of discharge planning for patients leading to a 'revolving door' effect. This includes having the time to liaise with carers and families prior to discharge. One participant noted that:

"...things like care planning or making a relapse plan, this sort of thing is very brief, whereas when I was working on wards a few years ago you would have more time to plan a discharge- rather than discharges just being sprung upon a patient in a particular week- I think this probably does have an impact on patients."

Clinician 6, South East London STP

Use of out-of-area placements: Although use of out-of-area placements was variable by area, where they are necessary because of capacity challenges participants noted the negative impact on continuity of care for patients.

Impact on staff

Increased risk of violent incidents: Participants commented that where occupancy rates were closer to 100 per cent violent incidents increased, affecting both patient and staff safety. Under these circumstances there is also less ability to control access to illicit substances. According to one participant:

"... it's largely because of pressure on inpatient beds that some of the control and discipline on the wards has been lost."

Clinician 4, Coventry and Warwickshire STP

Staff recruitment and development: Participants commented that as leaders, pressure on beds had meant that they had less time to spend on research, staff development and other non-clinical/bed management activity. Recruitment and retention issues also meant that there were fewer experienced and senior staff available.

The mental health of the workforce: The heightened stress staff were under as a result of inpatient bed pressures was asserted by several participants. For example:

"There is constant pressure. This pressure does take its toll on you. I'm getting burnt out a little bit…, I don't think I can keep up this pace for the next 20 years."

<div align="right">Clinician 10, Northamptonshire STP</div>

The relentless nature of the work was also argued to have a negative impact on staff:

"For every patient that you're turning over quickly and safely and discharging, your reward is another new admission coming in and additional work in terms of getting to know that patient and making sure that they are safe on the ward. I think that people do get burnt out and exhausted really, with the turnover."

<div align="right">Clinician 8, South East London STP</div>

Impact on services

Increasing admission thresholds: Several participants cited admission thresholds increasing over time as well as more patients admitted under the Mental Health Act. This confirms the findings in chapter two. Increasing admission thresholds were reported to have a number of consequences which relate to staff and patients:

- Only admitting the most high-risk patients means that patients who may previously have been admitted are now treated in community settings. This has increased pressure on mental health community services as well as social care, housing, police, amongst others;

- Staff are expected to treat the same number of patients despite more of them having more complex conditions than has historically been the case. This can impact on the quality of care of patients;

- Having to treat more and more complex patients led to increased pressure on staff and high stress levels were reported.

Patients spending longer than needed in Psychiatric Intensive Care Units (PICU):
Where acute beds are unavailable, the discharge of patients from a PICU may be delayed.

3.7   Future ambitions for mental health services

Having reviewed the experience of clinicians working under pressure on inpatient beds, and in mental health services more generally, this section discusses where clinicians feel their own, as well as local and national energies, might best be directed to alleviate these pressures.

More support for community mental health services is more important than more beds: In January 2019, the Royal College of Psychiatrists sent out a survey to its members that contained two additional questions relating to this study. They asked clinicians to provide their impressions of inpatient bed pressures and where resource might have the most impact in improving mental health services. Both questions received more than four hundred responses. Consistent with the interview findings, the substantial majority of participants suggested that pressure on inpatient beds had increased.

Figure 3i: Royal College of Psychiatrists' survey question relating to inpatient bed pressures

Compared with last financial year, how have pressures on inpatient beds changed in your area?
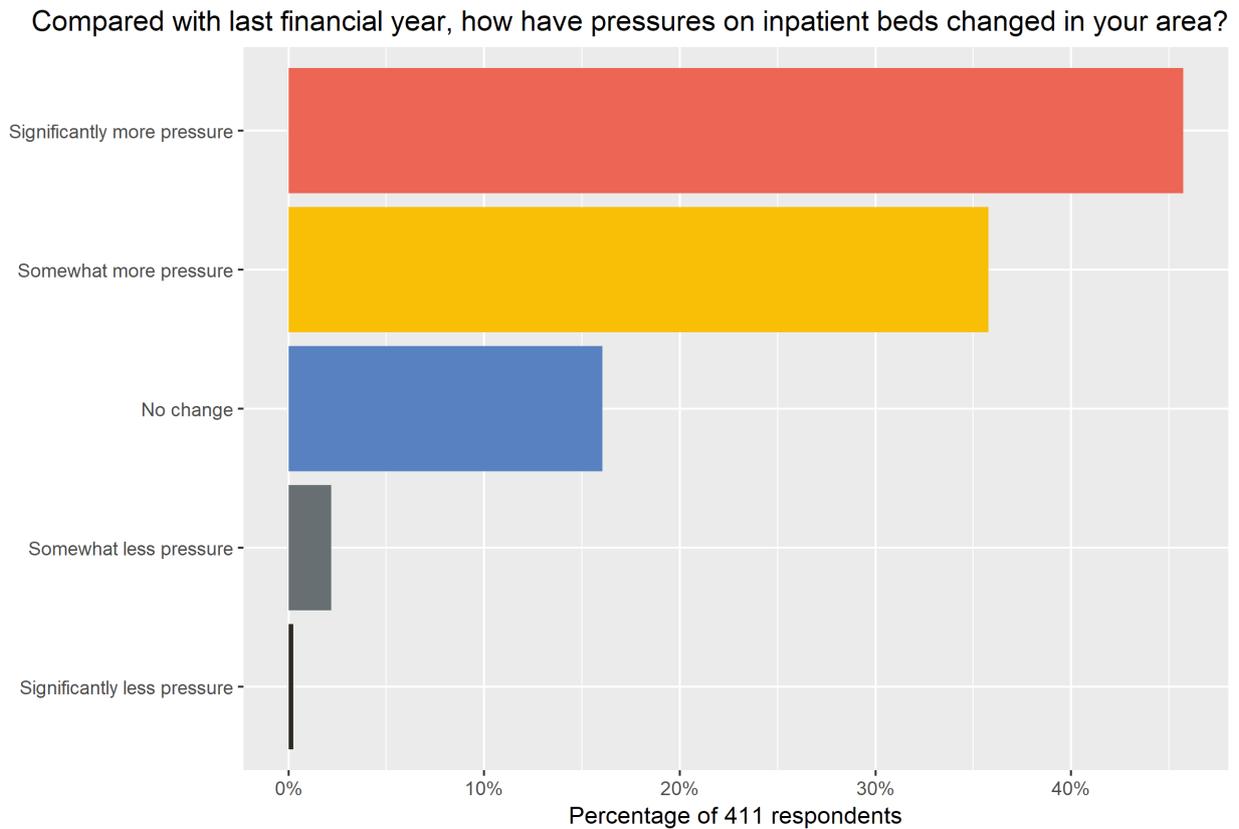
Source: Royal College of Psychiatrists Member Survey – January 2019

When asked where resources might be directed to improve mental health services, a significant majority suggested that community mental health services is where most benefit might be felt. During the interviews, no participant suggested that the long-term solution to system pressures lay in increasing the number of beds. There was a view that excess demand in the community would mean that any new beds would be immediately filled.

"If we opened up another 20 bed unit.., we would fill it up... But would it solve the problem, I'm not sure... There may be the need for some guidance as to what is the minimum number of beds one should have and Trusts should try and aim for that."

Clinician 12, West Yorkshire and Harrogate STP

Figure 3ii: Royal College of Psychiatrists' survey question relating to where resources might have the most impact in mental health services
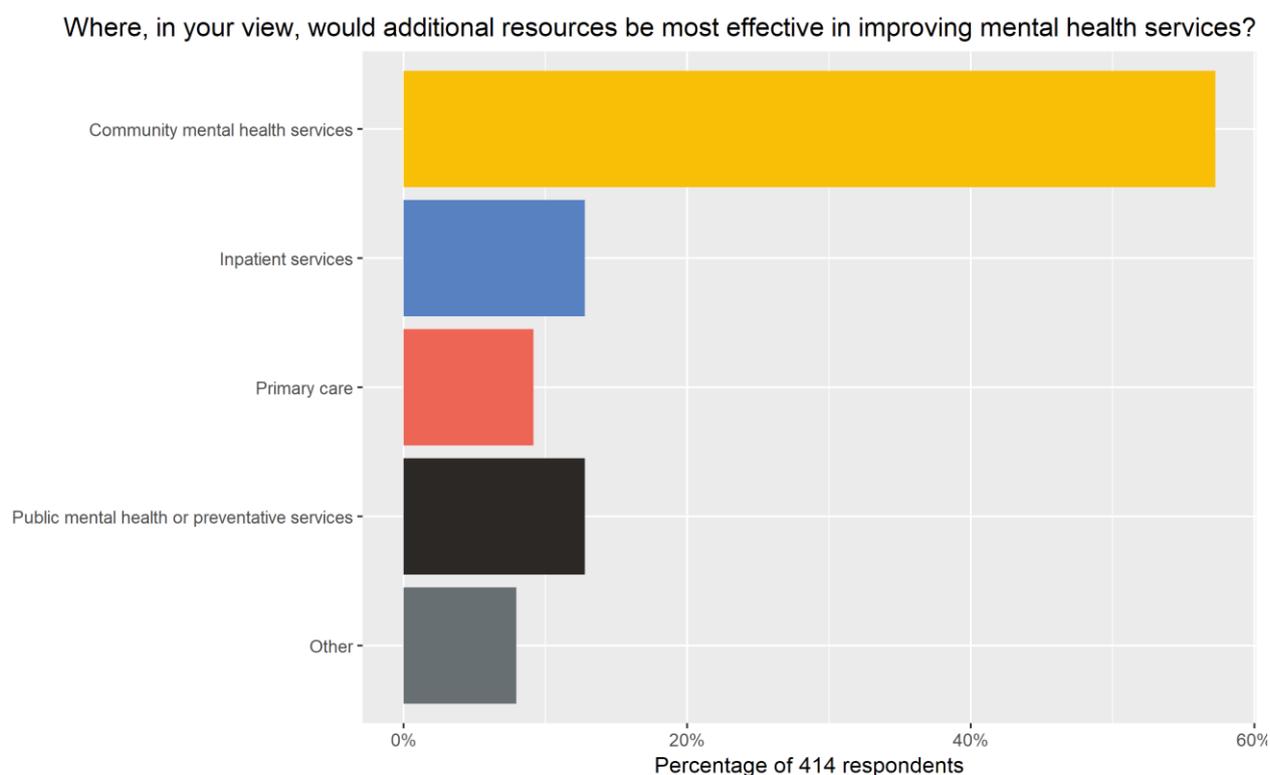
Source: Royal College of Psychiatrists Member Survey – January 2019

Although most agreed that the number of beds was now at the minimum level possible, they felt pressures would be alleviated most effectively through interventions in the community:

"The best area to focus on would be in the community teams... They offer good services, but they are very stretched. Because of this you sometimes see people tipping into needing an inpatient admission."

Clinician 6, South East London STP

Participants in the interviews all concurred with this viewpoint with the following statement indicative:

"I'd prefer really slick community teams that are really effective; better even bigger home treatment provision; great housing; supported housing; crisis cafes in every town."

Clinician 7, Cornwall and the Isles of Scilly STP

When asked to elaborate on what community services might most benefit from additional resources, those interventions already in place highlighted in section three were well supported. Suggestions for developing the community offer that received consistent support included:

- Discharge coordinator roles in all inpatient services; linking between services and improving discharge effectiveness and efficiency.
- Speedier community follow-up after discharge facilitated by a stronger link between inpatient and outpatient services. This may be managed by a consultant with responsibility across both areas.
- An enhanced intensive home treatment offer to provide 'hospital-style' treatment at home.

It is important to note however, that there were identified challenges in expanding community services in more rural areas, compared with those with concentrated urban populations. In Cornwall, for example, the participant commented that they would need to offer up to 20 crisis cafés to be able to reach all of their population, compared to South East London, for example, who needed far fewer. This repeats the assertion from section four that allowing for local variation in mental health services is important.

Inpatient beds will always be required: The NHS Long Term Plan, published in January 2019, made a commitment to:

'... ensure that a 24/7 community-based mental health crisis response for adults and older adults is available across England by 2020/21. Services will be resourced to offer intensive home treatment as an alternative to an acute inpatient admission.'[18]

The survey findings suggest that there is broad support from clinicians for this intention although when interview participants were asked about this commitment, there was scepticism from the majority as to their ability to deliver this within the timeframe. The most common reason cited was lack of resources. The most significant area of concern with this commitment from participants was the idea that community-based services could always provide an 'alternative' to an inpatient admission.

"I suppose my fear is that.., the idea that [we] largely get rid of inpatient services; we went through this a while back when we closed all of the huge hospitals, it's a case of changing services but shouldn't be done at the expense of inpatient services, which for some patients are really necessary as some can't be managed at home... So I wouldn't be looking at.., getting rid of those - there's still a place for them, whatever investment we are coming up with we shouldn't neglect parts of this service."

Clinician 3, Coventry and Warwickshire STP

Almost 15 per cent of the survey respondents felt that increasing resources for inpatient services could have the biggest impact on the effectiveness of mental health services as a whole. Although responses to the survey and interviews varied in whether, and to what extent, inpatient services were under-resourced, none of the interview participants felt that all patients could be treated in a community setting and inpatient beds were an essential part of mental health services.

Potential barriers to alleviating pressures: Having highlighted community mental health services as the most likely place where inpatient bed pressures could be affected, interview participants also pointed to some barriers that needed to be addressed in order to support service improvement, relating to staff, patient and carer engagement, system working and infrastructure.

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[18] NHSE. *The NHS Long Term Plan.* 2019. P. 70. Available at https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan.pdf (accessed 18/04/2019).

Engagement

Lack of support for carers: People may be admitted because their carer support breaks down. Working more closely with formal and informal carers prior to crisis can help to prevent the need for an inpatient admission.

Poor understanding of the purpose of inpatient admissions: Participants suggested that although the role of the inpatient admission was to make a patient well enough to be cared for in the community, patients and their families often expected full and complete recovery and therefore felt they should not be discharged before this was achieved. Indeed, as shown in chapter two, patients are not only more severely ill on average on admission to a mental health inpatient bed than five years ago, this is also the case at discharge. Better communication and transparency over the role of admission would help to support discharge.

Education on mental health: A broader mental health prevention agenda could be delivered through schools, colleges and universities; raising the profile of mental health issues, risk factors, treatments and prognoses.

Poor interface between primary and secondary care: A number of participants suggested that interfaces between primary and secondary care were poor, often leading to inappropriate referrals. Better understanding of the processes and pressures between GPs and Psychiatrists was argued to be required.

Collaboration between health, care and other services: As has been highlighted above, the mental health workforce is over-stretched and its responsibilities have grown due to reductions in resources elsewhere. Participants pointed to instances of joined up working between social care, police and housing, amongst others that could support patients to return or remain in the community. Conversely, where these relationships were not strong, this could have a negative impact on inpatient bed pressures.

Infrastructure

Poor estate: One participant argued that the quality of mental health estate makes it difficult for staff to deliver effective mental health services; acute and community estates were not fit for 21st century provision. Wards are presently housing more beds than they were designed for.

3.8   Summary of findings

This chapter has discussed qualitative findings that provide context to the quantitative data of chapter two; noting clinical attitudes towards inpatient bed pressures in a variety of local settings. The aim has been to provide a better understanding of what the quantitative findings mean for clinicians experiencing them, as well as point to additional nuance that cannot be provided by the data.

The key findings from this chapter are set out below:

A suite of interventions, which concentrates resource in community settings, was viewed as the most effective way to reduce bed pressures.

In the long term, increasing the number of inpatient beds was not widely supported as a means to alleviating pressures, certainly not as a solution in and of itself.

Staffing levels in mental health services are a significant barrier to delivering improvements to mental health services.

Recruitment and retention in mental health inpatient services is challenging and staff are at high-risk of 'burn-out.'

Cuts to services that have historically supported mental health services such as social care, housing and police, amongst others, especially around prevention and discharge, have increased pressures on inpatient beds.

Local variation in terms of services, geography and demography is an important factor when considering the causes and potential solutions to inpatient bed pressures.

Admission thresholds have increased, in part because of increased pressures on inpatient beds. This has led to a higher number of severely ill patients being treated at any one time, reducing the capacity of staff to treat patients and plan discharge effectively.

There is considerable variation in inpatient admission rates. Opportunities for STPs to share their experiences and learn from each other may prove beneficial.

4.   A Review of the evidence

This chapter assesses the evidence for initiatives and interventions which aim to avoid mental health inpatient admissions and readmissions and reduce inpatient length of stay.

4.1   Methodology

The list of interventions was collectively generated and agreed by the project team. Interventions were grouped into the following four categories:

1. Diagnosis and early intervention
2. General management and maintenance
3. Crisis management and admission avoidance
4. Supported discharge/readmission avoidance

Table 4i lists the interventions included in each category.

Appendix D contains information about each intervention including a definition and a summary of the evidence of effectiveness in reducing mental health inpatient service use (admissions, readmissions and bed days). Where lessons in implementation have been recorded these have been extracted, however we have not specifically searched for implementation lessons. A summary of this evidence is provided below.

To manage the volume of literature, the review has prioritised systematic reviews and Cochrane reviews published within the last five years. Where no systematic reviews within five years were found we have extended the time period and searched further.

If no systematic reviews were found, we have focused on other secondary research from the grey literature and then UK-based literature including primary research and case studies. The hierarchy of evidence is as follows:

1. Systematic reviews (including Cochrane reviews)
2. Other secondary research
3. Primary research
4. Case study research

The following database were searched in March 2019 in addition to key online sources such as the Centre for Mental Health; Cochrane, Psycinfo, CINAHL, Medline, HMIC.

Figure 4i. Potential interventions to reduce mental health inpatient service use

Category	Interventions reviewed
Diagnosis and early intervention	1 Primary Care Mental Health 2 Good quality primary care 3 Early Intervention Services (EIS)
General management and maintenance	4 Community Mental Health Teams (CMHTs) 5 Talking therapy (IAPT)
Crisis management and admission avoidance	6 Police liaison and diversion (e.g. street triage) 7 Helplines 8 Crisis Cafes 9 Crisis resolution home treatment teams (CRHTT) 10 Liaison Psychiatry 11 Enhanced Psychiatric Assessment (e.g. Psychiatric Decision Units) 12 Intensive case management (inc. assertive community treatment) 13 Crisis houses 14 Day hospital/ Acute Day Treatment Units (ADTUs)
Supported discharge/readmission avoidance	15 Discharge assessment 16 Peer support 17 Cognitive-behavioural therapy (CBT) 18 Family intervention 19 Self-management 20 Supported housing 21 Recovery colleges 22 Medication review 23 Occupational Therapy (OT)

4.2   Diagnosis and early intervention

Early intervention services (EIS) is defined by the National Institute of Health and Care Excellence as "*a service approach with focus on the care and treatment of people in the early phase (usually up to 5 years) of psychosis or schizophrenia, sometimes including the prodromal phase of the disorder.* "

Early intervention services (EIS) were found to be the most promising in this category of interventions. Two systematic reviews (Paton et al., 2016; Randall et al., 2015) concluded EIS was effective in reducing hospitalisation and number of bed-days.

The evidence for primary care mental health is underdeveloped. A Cochrane review (Reilly et al., 2013) found only one low quality study conducted in the US. The King's Fund (Naylor et al.,2016) highlight promising work in the UK however the City and Hackney is yet to be formally evaluated.

Good quality primary care as assessed by QOF achievement was found to increase emergency admissions for both mental and physical health admissions and have no impact on length of stay (Jacobs et al., 2015). It is possible that good quality primary care increased admissions through GPs finding previously unmet need, however current research has not explored this.

4.3   General management and maintenance

Evidence for Community Mental Health Teams (CMHTs) is from one systematic review (Paton et al., 2006) and one Cochrane review (Malone et al., 2007), both containing limited studies conducted in the 1990's, with some overlap of included studies between the two reviews. Evidence of the effectiveness of generic multidisciplinary CMHTs was mixed. Paton et al. (2016) highlights that many CMHTs are likely to have been blended with more modern models of care (such as intensive case management) since these early studies were conducted.

Talking therapy (IAPT) for people with serious mental illness have been evaluated in two before and after studies (Johns et al., 2019; Jones et al., 2018). Both studies reported reductions in crisis contacts and acute bed days.

4.4   Crisis management and admission avoidance

Systematic review evidence

Evidence from systematic reviews has found that crisis resolution teams (Murphy et al.,2015; Paton et al., 2016) and liaison psychiatry (Wood et al., 2014; Paton et al., 2016) may be effective, however most of the evidence comes from low quality studies limiting conclusions that can be made.

Intensive case management (Paton et al., 2016; Dieterich et al., 2017) was found to be effective in reducing length of stay in hospital when based on international literature, however there was limited effectiveness when this was limited to the UK. In more recent years a new model of flexible ACT (FACT) has been adopted. Observational studies of two models from the UK suggest promising results demonstrating reductions in both admissions and bed days (Sood et al., 2017; Firn et al., 2013; Firn et al., 2018).

Mixed evidence from low quality studies was reported for police liaison and diversion services (Puntis et al., 2018).

Crisis houses (Paton et al., 2016) and day hospitals (Paton et al., 2016) were both found not to be more effective than inpatient treatment.

A recent Health Technology Assessment (Paton et al., 2016) did not identify any systematic reviews regarding access to mental health support before crisis point via telephone helplines.

Primary research and case studies

Models of enhanced psychiatric assessment are developing across the country. Evidence from a small-scale study (Trethewey et al., 2009) as well as case study reports (Healthy Partnerships London, 2017) suggest such models are effective at reducing emergency admissions, however more research is needed.

Case study evidence suggests crisis cafes (Wessex Academic Health Science Network, 2017) and helplines linked to local services (NHS England, updated) may be effective at reducing emergency admissions services. More formal evaluations are needed.

4.5   Supported discharge / readmission avoidance

Systematic reviews and other secondary evidence

Cognitive behavioural therapy (CBT) was found to be effective at reducing readmission rates and the duration of hospitalisation for people with psychosis and schizophrenia (Paton et al., 2016).

Family intervention is reported to reduce hospital admissions (Paton et al., 2016; Pharoah et al., 2010), however the evidence for brief family intervention for schizophrenia was found to be limited to one study of poor-quality evidence (Okpokoro et al., 2014).

Evidence from a Cochrane review (Pitt et al., 2013) and a systematic review focusing on RCTs (Paton et al., 2016) report no conclusive evidence of benefits of peer support on hospitalisation. A systematic review including quasi-experimental trials concluded the results are more promising, however acknowledge the evidence is not definitive (Chinman et al., 2014).

Evidence for self-management was inconclusive regarding the effect on the risk of hospitalisation (Lean et al., 2019; Paton et al., 2016).

There is a lack of good quality research on supported housing, however more recent small-scale evaluations of supported housing projects in England such as Tile House in North London have reported that whilst re-admissions to hospital for the residents in the scheme did not decrease after their move to Tile House they spent less time in hospital when they were admitted (Boardman, 2016).

Primary research and case studies

A controlled-before-and-after study evaluating the Sussex Recovery College found students used mental health services less after attending the Recovery College than before (Bourne et al., 2018).

A small comparative evaluation of two UK acute psychiatric services, one inclusive and the other exclusive of occupational therapy found a statistically significant difference in the SLA performance indicators for number of home leave days, ward occupancy and number of under 3-day admissions, with the service with occupational therapy performing better (Fitzgerald, 2016). A current randomised control trial is in progress that will test the clinical and cost effectiveness of occupational therapy working post-discharge with people diagnosed with mental illness (Birken et al., 2018).

Discharge assessment interventions aim to overcome barriers to discharge for patients that are ready to be discharged. Numerous models exist with case study evidence suggesting there is potential to reduce bed days. More robust evaluations are needed and the identification of key components.

No evidence was found exploring using medication review to reduce mental health inpatient use.

4.6   Summary of findings

Figure 4iii below provides an overview of the evidence found for each intervention. Evidence for interventions has been summarised as follows:

It should be noted that the quality of evidence on which we were able to call was mixed, and often reliant on poorly constructed evaluations. The following points should therefore be noted:

- interventions which have a weak or uncertain evidence base are not necessarily ineffective - the evidence is too limited to draw firm conclusions. This highlights the need for robust evaluation of local implementations to strengthen the evidence base;
- there is considerable variation in definitions and composition of services; what is described in one study as intensive case management, for example, may be significantly different to that described in another study;
- admissions, readmissions and length of stay are not always measured in studies evaluating interventions;

research has highlighted that implementing complex interventions needs time to take effect. Teams implementing change need time to work through implementation challenges, as well as needing time to show effect. Follow up periods in some studies might not allow enough time to demonstrate improvements in hospital admissions.

Figure 4ii: Evidence ratings

☑	Evidence suggests may be effective	Systematic review level evidence demonstrates positive findings
☒	Evidence suggests may not be effective	Systematic review level evidence demonstrates negative (or no difference) findings
?	Evidence uncertain or weak quality	Systematic review level evidence is weak or inconclusive
✓	Emerging positive evidence from primary research	Systematic review level evidence not found. Primary research or case studies demonstrates positive findings
✗	Emerging negative evidence from primary research	Systematic review level evidence not found. Primary research or case studies demonstrates negative findings

Figure 4iii: Overview of evidence review findings

Category	Intervention	Impact on.... ...admissions and readmissions	...bed days / length of stay	Evidence included Systematic review	Other 2° research	Primary research	Case Study
Diagnosis and early intervention	1 Primary Care Mental Health	✓		1	1		
	2 Good quality primary care	✗				1	
	3 Early Intervention Services (EIS)	☑	☑	2			
General management and maintenance	4 Community Mental Health Teams (CMHTs)	?	?	2			
	5 Talking therapy (IAPT)	✓	✓			2	
Crisis management and admission avoidance	6 Police liaison and diversion (e.g. street triage)	?		1			
	7 Helplines	✓					2
	8 Crisis Cafes	✓					1
	9 Crisis resolution home treatment teams (CRHTT)	?		2			
	10 Liaison Psychiatry	?	?	2			
	11 Enhanced Psychiatric Assessment (e.g. Psych. Decisions Unit)	✓				1	1
	12 Intensive case management (assertive comm. treatment)		?	2			
	13 Crisis houses	?		1			
	14 Day hospital/ Acute Day Treatment Units (ADTUs)	☒		1			

Category	Intervention	Impact on....		Evidence included			
		...admissions and readmissions	...bed days / length of stay	Systematic review	Other 2° research	Primary research	Case Study
Supported discharge/readmission avoidance	15 Discharge assessment		✓				②
	16 Peer support	?	?	❸			
	17 Cognitive-behavioural therapy (CBT)	☑		❶			
	18 Family intervention	☑		❸			
	19 Self-management	?		❷			
	20 Supported housing	✓			❶		
	21 Recovery colleges	✓	✓			❶	
	22 Medication review						
	23 Occupational Therapy (OT)		✓		❶	❷	①

❶ ❷ ❸ *- indicates the number of studies reviewed*

5. The Causes & Consequences of High Bed Occupancy

In this chapter, we attempt to summarise the findings from the earlier chapters into two diagrams which illustrate the causes and consequences of high bed occupancy in mental health inpatient facilities.

5.1 Causal loop diagrams

Causal loop diagrams are used to improve understanding of complex systems by representing key factors and the relationships between them. These diagrams consist of a set of nodes (factors) and edges (relationships between factors). A positive causal link between two factors, denoted by a solid line, indicates that one factor influences the other and that the two factors change in the same direction. Negative causal links, denoted by a dashed line, indicates that the two connected factors change in opposite directions, i.e. as one increases then the other tends to decrease.

For example, the evidence shows the higher the level of deprivation in an area the higher the incidence of mental illness, therefore these two nodes are connected by a solid line. The evidence also shows that an Early Intervention Service reduces admission rate, therefore these two nodes are connected by a dashed line.

We have drawn from the quantitative analysis, qualitative research and literature review to create two causal loop diagrams; one that represents our theories about the factors that lead to high bed occupancy and the relationships between these factors, and a second diagram that illustrates our theories about the consequences of high bed occupancy. We present these theoretical causal diagrams for discussion.

## 5.2 The causes of high bed occupancy

We identify four categories of causal factor; need/demand factors, resource factors, practice factors and mediating factors. The prevalence of mental health problems is associated with population size, the demographic characteristics of the population, and the wider socio-economic context. In some circumstances people with mental health problems experience crises. A range of primary and mental health services aim to reduce the incidence of these crises and when they do occur to provide support to patients outside of hospital settings. Where these services are not available or not successful, then patients may be admitted, but the likelihood of an admission is moderated by both admission thresholds and detention thresholds which in turn are influenced by the availability of mental health beds. Once admitted a patient receives treatment until well enough to be discharged back into the care of community services, but these discharge thresholds are

influenced by the occupancy of mental health beds as well as the capacity of community services.

5.3   The consequences of high bed occupancy

Our causal loop diagram for the consequences of high mental health bed occupancy identifies impacts of services, expenditure, for the workforce and for patients and carers. High bed occupancy leads to the increased use of inappropriate alternative provision in the form of out of area placements and general and acute hospital beds. Those patients that are admitted to hospitals at times of high occupancy can receive a suboptimal service from overstretched inpatient staff and facilities and can be discharged before their recovery is complete. Some patients are placed on waiting lists until a mental health bed becomes available, and in the meantime community mental health services must manage these patients. This, along with premature hospital discharges places additional pressure on community mental health services and increases the levels of risk being managed in these settings. Under these circumstances, crises may recur generating adverse events, readmissions, and carer stress. Staff working in inpatient and community settings experience higher levels of stress resulting in higher levels of sickness absence. Recruitment into these stressful environments is challenging and this is exacerbated by high levels of staff turnover.

Figure 5i: Causal loop diagram - causes of high mental health bed occupancy
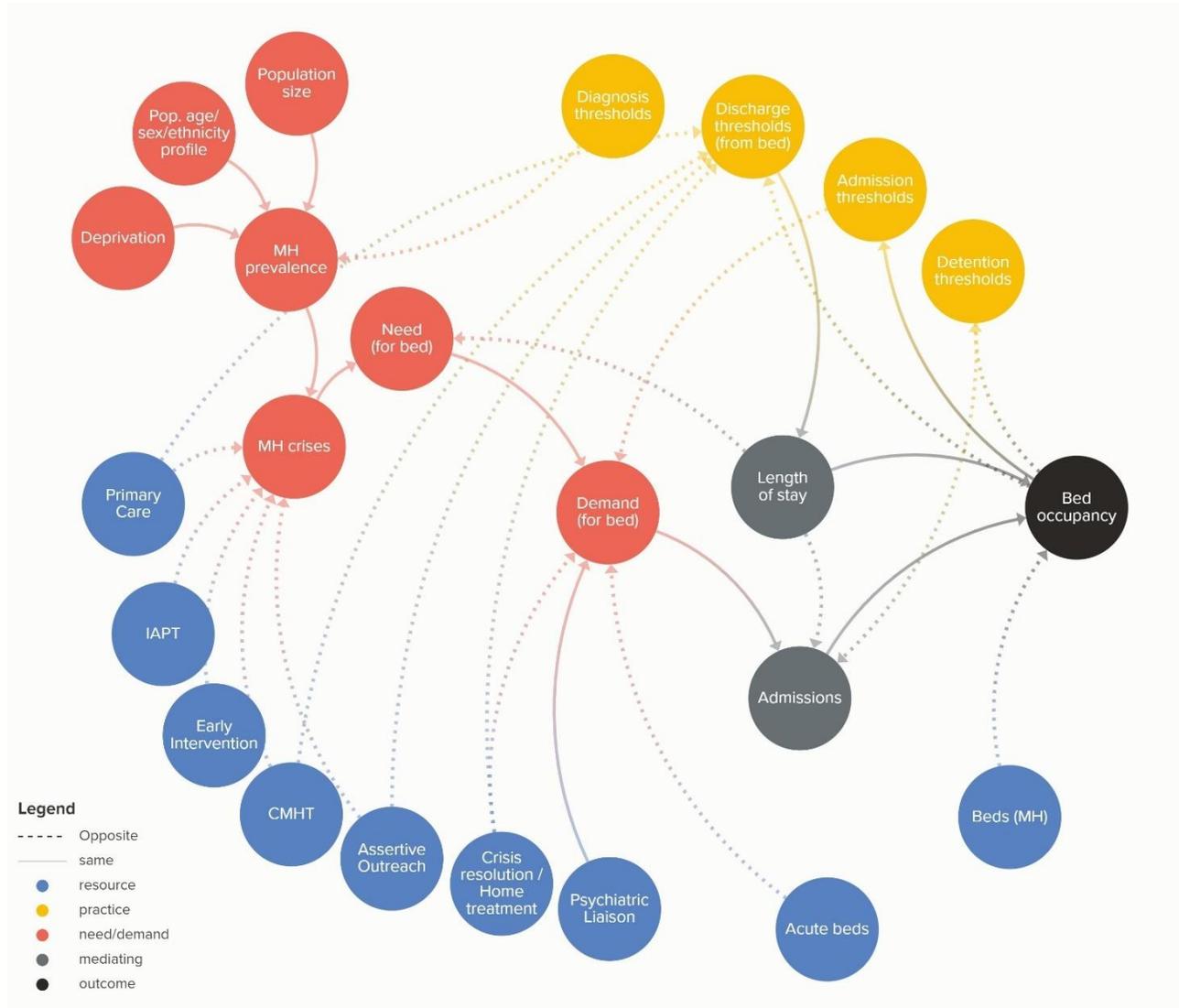
Figure 5ii: Causal loop diagram - consequences of high mental health bed occupancy
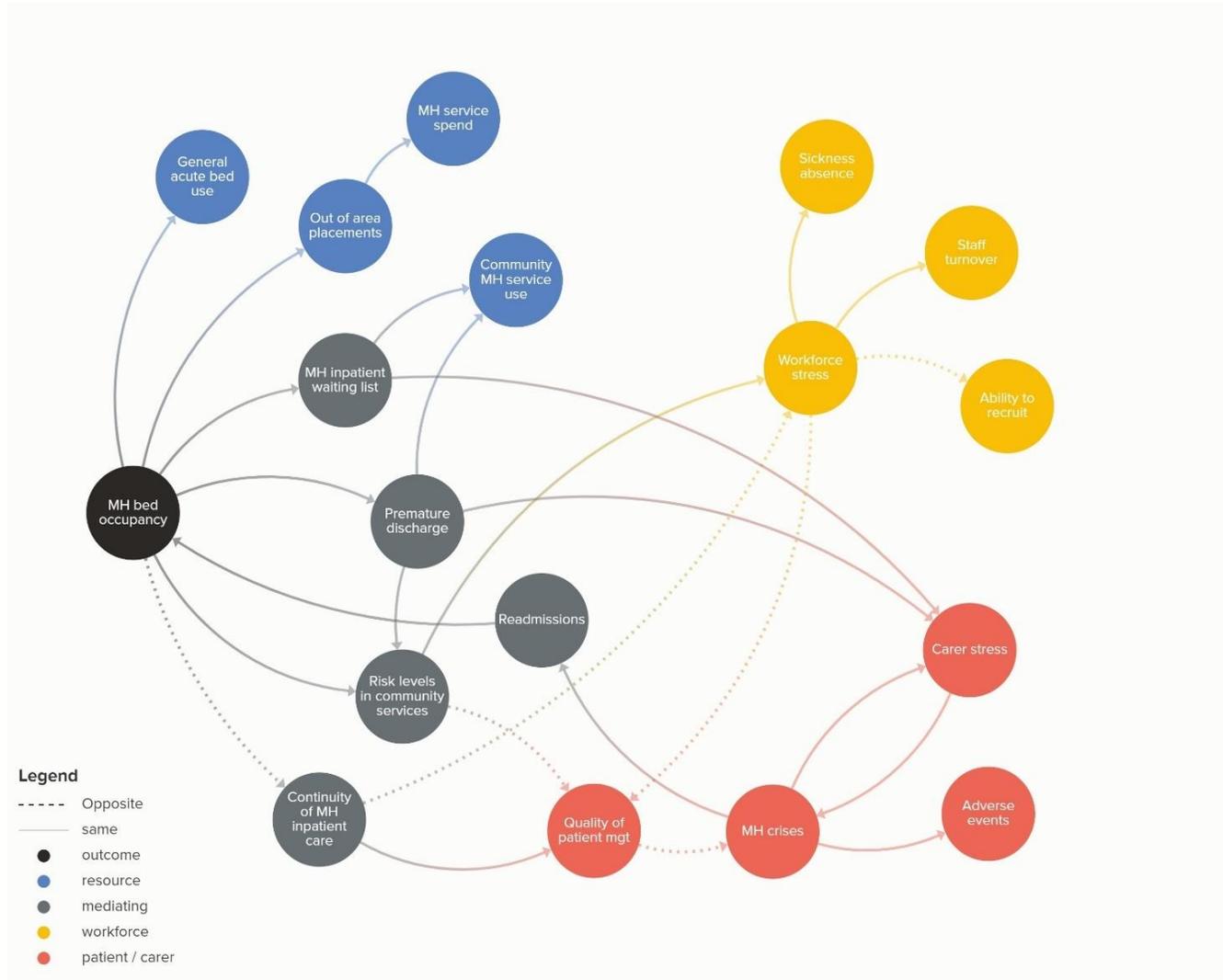
5.4 Review of independent investigations into homicides that are committed by patients being treated for mental illness

After a homicide has been committed by a person who is under the care of mental health services there is a requirement under Health Services Guidelines HSG (94) 27 that an independent investigation is carried out, and that these independent reports are published.[19] We reviewed a sample of these reports (n = 43) to identify instances where limited bed capacity may have contributed to a homicide. Excerpts from these reports are set out below. It is essential to note that in no report reviewed was there a specific recommendation concerning bed capacity.

London, 2014

'[Mr DE had] four ward moves during his four-week in-patient stay, the final one to a different hospital and discharge after taking his medication for less than one week - possibly indicative of pressures on in-patient beds in the Trust' [20]

Midlands and East, 2013

'Between October 2012 and March 2013, [Mr AS] – as part of one admission – was transferred seven times between different inpatient facilities. During this time, he was detained under Section 3 of the Mental Health Act for a total of five months. His care at this time was provided by three different organisations......'

'The team was unable to locate a bed locally and one was eventually sourced at (Private hospital) to which [Mr AS] was informally admitted to the next day.....' [21]

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[19] https://www.england.nhs.uk/publications/reviews-and-reports/invest-reports/
[20] https://www.england.nhs.uk/wp-content/uploads/2014/08/ii-mr-de.pdf
[21] https://www.england.nhs.uk/mids-east/wp-content/uploads/sites/7/2018/11/investigation-report-mr-as.pdf

London, 2015

'It was originally planned that once his condition had stabilised, P should undergo a longer period of rehabilitation in a locked or low secure unit (XXXXX Ward) although this didn't happen for a range of reasons, including a shortage of available beds and a change in P's condition' [22]

South East, 2014

'Extended section 17 leave was tried again on 15 October. On 7 November it was felt that Mr R was not engaging with the AOT and consideration was given as to whether he should be recalled to the ward. The team learnt that a bed was not available for his recall. His plan was revised and the AOT continued to see him in the community.

Mr R attended the AOT office on 10 January 2013 in a distressed state. He asked to be admitted. He was seen by Dr 1, who felt that Mr R had experienced a mild relapse but could continue to be treated in the community. Mr R was seen again the following day and was notably calmer. After this Mr R was seen by the AOT in the community until the incident on 30 January 2013.' [23]

South East, 2011

'In the assessment social worker 1 wrote that Mr D had difficulty with self-care and needed to live in supported accommodation to manage his needs. Despite this, Mr D was placed in unsupported accommodation. Given that he needed supported accommodation, we would have expected a greater level of monitoring of the effectiveness and suitability of the placement. We can find no evidence of such monitoring or assessment. Additionally, there is nothing in Mr D's clinical records to suggest that there was any recognition by mental health staff that Mr D was now living in unsupported accommodation and therefore may have needed a greater level of input.' [24]

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[22] https://www.england.nhs.uk/wp-content/uploads/2015/07/indepdt-invest-ptnt-p-hertford.pdf
[23] https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2016/10/independent-investigation-care-and-treatment-of-mr-r.pdf
[24] https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2016/08/independent-invest-rep-mr-d.pdf

London, 2013

> *'These barriers became more significant due to the lack of understanding of D's presentation but also because D did not have a care coordinator'.*
>
> *'However, the Independent Investigation Team is also of the view that barriers arose because a lack of 'understanding' of the complex volume of services which are offered by (the Trust) at a local, and indeed, national level'.*
>
> *'Throughout the period of D's care between 16 July 2012 and 17 January 2013, services ...... were significantly under resourced'.... Whilst efforts were being made by the Trust to improve the financial situation, patient safety was not given sufficient consideration whilst additional resources were secured.'*
>
> *'During the time of D's care, as has been mentioned, there was significant pressure on resources. This permeated all levels of D's care. '* [25]

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[25] https://www.england.nhs.uk/london/wp-content/uploads/sites/8/2018/10/MHII-Final-version-08102018.pdf

6.   Conclusion

This report reviews the pressure on inpatient psychiatric services, building on the work of the 2015 independent Commission chaired by Sir Nigel Crisp.

The headline conclusions are clear. Pressures on psychiatric beds are mounting. This appears to be forcing up admission thresholds, driving inappropriate use of out-of-area placements, and the use of general acute hospital beds for patients with mental health problems. There is some considerable regional variation in pressure on inpatient beds and the resource levels and efficiency of these services.

High levels of bed occupancy place significant pressures on staff working in both inpatient and community mental health services, compelling clinicians to manage higher levels of risk. A range of approaches and services are being developed to manage these pressures, and whilst some show promise, it is clear that no single approach will be sufficient. The vast majority of Royal College of Psychiatrists' members believe that the solution to pressure on inpatient beds lies in increasing the coverage and resilience of community services, but this will take time, and in many areas the pressures are reaching critical levels.

Whilst there is some good evidence to suggest that early intervention and talking therapies might reduce pressure on inpatient beds, the evidence base for crisis resolution teams and primary care mental health services needs to be strengthened.

Appendices

A. Data sources, definitions and methods

The data used in Chapter 2 of this report is drawn from a wide range of clinical and administrative datasets, many of which are in the public domain. This appendix sets out the data sources used, highlights the criteria that have been used to extract relevant cases or activity, identifies material data quality issues and describes the analytical methods used.

Bed numbers and bed occupancy

The KH03 returns have been used as the source of information on bed numbers and bed occupancy in this report.[26] The KH03 returns are published by NHS England. Although data is collected for overnight beds as well as for day beds, we chose here to focus on overnight beds only. (The returns indicate that there were only 2 mental health day beds open in England in Q3 2018/19 and that this number has changed little since 2010/11). The KH03 returns provide an estimate of the average number of beds available and occupied at midnight over the course of a 3-month period. A time series analysis of the returns made by individual trusts suggest that some trusts have stopped submitting KH03 returns in recent years. This may be because they no longer consider the beds to be 'consultant-led' and therefore fall outside the scope of the return. Figure 2ii attempts to adjust for this drop-out effect and produce a consistent bed occupancy times series by imputing the availability and occupancy of the missing beds using loess regression.

Admissions and length of stay in mental health beds

Data on admissions to mental health beds is available from two potential sources; Hospital Episode Statistics-Admitted Patient Care (HES-APC) and the Mental Health Services dataset (MHSDS) and its predecessors.[27] Whilst both datasets have limitations, we chose to use the Hospital Episode Statistics since on balance it appeared to provide a more complete, consistent and accurate position.

HES-APC contains a record of all admissions to NHS hospitals in England and NHS-funded admissions to private hospital beds. The unit of activity in HES-APC is a finished consultant episode (FCE), a period of care for a patient under a single consultant at a single hospital. These FCEs can be linked to describe a continuous spell in hospital. The pseudonymised extract of HES-APC contains a vast array of information about the characteristics of patients treated and the care provided but does not include any patient identifiable information.

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[26] https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/
[27] https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics

Although admissions to mental health beds are not explicitly defined as such in HES-APC, we proxied this using the main specialty of the consultant (71* or 72*), the treatment function of the episode (71* or 72*), or where these codes were not supplied, using the primary diagnosis of the patient (ICD10 code in F00-F69.9, G30.0-G30.9, R45.0-R46.9). By comparing the results of these analyses with the KH03 returns, we were able to assess the accuracy of these methods. We note that in more recent periods HES-APC may understate the true number of admissions to mental health beds.

Admission thresholds

We used the Mental Health Services dataset (MHSDS) and its predecessors, the Mental Health and Learning Disabilities Dataset (MHLDDS) and the Mental Health Minimum Dataset (MHMDS), to explore changes in admission thresholds.[28] MHSDS is a patient level dataset describing patients' interactions with inpatient, outpatient and community mental health services. Much like HES-APC, the pseudonymised MHSDS extract provides detailed information about patients and their contacts with mental health services without jeopardising patient confidentiality. MHSDS contains HoNOS (Health of the Nation Outcomes Scales) scores for patients where these are taken and recorded. Although the scope and structure of MHLDDS and MHMDS differ to MHSDS, they also contain HoNOS scores.

We identify the subset of HoNOS scores which are taken on the date that a patient is admitted to or discharged from hospital. Whilst HoNOS scores are not taken or available for all patient admissions and discharges, the quantities are substantial and appear to support meaningful time series analysis. It remains possible, however, that the trends in HoNOS score on admission and discharge are a function of selection or other forms of bias. Further work is required to explore these potential explanations.

Compulsory detentions

Until 2015/16 data on compulsory detentions was recorded as part of the KP90 returns from NHS Trusts to NHS Digital. Since 2016/17 the primary source for this information has been the Mental Health Services dataset (MHSDS). NHS Digital acknowledge that MHSDS is not yet a reliable source of data on Mental Health Act detentions.

A brief review of the impact of these recording changes was published by the King's Fund in November 2017.[29]

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[28] https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/mental-health-services-data-set
[29] https://www.kingsfund.org.uk/blog/2017/12/mental-health-act-data

In this report, we use the KP90 returns as our sole source of information on compulsory detentions. The KP90 returns made by NHS Trusts on an annual basis provided the Department of Health and NHS England with information about admissions, changes in status and detentions under the Mental Health Act 1983 legislation (except for guardianship cases under sections 7 and 37) and other legislation.

Delayed Transfers of Care

Data on delayed transfers of care are submitted on a monthly basis by NHS Trusts to NHS England via the SitRep returns. Data is collected on the number of days that patient discharges from hospital are delayed, by reason for delay, NHS Trust, CCG and Local Authority.

The SitRep return does not explicitly identify whether the patient delayed is occupying a mental health bed. To estimate days delayed in mental health beds we restrict our analysis to those in non-acute beds in trusts that are defined as a mental health or mental health and learning disability trust in the NHS Estates Returns Information Collection[30].

In a report in 2015, the King's Fund questioned the quality and completeness of these returns.[31]

Out of Area Placements

Data on out of area placements are taken from the Out of Area Placements (OAP) returns submitted by NHS Trusts to NHS Digital.[32] Data is collected and published on a monthly basis and includes figures on the number of out of area placements, by bed type, gender, MHA status, reason, primary diagnosis, sending and receiving provider, CCG, STP and region, length of stay, distance from home, and daily cost quartile.

Use of general hospital beds by patients with a primary mental health diagnosis

We use Hospital Episode Statistics-Admitted Patient Care (HES-APC) to estimate the number of people with primary mental health diagnoses who are admitted to a general hospital bed. We define these admissions using the main specialty of the consultant (not '&' and not 71* and not 72*), the treatment function of the episode (not '&' and not 71* and not 72*) and the primary diagnosis (ICD10 code in F00-F69.9, G30.0-G30.9, R45.0-R46.9).

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[30] https://digital.nhs.uk/data-and-information/publications/statistical/estates-returns-information-collection/summary-page-and-dataset-for-eric-2017-18
[31] https://www.kingsfund.org.uk/blog/2015/11/delayed-transfers-care-join-queue
[32] https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/out-of-area-placements-oaps

Analysis by Sustainability and Transformation Partnership

In this report, NHS Trust and CCG activity and resources are aggregated to Sustainability and Transformation Partnerships using the 'STP Partner Organisations' file which is maintained and supplied by NHS Digital Organisation Data Service.[33]

The number of additional beds required to achieve 85% occupancy are calculated as follows

$$Max \begin{cases} 0 \\ \dfrac{occ}{0.85} - av \end{cases}$$

Where;

occ is the current average number of occupied beds
av is the current average number of available beds.

We use indirect standardisation to compare admissions to mental health beds and mental health bed day use, controlling for differences in the STP population age profile by age sex and deprivation.

$$Indirectly\ Standardised\ Ratio = \frac{O}{E}$$

Where

O is the observed number of admissions or bed days
E is the expected number of admissions or bed days defined as

$$E = \sum_i r_i p_i$$

And

r_i is the national rate of admissions (or bed days) in population subgroup i
p_i is the STP population size in subgroup i

Populations subgroups are defined as each combination of 5-year age group, sex and deprivation quintile.

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[33] https://digital.nhs.uk/services/organisation-data-service/data-downloads

Population data is sourced from the ONS 2016 Mid-year estimates at lower super output area (LSOA) level. Data on deprivation levels is obtained from the 2015 English Indices of Deprivation published by the Ministry of Housing, Communities and Local Government.

Factors associated with high bed occupancy

We explore the relationship between high bed occupancy in STPs and the following factors;

- the number of mental health beds (source KH03) per head of mental health weighted population
- the number of admissions to a mental health bed (source HES-APC) per head of mental health weighted population
- the number of occupied bed days to a mental health bed (source HES-APC) per head of mental health weighted population
- The average length of stay in a mental health bed (source HES-APC)
- The number of inappropriate out of area placements (source OAP) per head of mental health weighted population
- the number of admissions of patients with a primary mental health diagnosis to a general hospital bed (source HES-APC) per head of mental health weighted population
- the number of occupied bed days for patients with a primary mental health diagnosis in general hospital beds (source HES-APC) per head of mental health weighted population
- the sum of CCG spend on mental health (source Programme Budgets) per head of mental health weighted population
- the sum of CCG spend on community mental health services (source Programme Budgets) per head of mental health weighted population

The mental health weighted population is taken from the CCG Need Index (MH) tab in the mental health needs estimates file that was published as part of the Technical Guide to CCG Allocations 2018-19.[34]

Outlier values, defined as those more than 3 standard deviations from the mean, were removed from the plots and the correlation coefficient calculations.

Pearson correlation coefficients, with statistical significance levels at 95% and 99% are used to provide a sense of the scale and direction of association between variables.

Scatterplots with fitted loess curves show the distribution of STP values by pairs of factors.

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[34] https://www.england.nhs.uk/publication/technical-guide-to-ccg-allocations-2018-19-apr-2018-spreadsheet-files-for-ccg-allocations-2018-19/

B. Flows of Patients between STPs

Patient Flows between STPs

Mental health bed days 2017/18
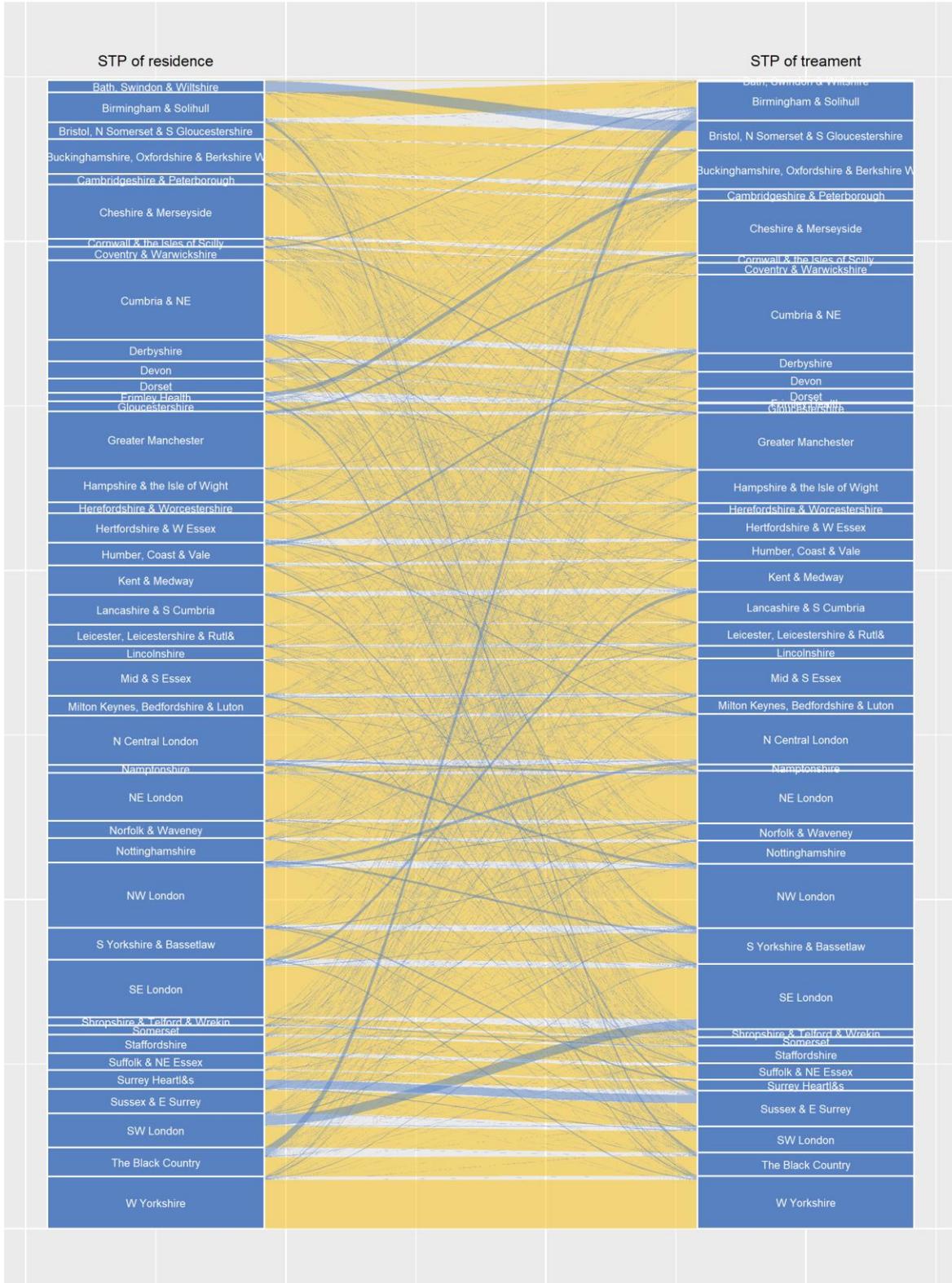
C. Key Trends

Trends in spells and beddays in mental health beds by diagnosis
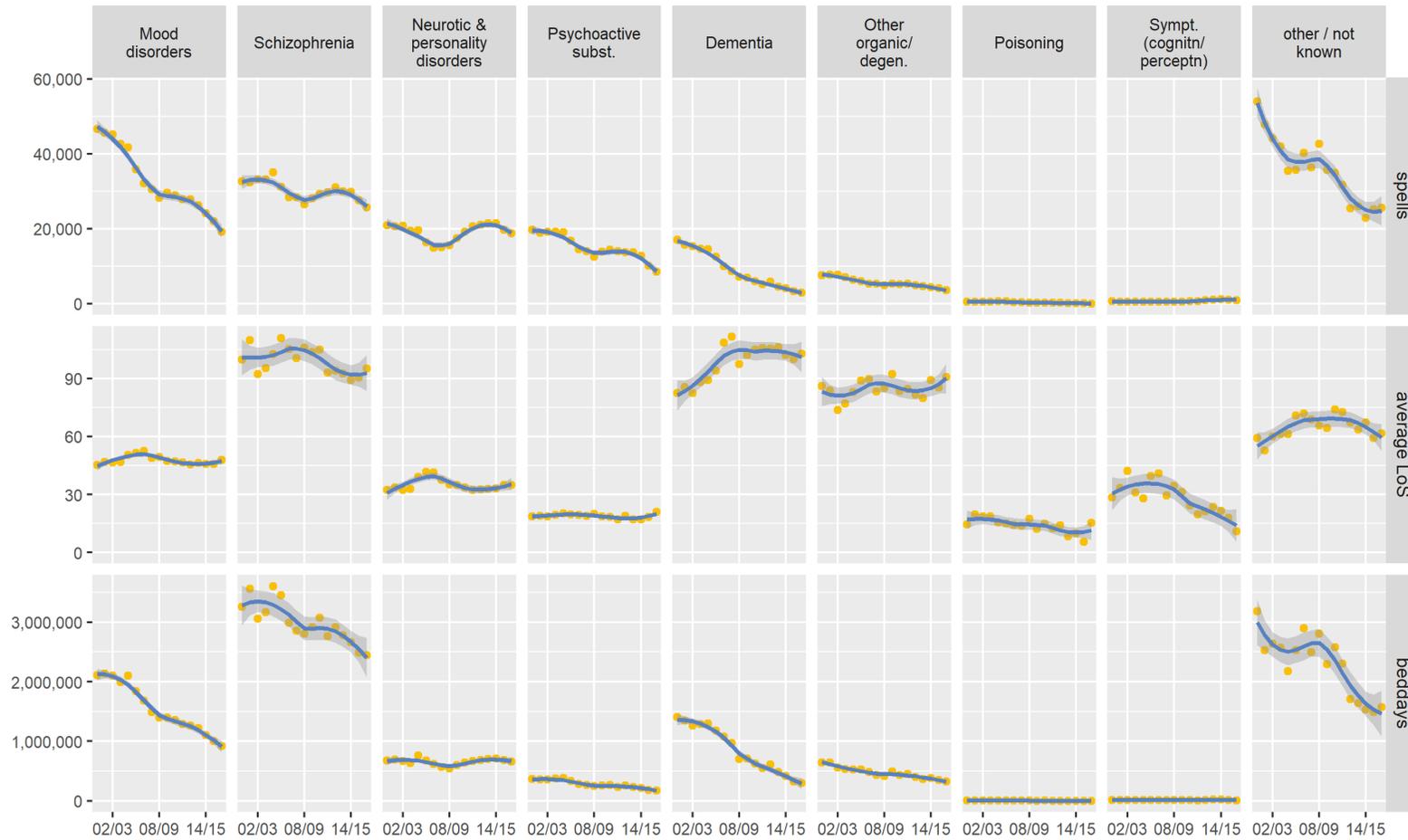
Source: Hospital Episode Statistics – Admitted Patient Care

Mental Health Bed Occupancy

Apr 17 - June 19
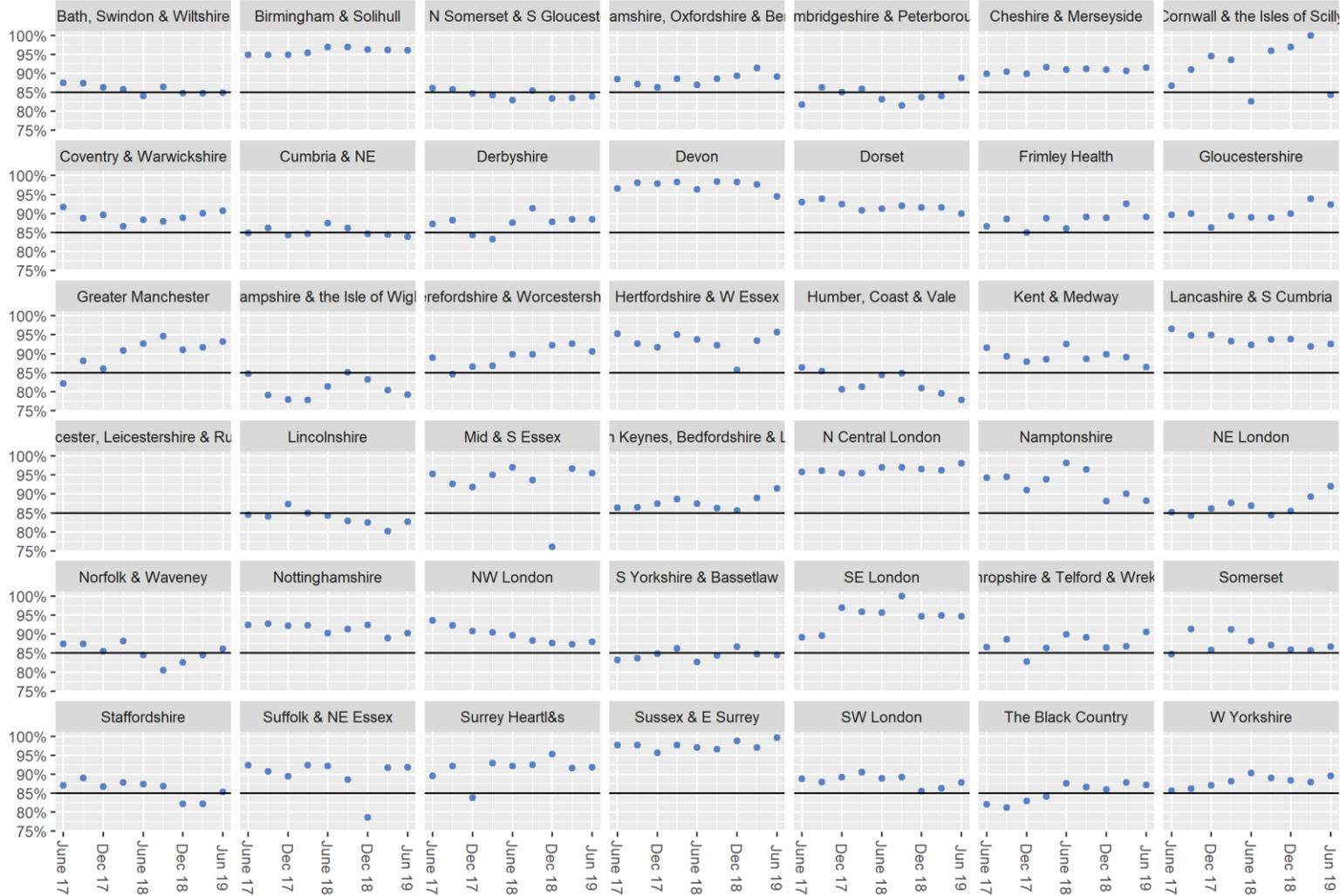
Source: KH03 returns

Inappropriate Out of Area Placements per 100k MH Weighted Population
Sept 17 - June 19
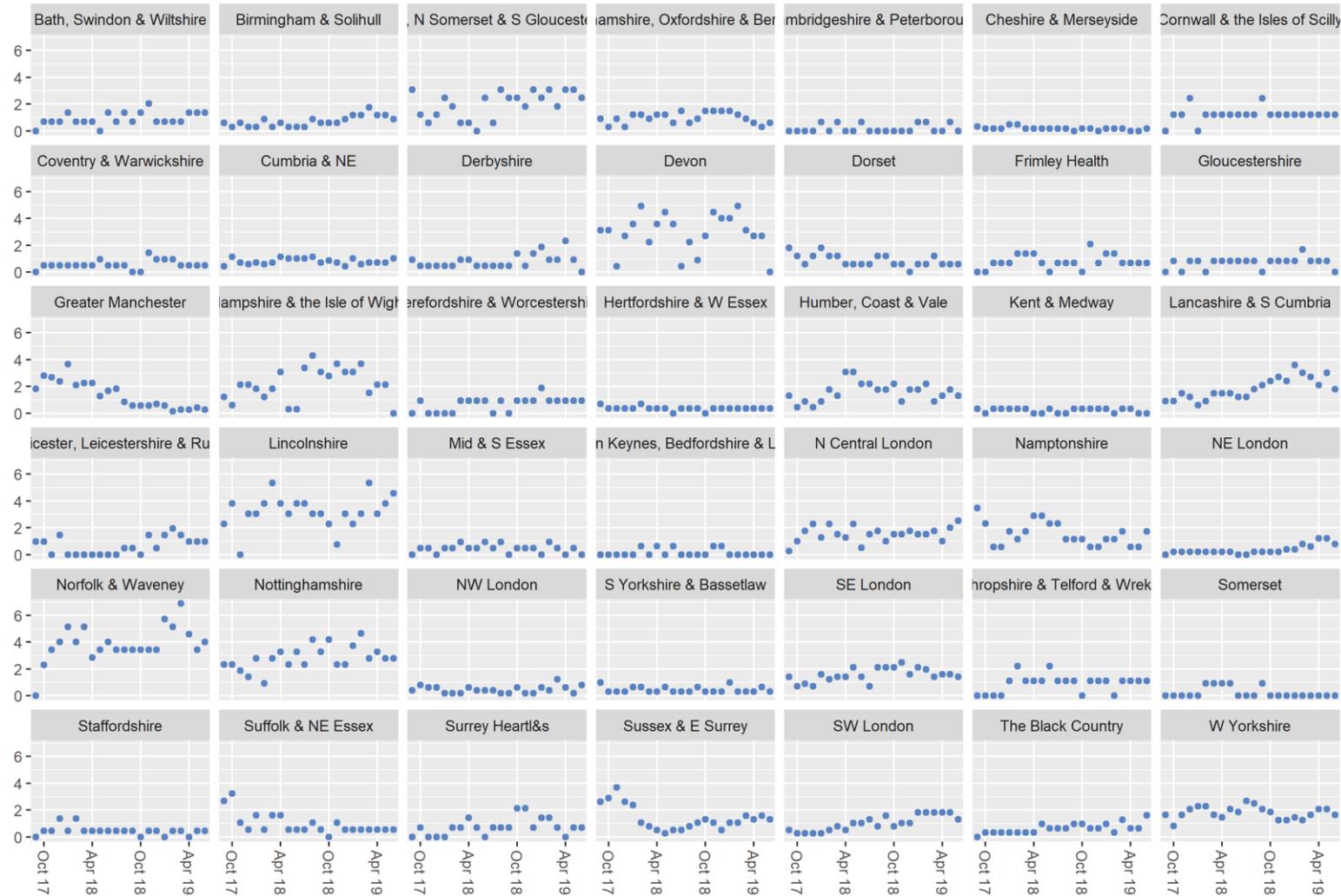
Source: Out of Area Placements NHS Digital

D. Topic Guide for semi-structured interviews with RCPsych members

1.   Can you please introduce yourself? Please state your name and role in your organisation?

Topic 1: Context

2.   How would you presently describe the pressure on inpatient beds in your area?

a.   Probe for change over time

b.   Probe for cause for any change

c.   Probe for future expectations

3.   Can you please describe any interventions your Trust/other employer has instigated over the past 3-5 years to reduce pressures on inpatient beds?

a.   Probe for intervention activities

b.   Probe for what worked/what didn't

Topic 2: Quantitative data review (participant will receive summary data pack TBC)

4.   Having seen the national data regarding inpatient beds, what stood out for you? Was there anything that contradicted your own expectations/experience?

5.   Admissions rates is the main change in the system. How consistent, in your view are admission thresholds and why might they alter?

a.   Number of patients coming in from general acute settings

b.   Extent to which admissions are driven by the condition or the risk that condition poses to patient and others

6.   How about for your area, did any of the local information surprise you? If so, how?

a.   Probe for local mental health context – any local drivers/barriers/opportunities that are having an effect on inpatient bed pressures

7. Inpatient bed occupancy is currently 90 per cent nationally with guidance requiring 85 per cent. In your opinion, would increasing bed numbers satisfy this target?

a. Probe for whether increasing beds might find un-met demand

Topic 3: Impact of inpatient bed pressure (adapt according to response to question 2)

8. What, in your view, is the impact of pressure on inpatient beds having on quality of care for patients?

a. Probe for generic example of impact

b. Probe for possible mitigations

c. Probe for long/short term impact on patients

9. What, in your view, is the impact of pressure on inpatient beds having on staff?

a. Probe for impact on staff morale/retention

b. Probe for appropriate use of staff

10. What has been the impact on you – has it become more difficult to manage the risk over time?

11. What has been the impact on other services?

12. What, in your view, are the key causes of pressures on inpatient beds?

a. Population change

b. Admission threshold change

c. Limitations of earlier interventions etc.

13. How often, in your view, are the assumed benefits of admitting a patient to a bed realised?

14. Do you have any specific mental health need in your system that is having an adverse effect on inpatient bed pressures?

15.   Has there been a change in detention thresholds in your system as a result of bed pressures?

16.   Are you aware of the existence of waiting lists for inpatient beds in your area?

Topic 4: Survey and system response

17.   In a recent survey of RCPsych members, the vast majority of respondents suggested that additional mental health resource should be used to support community mental health provision. Do you agree with this?

a.   If yes, probe for where precisely additional funding should be spent and the impact it could expect it to have?

b.   Does community healthcare currently have the right skills to provide intensive mental health support?

c.   Are there adequate developed relationships locally with other support networks such as housing to enable effective community service provision?

d.   Do crisis teams hold onto patients in the area – because seen as failure if they don't – or because of pressure on making out-of-area targets?

e.   If no, where would you like funding provision to be focused? Provide detail of service/expected impact?

18.   The Long-Term Plan requires that the NHS ensures that a 24/7 community-based mental health crisis response for adults and older adults is available across England by 2020/21. Services will be resourced to offer intensive home treatment as an alternative to an acute inpatient admission. In your view, are current local plans providing a viable 'alternative'?

a.   Probe for expectation of inpatient bed supply decreasing in response to the 'left shift' in healthcare

b.   Probe as to availability of commissioning expertise required to deliver these alternatives

c.   Probe for patient involvement in designing alternatives

19.   Can you describe any scenario where inpatient beds were no longer needed?

20.   Can you describe your Trust's involvement with your local STP/ICS?

a.   Probe for involvement in system decision-making

b.   Advancement of system working/pooled budgets

c.   Relationships between providers involved in supporting mental health

d.   Where does accountability for mental health spend lie?

21.   To what extent is reducing pressures on inpatient beds a priority for your system? Do you see a system response?

a.   Probe for what system priorities are and where/how these are articulated

b.   Ability of mental health provider to influence the system priorities

E. Evidence review – detailed information

Diagnosis and early intervention

Key findings

Early intervention services (EIS) were found to be the most promising intervention in this category of interventions. Two systematic reviews (Paton et al., 2016; Randall et al., 2015) concluded EIS was effective in reducing hospitalisation and number of bed-days.

The evidence for primary care mental health is underdeveloped. A Cochrane review (Reilly et al., 2013) found only one low quality study conducted in the US. The King's Fund (Naylor et al.,2016) highlight promising work in the UK however the City and Hackney is yet to be formally evaluated.

Good quality primary care as assessed by QOF achievement was found to increase emergency admissions for both mental and physical health admissions and have no impact on length of stay (Jacobs et al., 2015). It is possible that good quality primary care increased admissions through GPs finding previously unmet need, however current research has not explored this.

1 Primary Care Mental Health

Definition

Integrating mental health into primary care is recognised by the World Health Organisation (WHO) (2008). Services within Primary Care Mental Health include (WHO, 2008):

- first line interventions that are provided as an integral part of general health care; and
- mental health care that is provided by primary care workers who are skilled, able and supported to provide mental health care services.

Primary Care Mental Health is also referred to as collaborative care. Collaborative care aims to develop closer working relationships between primary care (family doctors or GPs and practice nurses) and specialist health care (such as Community Mental Health Teams) (Reilly et al., 2013). The approach to primary mental health care described in the NHS Long Term Plan (2019) appears similar in many ways to the interventions reviewed below.

Evidence of effectiveness - Systematic reviews

A Cochrane review (Reilly et al., 2013) conducted in 2013 exploring collaborative care approaches for people with severe mental illness included only one study (RCT) including US veterans with bipolar disorder I or II. The included study suggested collaborative care may be effective in reducing psychiatric admissions and other admissions, however the study was deemed to be of low quality.

Evidence of effectiveness - Other secondary research

The Kings Fund (Naylor et al.,2016) highlight two studies exploring the integration of mental health into primary care teams. One US study reporting on the integration of mental health into primary care teams in Intermountain Healthcare was associated with lower use of some forms of acute care and reduced costs in real terms across the system. The other study was a UK evaluation of an integrated mental health service in GP practices for people with persistent physical symptoms and other complex needs in City and Hackney that found over a follow-up period of 22 months around a third of the costs of providing the service were offset by savings from reduced service use in primary and secondary care.

2 Good quality primary care

Definition

It is recognised that quality is complex and multidimensional with no single group of indicators likely to capture all perspectives on, or all dimensions of, quality in general practice (Goodwin et al (2011), however measuring the quality of primary care is often measured using data from the Quality and Outcomes Framework (QOF).

Evidence of effectiveness - Primary research

A recent NIHR funded study (Jacobs et al., 2015) found that better-quality primary care, as assessed by the Serious Mental Illness (SMI) quality indicators measured routinely in the Quality and Outcomes Framework (QOF) in English general practice were associated with greater risk of emergency admissions. An additional 10% in QOF achievement was associated with an increase in the practice emergency SMI admission rate of approximately 1.9 per cent.There was no significant association of QOF achievement with length of stay.

3 Early Intervention Services (EIS)

Definition

The National Collaborating Centre for Mental Health (NCCMH, 2014) define EISs as providing at least two of the following functions:

- early identification and therapeutic engagement of people with a first episode of psychosis;
- provision of evidence-based pharmacological and psychosocial interventions; and
- educating the wider community to reduce barriers to early engagement with treatment.

Early intervention programs generally engage in some form of Assertive Community Treatment (ACT) which attempts to aggressively treat patients in the community rather than using inpatient services (Randall et al., 2015). Assertive case management to coordinated treatment and continuity of care for patients is a particularly important aspect of ACT (Randall et al., 2015).

NICE (2014) recommend early intervention in psychosis services should aim to provide a full range of pharmacological, psychological, social, occupational and educational interventions for people with psychosis (NICE, 2014).

Evidence of effectiveness - Systematic reviews

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of EIS. The NCCMH (2014) identified four RCTs on EISs that were conducted in the UK or Europe. Early intervention services were more effective than standard care in reducing hospitalisation (RR 0.88, 95% CI 0.79 to 0.98; GRADE rating, moderate; three studies, n = 733), number of admissions (SMD –0.46, 95% CI –0.8 to –0.12; GRADE rating, moderate; one study, n = 136) and number of bed-days (SMD –0.18, 95% CI –0.33 to –0.03; GRADE rating, moderate; two studies, n = 683).

A systematic review (Randall et al., 2015) published after the publication of NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) also supports early intervention programs compared to standard of care, with respect to reducing inpatient service usage; meta-analysis found a positive effect for intervention for both hospital admissions and bed days (any hospitalization OR: 0.33; 95% CI 0.18–0.63, bed-days usage SMD: −0.38, 95% CI −0.53 to −0.24). The review identified a total of 45 publications however due to the occurrence of multiple publications per research program/sample, one study from each program identified was chosen to represent the research. A total of 15 studies were included in the final analysis.

Implementation lessons

A narrative review exploring Early intervention in psychosis (EIP) (Csillag et al., 2018) suggests implementation might be facilitated through changing structures so that contact with services is perceived to be less stigmatizing. The review also highlights promoting the emergence of champions to raise awareness about early psychosis and the benefits of EIP services.

General management and maintenance

<u>Key findings</u>

Evidence for Community Mental Health Teams (CMHTs) is from one systematic review (Paton et al., 2006) and one Cochrane review (Malone et al., 2007), both containing limited studies conducted in the 1990's, with some overlap of included studies between the two reviews. Evidence of the effectiveness of CMHTs was mixed, and Paton et al. (2016) highlight that many CMHTs are likely to have been blended with more recent models of care such as intensive case management.

Talking therapy (IAPT) for people with serious mental illness have been evaluated in two before and after studies (Johns et al., 2019; Jones et al., 2018). Both studies reported reductions in crisis contacts and acute bed days.

4 Community Mental Health Teams (CMHTs)

<u>Definition</u>

The National Collaborating Centre for Mental Health (NCCMH, 2014) define CMHTs as providing multidisciplinary community-based team care. Guidance for commissioners of community specialist mental health services (Joint Commissioning Panel for Mental Health, 2013) states CMHTs are normally expected to have a skill mix of community psychiatric nurses, social workers, occupational therapists, clinical psychologists, medical staff (including a consultant psychiatrist), mental health support workers and administrative staff.

<u>Evidence of effectiveness - Systematic review</u>

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of CMHTs. The NCCMH (2014) identified three RCTs conducted in the UK between 1992 and 1998, none of which were found to show a statistically significant benefit compared with either standard hospital treatment or traditional psychiatric services. Two of the trials reported that CMHTs did not have a significant benefit over standard care on the number of participants admitted to hospital, and the third study did not find any difference between CMHTs and standard care in the number of participants in contact with mental health services at medium-term follow-up. The NCCMH (2014) highlight that these trials were unlikely to reflect the diversity of community mental health care in the UK at the present time, as many have assimilated practices used by more recent models of care, such as ACT, outreach services and ICM.

A Cochrane review published before the NICE guidance (Malone et al., 2007) exploring CMHTs for people with severe mental illness and personality disorders concluded it is likely that a person managed within a CMHT is more likely to avoid hospital admission and to spend less time as an in-patient, however the evidence for CMHT based care is insubstantial considering the massive impact the drive toward community care has on patients, carers, clinicians and the community at large. The review identified 3 studies all undertaken in the UK in community settings; hospital admission rates were significantly lower in the CMHT group (n=587, 3 RCTs, RR 0.81 CI 0.7 to 1.0, NNT 17 CI 10 to 104) compared with standard care.

5 Talking therapy (IAPT)

Definition

The Improving Access to Psychological Therapies (IAPT) programme began in 2008 providing evidence-based psychological therapies to people with anxiety disorders and depression. In November 2012, six demonstration sites were selected and funded to deliver IAPT for people with SMI (psychosis, bipolar disorder or personality disorders):

- Psychosis sites: Lancashire; South London & Maudsley
- Personality Disorder sites: Somerset; Barnet, Enfield & Haringey; North East London
- Bi-Polar Disorder site: Birmingham & Solihull

Evidence of effectiveness - Primary research

A before and after evaluation (Johns et al., 2019) of the South London & Maudsley IAPT-SMI demonstration site found reductions in service use during therapy. Paired service use data were available for all therapy engagers. Average use/person/month in the year preceding therapy was 0.8 occupied bed days (OBDs) (SD=2.2, range 0–14) and 0.5 crisis team days (CTDs) (SD=1.5, range 0–15), which reduced to 0.2 OBDs (SD=1.2, range 0–12) and 0.1 CTDs (SD=0.5, range 0–5) during therapy (Wilcoxon matched-pair signed-rank test, $p < 0.001$; OBDs: d=0.45; CTDs: d=0.4).

A before and after evaluation (Jones et al., 2018) of the Birmingham & Solihull IAPT service for people with bipolar also found reductions in service use during therapy. Crisis contacts and acute bed days were significantly lower during treatment and at 12-month follow-up compared to 12 months pre-treatment. Those who completed treatment had significantly lower crisis contacts at follow-up compared to those that dropped out (Z= -2.91, p<0.05).

The evaluation of the first operational year of the South London and Maudsley (SLaM) demonstration site for psychosis concluded that the primary facilitators were ring-fenced investment in competent therapy provision, adequate supervision, and trained assessors, in the context of established service pathways and governance structures, supported by strong clinical leadership and management (Jolley et al., 2015).

Admission avoidance and crisis management

Key findings

Systematic review evidence

Evidence from systematic reviews has found that crisis resolution teams (Murphy et al.,2015; Paton et al., 2016) and liaison psychiatry (Wood et al., 2014; Paton et al., 2016) may be effective, however most of the evidence comes from low quality studies limiting conclusions that can be made.

Intensive case management (Paton et al., 2016; Dieterich et al., 2017) was found to be effective in reducing length of stay in hospital when based on international literature, however there was limited effectiveness when this was limited to the UK. In more recent years a new model of flexible ACT (FACT) has been adopted. Observational studies of two models from the UK suggest promising results demonstrating reductions in both admissions and bed days (Sood et al., 2017; Firn et al., 2013; Firn et al., 2018).

Mixed evidence from low quality studies was reported for police liaison and diversion services (Puntis et al., 2018).

Crisis houses (Paton et al., 2016) and day hospitals (Paton et al., 2016) were both found not to be more effective than inpatient treatment.

A recent Health Technology Assessment (Paton et al., 2016) did not identify any systematic reviews regarding access to mental health support before crisis point via telephone helplines.

Primary research and case studies

Models of enhanced psychiatric assessment are developing across the country. Evidence from a small-scale study (Tretheway et al., 2019) as well as case study reports (Healthy London Partnership, 2017) suggest such models are effective at reducing emergency admissions, however more research is needed.

Case study evidence suggests crisis cafes (Wessex Academic Health Science Network, 2017) and helplines linked to local services (NHS England, undated) may be effective at reducing emergency admissions services. More formal evaluations are needed.

6 Police liaison and diversion (e.g. street triage)

Definition

Mental health triage is intended to help support police when they attend to people with mental health problems, and subsequently reduce the likelihood of the person in crisis being detained in

police custody, and to reduce the distress caused to persons during these incidents as a result of increased mental health expertise.

There are two main overarching models of mental health triage (Puntis et al., 2018):

- police officers who have special mental health training (often referred to as Crisis Intervention Teams – CIT), or
- a co-response model where mental health professionals assist the police during incidents either in person or remotely from a control room.

The co-response model is the predominant model of police mental health triage in the UK (Puntis et al., 2018).

Evidence of effectiveness - Systematic review

A recent systematic review (Puntis et al., 2018) exploring the co-responder models of police mental health 'street' triage identified 26 papers for inclusion, including 6 studies from the UK.

No randomised control trials were identified and the majority (69%) of the included studies had been published within the last three years.

The evidence regarding the effectiveness of co-responder models of police mental health 'street' triage with regards to reducing hospital admissions was mixed:

- three studies reported a reduction in the proportion of police incidents resulting in psychiatric hospitalisation
- one study found an overall reduction in hospitalisation due to fewer police detentions
- three studies found an increase of psychiatric hospitalisation following the introduction of street triage.

Implementation lessons

There was marked variation in how co-response models were operationalised. There were differences in times and days of operation, whether the unit was a first or second-response option, whether the police officer and mental health worker were co-located, whether a mobile unit was dispatched or not, and the mode of transportation to the incident (marked or unmarked vehicles). Research is needed understand which components of the model are most effective and most acceptable to service users, and equally which are not (Puntis et al., 2018).

7 Helplines

Definition

"There are many mental health helplines offering services for people who may experience mental health problems, their families, carers, and professionals. Some helplines offer general information or signposting, others provide support for specific issues, or work in affiliation with statutory mental health services. Mental health helplines usually aim to offer confidential or anonymous support, out-of-hours support, crisis resolution, or specialist advice". (Mental Health Foundation, 2012).

Evidence of effectiveness - Systematic review

A recent Health Technology Assessment (Paton et al., 2016) did not identify any systematic reviews regarding access to mental health support before crisis point via telephone helplines.

Evidence of effectiveness - Case study evidence

NHS England highlight a First Response for Mental Health scheme in Cambridge and Peterborough which offers those people who call 111 a local option where they are put through to a local team and pointed to the right place for treatment avoiding A&E where appropriate. Over the period of 8 months (October 16 – May 17), nearly 10,000 people called, resulting in:

- 97 per cent of calls to the 111 option2 number did not need A&E
- 26 per cent fewer people overall needed to be taken to A&E by ambulance
- 25 per cent fewer people needed A&E for mental health problems
- 19 per cent reduction in overall A&E mental health admissions was seen.

Bradford District Care NHS Foundation Trust also offer a first response team (NHS Improvement, 2018). The service uses a telephone system to provide easy 24/7 access and encourage self-referrals to a team trained in mental health and risk assessment. The first response team has a varied skill mix and can offer rapid access to medication from advanced nurse practitioners, as well as social care from social workers who are part of the team but employed by the local authority. The police have a direct, dedicated emergency response line to the team. No out-of-area placements have been made in three years.

8 Crisis Cafes

<u>Definition</u>

Crisis cafes also known as Safe Haven services are staffed by mental health professionals and have been designed to allow individuals to drop in without an appointment.

The Safe Haven service in Aldershot operates as an evening drop-in service to provide people with a safe place to turn to when requiring mental health support out of hours (Wessex Academic Health Science Network, 2017). NHS staff, with voluntary sector partners, are on site to provide mental health crisis support

<u>Evidence of effectiveness - Case study evidence</u>

The evaluation of the Aldershot Safe Haven Service found that psychiatric admissions have reduced for the Safe Haven service catchment area; however, the evaluation also notes that there are other factors that may have influenced this (Wessex Academic Health Science Network, 2017). The evaluation reports that monthly admissions for the 12 months prior to the Safe Haven opening averaged at 21.9, whereas the average fell to 18.5 admissions per month for the 38 months that followed the service's launch. This represents an average reduction of 16 per cent in admissions to acute in-patient psychiatric beds in the Safe Haven service catchment area.

<u>Implementation lessons</u>

The evaluation of the Aldershot Safe Haven service Team asked members of staff to identify any active ingredients that that would be important if looking to replicate the service. The following features were highlighted:

- Teamwork and close partnership working between the different organisations central to the service.
- Clear boundaries. It is important for staff to explain to attendees the role of the service and to ensure that boundary setting is in place. Person centred care planning is important, with a focus on 'moving on' from the service.
- Encourage independence by restricting staff time spent with regular attenders.
- The service needs to provide a safe space and offer autonomy to the service user upon arrival – it may be that sitting quietly or just talking with others is what is critical for that person at that time.
- Provide a non-judgemental approach and have an attitude of wanting to help.
- The ability to effectively signpost on to other services.
- To be effective the service needs to be able to handle mental health emergencies either by accelerating treatment, triaging on to other services or, in rare cases, calling an ambulance.

- Ensure that the working environment is safe for both staff and users.
- Effective promotion of the service needs to occur through the NHS and other stakeholders.
- The service needs to hold certain values: offer sincerity and have staff with knowledge and acceptance of mental health.
- Establish strong links with other NHS organisations and other local services.

9 Crisis resolution home treatment teams (CRHTT)

Definition

Crisis resolution home treatment teams (CRHTTs) aim to offer an alternative to hospital admission during mental health crises, providing rapid assessment, home treatment, and facilitation of early discharge from hospital (Wheeler et al., 2015).

The National Collaborating Centre for Mental Health (NCCMH, 2014) define crisis resolution as any type of crisis-orientated treatment of an acute psychiatric episode by staff with a specific remit to deal with such situations, in and beyond 'office hours'.

CRHTTs are multidisciplinary, usually containing nurses, psychiatrists and nonprofessional mental health staff such as support workers, with occupational therapists, psychologists, social workers and clinical psychologists less consistently represented (NCCMH, 2014).

Evidence of effectiveness - Systematic review

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of CRHTTs. The NCCMH (2014) identified six RCTs on CRHTTs published between 1964 and 2005. Evidence from the UK studies was largely consistent with those conducted in other countries and health systems. CRHTTs reported large reductions in the probability of being admitted to hospital at 3 months, 6 months, 12 months (RR 0.4, 95% CI 0.31 to 0.51; GRADE rating, low; three studies, n = 400) and 24 months (RR 0.32, 95% CI 0.22 to 0.46; GRADE rating, low; one study, n = 118), however, the probability of readmission was less conclusive at 12 months (RR 0.51, 95% CI 0.21 to 1.2; GRADE rating, very low; four studies, n = 601) and 24 months (RR 0.76, 95% CI 0.36 to 1.63; GRADE rating, very low; two studies, n = 306). It was also inconclusive whether or not CRHTTs reduced Mental Health Act admissions at 3 months (RR 0.65, 95% CI 0.31 to 1.35; GRADE rating, low; one study, n = 87). The quality of evidence was rated

low or very low mainly because of the risk of bias in the included studies and the high level of heterogeneity.

A previously published Cochrane review (Murphy et al., 2015) exploring crisis intervention for people with severe mental illnesses found eight studies with a total of 1144 participants. Crisis care was provided during a crisis for service users, either in their home or a community setting. The review concluded that crisis intervention may reduce repeat admissions to hospital (excluding index admissions) at six months (1 RCT, n = 369, RR 0.75 CI 0.50 to 1.13, high quality evidence).

Implementation lessons

A systematic review conducted by Wheeler et al (2015) exploring the critical components of CRHTT services found they were unable to make firm conclusions from the available quantitative evidence. Quantitative studies suggested that longer opening hours and the presence of a psychiatrist in the team may increase CRHTTs' ability to prevent hospital admissions. The review found that evidence from qualitative studies and CRHTT guidelines provided more specific suggestions for how to optimise CRHTT services, though they were generally based mainly on experience, personal views, and consensus processes. Stakeholders valued accessibility, continuity of care, provision of time to talk, practical help, and treatment at home. Guidelines emphasised that CRHTTs should provide a multi-disciplinary 24-hour, short-term service to people experiencing a mental health crisis; and fulfil a gatekeeping role, controlling access to local inpatient beds. The importance of adequate staffing levels and staff skills was also stressed.

10 Liaison Psychiatry

Definition

"Liaison psychiatry is the sub-specialty which provides psychiatric treatment to patients attending general hospitals, whether they attend out-patient clinics, accident and emergency departments, or are admitted to in-patient wards - therefore it deals with the interface between physical and psychological health." (Royal College of Psychiatrists, 2019).

Evidence of effectiveness - Systematic review

A recent Health Technology Assessment (Paton et al., 2016) exploring interventions for improving outcomes for people in mental health crisis included analysis of interventions aimed at improving access to crisis care in the ED. A total of nine studies were found of which five assessed the

effectiveness of liaison psychiatry models. Two were conducted in the UK, two in Australia and one in the USA. Two before and after studies evaluated the impact of hospital resource; one from the UK (Tadros et al., 2013) and one conducted in the USA (Woo et al., 2007). There was largely positive evidence for the Rapid Assessment, Interface and Discharge model conducted in the UK (Tadros et al., 2013). There was a saving of 0.9 bed-days per patient (797 bed-days saved over 8 months) after the implementation of Rapid Assessment, Interface and Discharge, but this difference was not statistically significant (p = 0.31). There was also a substantial reduced risk of readmission after Rapid Assessment, Interface and Discharge had been implemented compared with controls [e.g. before vs. after implementation: hazard ratio (HR) 2.45, 95% CI 2.33 to 2.57], which was estimated to be equivalent to 22 beds saved daily (20 out of the estimated 22 bed-days saved were attributable to geriatric wards). The study conducted in the US (Woo et al., 2007) did not find any differences between groups on admission or readmission to inpatient treatment. The review concluded that while there is evidence of benefits for liaison psychiatry teams in improving waiting times and reducing readmission, this is largely based on uncontrolled studies and a lack of data from the UK (Paton et al., 2016).

An earlier systematic review (Wood and Wand, 2014) exploring the effectiveness of consultation-liaison psychiatry in the general hospital setting found that there is evidence that some consultation liaison psychiatry services are cost-effective and reduce length of stay when involved early and that referrers follow certain recommendations. Many of the included studies however had disparate results and were methodologically flawed.

11 Enhanced Psychiatric Assessment (e.g. Psychiatric Decisions Unit)

Definition

Psychiatric Decisions Unit (PDU) aim to enhanced assessment and to ensure patients in mental health crisis receive optimal care. Patients in mental health crisis require longer periods of observation, assessment and support than Rapid Assessment Interface and Discharge and Street Triage can provide (Trethewey et al., 2019).

A PDU is a non-bedded, acute mental health unit which provides an additional facility for enhanced assessment, and concurrently offers short-term support to people in mental health crisis (Trethewey et al., 2019).

Evidence of effectiveness - Primary research

A small-scale service evaluation of a PDU based within a psychiatric unit at Birmingham and Solihull Mental Health Trust in the UK using data collected over a six-month period found that the PDU was

associated with a reduction in the frequency of ED presentations and inpatient admissions (Trethewey et al., 2019). During the study period 385 patients were referred to the PDU. Implementation of the PDU was associated with a 26 per cent fall in inpatient psychiatric admissions via the Trusts' in-hospital liaison psychiatry team.

Evidence of effectiveness - Case study evidence

Healthy London Partnership (2017) conducted a rapid review of mental health crisis care models and identified a number of case studies reporting on assessment units similar to the PDU at Birmingham and Solihull Mental Health Trust. Case study evidence has also reported that enhanced assessment such as the Northwick Park Psychiatric Assessment Lounge is associated with reduced admissions.

12 Intensive case management (inc. assertive community treatment)

Definition

Intensive case management (ICM) and assertive community treatment (ACT) have been considered together as per NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014). Original NICE guideline (2002, 2009) considered these interventions as discrete approaches however they now consider them together as they are similar: "both use an assertive outreach model of care (that is, persisting with service users who are not engaging) and both specify that practitioners should carry limited caseloads. The main difference is that ACT requires team members to share responsibility for the teams' clients, whereas ICM puts greater emphasis on the primacy of the individual case manager" (NCCMH, 2014).

The National Collaborating Centre for Mental Health (NCCMH, 2014) adopt and adapt the definition of ICM used in the 2010 Cochrane review (Dieterich et al., 2010); a package of care using the assertive community treatment (ACT) model, assertive outreach model, the case management model, or reporting a caseload of up to 20 people.

Evidence of effectiveness - Systematic review

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of ICM. The NCCMH (2014) used an existing Cochrane review (Dieterich et al., 2010) including 38 studies which they performed subgroup analysis including only UK trials. Based on the international literature, ICM was found to be

effective in reducing length of stay in hospital, however when limiting the meta-analysis to only UK trials (k = 8) there was no evidence of benefit on reducing average number of days hospitalised.

The 2010 Cochrane review has since been updated (Dieterich et al., 2017). The 2016 update included two more studies (n = 196) and more publications with additional data for four already included studies, bringing the included participants to 7524 from 40 randomised controlled trials (RCTs). The review concluded that based on very low- to moderate-quality evidence ICM compared to standard care may reduce hospitalisation. When ICM was compared with standard care for the outcome service use, ICM slightly reduced the number of days in hospital per month (n = 3595, 24 RCTs, MD −0.86, 95% CI −1.37 to −0.34, low-quality evidence). When ICM was compared with non-ICM (same package of care as ICM but with a caseload of over 20 people) for the outcome service use, there was moderate-quality evidence that ICM probably makes little or no difference in the average number of days in hospital per month (n = 2220, 21 RCTs, MD −0.08, 95% CI −0.37 to 0.21, moderate quality evidence) or in the average number of admissions (n = 678, 1 RCT, MD −0.18, 95% CI −0.41 to 0.05, moderate-quality evidence) compared to non-ICM. The review included five UK studies; only one of the UK studies found a reduction in the number of days in hospital per month (Marshall 1995), the other four resulted in virtually no difference (Audini 1994; Muijen 1994) or an increase in days in hospital per month (Ford 1995; Holloway 1996).

Evidence of effectiveness - Primary research

In more recent years a new model of flexible ACT (FACT) has been adopted. Two models from the UK have published observational studies.

South Warwickshire

An observational study (Sood et al., 2017) of 380 people from 3 CMHTs and 95 people from an ACT team, all with a history of psychosis, that transferred to 3 FACT teams reported a reduction in the number of days spent in hospital as well as admissions. For people who had previously been with the ACT team there was a 19 per cent reduction in number of days spent in hospital, which failed to reach statistical significance. However, the power calculated post hoc was only 4 per cent which indicates that the numbers were insufficient to conclude there was no difference following the change of model. There was also a reduction in mean number of admissions in this group, but numbers were too low for a meaningful comparison to be made. In the CMHT group, reductions in bed use were much greater, with a 36 per cent reduction following the introduction of the FACT model, which reached statistical significance. There was also a non-significant reduction in admissions in this group.

London

An observational study (Firn et al., 2013) of 112 assertive outreach patients transferred to standard CMHTs with FACT found that one year after the transfer patients had significantly fewer admissions and a halving of bed use (21 fewer admission and 2,394 fewer occupied bed days) whilst being in receipt of a less intensive service (2,979 fewer contacts) compared to the pre-service change. For the 55 patients who were admitted in at least one of the two periods there was a significant reduction in median number of occupied bed days, including and excluding periods of hospital leave, $p = 0.008$ and $p = 0.010$, respectively.

More recently, a four-year observational study (Firn et al., 2018) of the 112 patients has reported significantly fewer admissions and bed days at each of the four subsequent years compared to baseline offset by a significant rise in missed face-to-face appointments.

13 Crisis houses

Definition

The National Collaborating Centre for Mental Health (NCCMH, 2014) define a crisis house as a residential alternative to acute admission during a crisis. Crisis houses are small unlocked, stand-alone community units that are usually based in converted residential premises. They are designed to be a 'home away from home' based in the local community for people who are experiencing a crisis. A crisis house aims to help the service user maintain autonomy and normality during a crisis within their own community but is also supported with their treatment plan and daily living, allowing an easier transition back to normal life after the crisis. Crisis houses also aims to reduce the stigma of experiencing a crisis, which sometimes may be exacerbated by admission to an inpatient facility, allowing the service user and families to move away from the idea of the service user being 'unwell' and providing the support needed for swift recovery.

Evidence of effectiveness - Systematic review

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of crisis houses. The NCCMH (2014) identified one RCT on crisis houses for people with psychosis, which was conducted in the USA. Crisis houses were shown to have no additional benefit when compared with standard care (inpatient care) on hospital admission (RR 1.0, 95% CI 0.98 to 1.02; GRADE rating, low; one study, n = 185) or readmission (RR 0.9, 95% CI 0.76 to 1.05; GRADE rating, low; one study, n = 185).

Paton et al (2016) also highlight an earlier systematic review from 2009 exploring residential alternatives to acute psychiatric hospital admission (Lloyd-Evans et al., 2009). The review identified 11 studies on crisis houses but only three of these were rated as moderate- or high-quality evidence. The three studies reported mixed results regarding admissions.

Furthermore, Paton et al (2016) conclude recent UK studies (randomised and non-randomised) have found similar results including greater service user satisfaction, greater autonomy, reduced costs of admission, greater therapeutic alliances and no differences in service user and service utilisation outcomes compared with inpatient treatment.

14 Day hospital/ Acute Day Treatment Units (ADTUs)

Definition

The National Collaborating Centre for Mental Health (NCCMH, 2014) adopts the definition used by the 2011 Cochrane review (Marshall et al., 2011) as units that provide diagnostic and treatment services for acutely ill individuals who would otherwise be treated in traditional psychiatric inpatient units.

Evidence of effectiveness - Systematic review

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of acute day hospitals. The NCCMH (2014) updated an existing Cochrane review (Marshall et al., 2011) but did not find any additional trials. Ten RCTs, published between 1965 and 2007, were included in the review and compared acute day hospitals with routine inpatient care. The Cochrane review found no differences between groups in total days in hospital, and the duration of hospital stay was shorter for those receiving inpatient care.

Supported discharge/readmission avoidance

Key findings

Systematic reviews and other secondary evidence

Cognitive behavioural therapy (CBT) was found to be effective at reducing readmission rates and the duration of hospitalisation for people with psychosis and schizophrenia (Paton et al., 2016).

Family intervention is reported to reduce hospital admissions (Paton et al., 2016; Pharoah et al., 2010), however the evidence for brief family intervention for schizophrenia was found to be limited to one study of poor-quality evidence (Okpokoro et al., 2014).

Evidence from a Cochrane review (Pitt et al., 2013) and a systematic review focusing on RCTs (Paton et al., 2016) report no conclusive evidence of benefits of peer support on hospitalisation. A systematic review including quasi-experimental trials concluded the results are more promising, however acknowledge the evidence is not definitive (Chinman et al., 2014).

Evidence for self-management was inconclusive regarding the effect on the risk of hospitalisation (Lean et al., 2019; Paton et al., 2016).

There is a lack of good quality research on supported housing, however more recent small-scale evaluations of supported housing projects in England such as Tile House in North London have reported that whilst re-admissions to hospital for the residents in the scheme did not decrease after their move to Tile House they spent less time in hospital when they were admitted (Boardman, 2016).

Primary research and case studies

A controlled-before-and-after study evaluating the Sussex Recovery College found students used mental health services less after attending the Recovery College than before (Bourne et al., 2018).

A small comparative evaluation of two UK acute psychiatric services, one inclusive and the other exclusive of occupational therapy found a statistically significant difference in the SLA performance indicators for number of home leave days, ward occupancy and number of under 3-day admissions, with the service with occupational therapy performing better (Fitzgerald, 2016). A current randomised control trial is in progress that will test the clinical and cost effectiveness of occupational therapy working post-discharge with people diagnosed with mental illness (Birken et al., 2018).

Discharge assessment interventions aim to overcome barriers to discharge for patients that are ready to be discharged. Numerous models exist with case study evidence suggesting there is

potential to reduce bed days. More robust evaluations are needed and the identification of key components.

No evidence was found exploring using medication review to reduce mental health inpatient use.

15 Discharge assessment

<u>Definition</u>

Assessing readiness of patient to leave hospital and identifying barriers to discharge. Many different models exist, we highlight two examples below.

<u>Evidence of effectiveness - Case study evidence</u>

Red2Green (Quinn et al.,2018)

Cheshire and Wirral Partnership NHS Foundation Trust (CWP) commenced a project to improve flow through mental health inpatient services by piloting a daily multi-disciplinary ward round to rapidly assess the progress of each person who use services and identify any internal or external barriers or delays to their care, treatment or discharge. This is done by examining the Red and Green status of each patient every day during the MDT board round. A GREEN day is a day of value for a patient – they are receiving active treatment, and a RED day is a non-value adding day – they are not receiving active treatment, or it could be provided in the community.

The initial pilot took place on a 22-bed acute mental health ward between September 2017 and December 2017. During this time a reduction in the average length of stay was reported. Utilising baseline data from January 2017 to September 2017, the impact of the Red2Green process was analysed from the beginning of the pilot on September 22nd, 2017 to the end of December 2017. This demonstrated a 25 per cent reduction in average length of stay on Beech ward to a new average of 17 days. Data analysis of a second pilot identified a shift in the length of stay at six weeks, with the ward successfully achieving a 33 per cent reduction in average length of stay since the beginning of the pilot in January 2018 and at two months in.

Complex Recovery Assessment and Consultation (CRAC) (Le Brun SD, 2015)

The Complex Recovery Assessment and Consultation (CRAC) is a multi-disciplinary team, led by an occupational therapist and comprising of mental health nurses, an assistant psychologist and psychiatrist. The team focuses on recovery and aims to assess and consult on individuals in acute care from a rehabilitation perspective who have had a length of stay for 40+ days. Preliminary data showed that requiring a placement on discharge proved to be the most significant factor in increased length of stay and so the team took on a new role of discharge coordinator after around

a year of operating. At the same time the CRAC team also took on the role of gatekeeper for all rehabilitation beds in the local area, meaning that anyone who is identified as requiring longer-term care is assessed and a decision made on whether the team feel that they are suitable for rehabilitation services.

Data analysis five months after creating the discharge coordinator and rehabilitation gatekeeper roles shows that the time taken for individuals to be discharged to a rehabilitation or specialist placement decreased; inpatient rehabilitation had reduced by an average of 13.12 days, and a specialist placement had reduced by 9.22 days. Discharge to a family address also decreased by 2.9 days and a home address by 2.47 days.

16 Peer support

Definition

The NCCMH (2014) distinguished three types of peer support:

- mutual support groups (where relationships are reciprocal in nature),
- peer support services (where support is provided by a peer support worker to one or more participants), and
- peer mental health services (where people who have used mental health services provide part or all of standard care provided by service).

Evidence of effectiveness - Systematic review

A Cochrane review (Pitt et al., 2013) evaluating consumer-providers of care for adult clients of statutory mental health services included six trials involving 2215 people that compared mental health services with or without the addition of consumer-providers. The review found that there was no significant difference in hospital admissions and length of stay, or attrition (risk ratio 1.29, 95% CI 0.72 to 2.31) between groups with consumer-providers as an adjunct to professional-led care and those receiving usual care from health professionals alone.

The conclusions of a subsequent systematic review (Chinman et al., 2014) differ from those in the Cochrane review of peer support services; whilst not definitive the authors suggest the results for the effectiveness of peers added to traditional services and the peers delivering curricula types of peer support services are encouraging. Compared with professional staff, peers were better able to reduce inpatient use and improve a range of recovery outcomes, although one study found a negative impact. Effectiveness of peers in existing clinical roles was mixed. The authors highlight that the Cochrane review excluded quasi-experimental trials and studies involving peer-delivered curricula.

More recently, a Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of peer support. The NCCMH (2014) conducted a new systematic review on the clinical effectiveness of peer support as a large volume of secondary research existed however, they were non-systematic narrative reviews of peer support or one systematic review published over 10 years previously. 16 RCTs on peer support [nine on peer support services (mean 43% had diagnosis of psychosis or schizophrenia), four on mutual support services (mean 42% had diagnosis of psychosis or schizophrenia) and three on peer mental health service providers (mean 68% had diagnosis of psychosis or schizophrenia)] were identified. The review concluded there was no conclusive evidence of benefits on hospitalisation.

Paton et al., (2016) highlight the ENRICH project (https://www.journalslibrary.nihr.ac.uk/programmes/pgfar/RP-PG-1212-20019/#/), a large scale UK study currently under way to investigate the effectiveness of peer support. This study will compare the effects on a peer worker intervention with usual care for service users about to be discharged from a psychiatric ward, on readmission rates, experience of discharge and cost of services.

Implementation lessons

The Cochrane review (Pitt et al., 2013) evaluating consumer-providers of care for adult clients of statutory mental health services highlights that some studies identified challenges in retaining consumer-providers and found examples of resignation due to work being too stressful, training too lengthy, travel distance, or the negative effect of employment on welfare benefits. The importance of training and support was also considered; roles were often unclear and evolving.

A NIHR funded qualitative, comparative case study (Gillard et al., 2014) explored peer worker roles in mental health services in England. Barriers and enablers identified included:

- valuing the differential knowledge and practice that peer workers brought to the role (especially around maintaining personally, rather than professionally defined boundaries);
- maintaining peer identity in a role of work;
- changing organisational structures to support peer workers to remain well in their work; and
- challenging organisational cultures to empower peer workers to use their lived experience.

17 Cognitive-behavioural therapy (CBT)

Definition

NICE (2011) describe Cognitive behavioural therapy (CBT) as a psychological intervention where the person works collaboratively with the therapist to identify the effects of thoughts, beliefs and interpretations on current symptoms, feelings states and problems areas. They learn the skills to identity, monitor and then counteract problematic thoughts, beliefs and interpretations related to the target symptoms or problems, and appropriate coping skills. Duration of treatment varies depending on the disorder and its severity but for people with depression it should be in the range of 16 to 20 sessions over three to four months; for people with General Anxiety Disorder (GAD) it should usually consist of 12 to 15 weekly sessions (fewer if the person recovers sooner, more if clinically required), each lasting one hour.

Evidence of effectiveness - Systematic review

Psychosis and schizophrenia

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of CBT. The NCCMH (2014) identified 11 RCTs that compared CBT with any control in participants during the promoting recovery phase. CBT was found to reduce readmission rates up to 18 months post follow-up (RR 0.76, 95% CI 0.61 to 0.94; five studies) and reduce the duration of hospitalisation (mean difference –8.26 days, 95% CI –15.51 to –1.01 days; five studies).

Depression

The Health Technology Assessment (Paton et al., 2016) also highlights evidence from NICE guidelines on the treatment and management of depression in adults. The NCCMH (2010) report that the largest evidence base for CBT for treating depression is in comparison with antidepressants, with the results indicating reduced relapse rates for CBT. Furthermore, the NCCMH (2010) identify CBT interventions specifically designed to reduce relapse. Group mindfulness-based cognitive therapy (MBCT) was associated with the strongest evidence for reducing relapse. MBCT was more clinically effective than antidepressants, but with a lack of precision (RR 0.80, 95% CI 0.57 to 1.11; GRADE rating, low; one study n = 123), and more clinically effective than control treatments (RR 0.74, 95% CI 0.57 to 0.96; GRADE rating, moderate; one study n = 55) in people who had experienced three or more depressive episodes.

18 Family intervention

<u>Definition</u>

Psychosocial family interventions may have several different strategies, including (Pharoah et al., 2010):

- construction of an alliance with relatives who care for the person with schizophrenia;
- reduction of adverse family atmosphere (that is, lowering the emotional climate in the family by reducing stress and burden on relatives);
- enhancement of the capacity of relatives to anticipate and solve problems;
- reduction of expressions of anger and guilt by the family;
- maintenance of reasonable expectations for patient performance;
- encouragement of relatives to set and keep to appropriate limits whilst maintaining some degree of separation when needed; and
- attainment of desirable change in relatives' behaviour and belief systems.

NICE (2015) suggest family intervention should involve the person with psychosis or schizophrenia if practical, and form part of a broad-based approach that combines different treatment options tailored to the needs of individual service users.

<u>Evidence of effectiveness - Systematic review</u>

A recent Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of family intervention.

The NCCMH (2014) identified 32 RCTs of family intervention compared with any type of control. Family intervention was found to reduce hospital admission (RR 0.53, 95% CI 0.34 to 0.81; 10 studies).

An earlier Cochrane review (Pharoah et al., 2010) also found family intervention reduced hospital admissions (n = 481, 8 RCTs, RR 0.78 CI 0.6 to 1.0, NNT 8 CI 6 to 13). A more recent Cochrane review (Okpokoro et al., 2014) looked at brief family intervention for schizophrenia, where a mental health professional educates the person with schizophrenia and their family members about the illness over a limited number of sessions. The review found only one study of poor-quality evidence that reported data for hospital admission (n = 30, 1 RCT, RR 0.50, 95% CI 0.22 to 1.11).

Subgroup analyses suggested single-family intervention was more likely to be acceptable to service users and carers (as shown by data on leaving the study early). (Paton et al., 2016)

19 Self-management

<u>Definition</u>

Self-management is intended to empower individuals in their recovery by providing the skills and confidence they need to take active steps in recognising and managing their own health problems (Lean et al., 2019).

There is no universally accepted classification of self-management, although it commonly involves the provision of information and education on a condition and its treatment, collaboratively creating an individualised treatment plan, developing skills for self-monitoring symptoms and strategies to support adherence to treatment including medication, psychological techniques, lifestyle and social support (Lean et al., 2019).

<u>Evidence of effectiveness - Systematic review</u>

A recent systematic review with meta-analysis (Lean et al., 2019) exploring self-management interventions for people with severe mental illness found that the evidence for self-management interventions on readmissions was mixed. Self-management did not have an effect on the total number of patients readmitted at the end of the treatment intervention or at follow-up (SMD 0.84, 95% CI 0.48– 1.46, and SMD 0.75, 95% CI 0.51–1.08, respectively), however there was an effect at follow-up on the mean number of readmissions (SMD −0.92, 95% CI −1.63 to −0.21). A small effect (SMD −0.26, 95% CI −0.50 to −0.02) was demonstrated on length of hospital admissions immediately following treatment (k = 6, n = 902), whereas a moderate effect (SMD −0.68, 95% CI −1.10 to −0.25) was found at follow-up (k = 7, n = 908). The authors highlight that few studies reported relapse as an outcome and, of those that did, only a small number of participants experienced relapse events which may account for the lack of effect. The paucity of data consequently impedes conclusion on the effect of self-management on relapse.

A previous Health Technology Assessment (Paton et al., 2016) highlights evidence from NICE guidelines on the treatment and management of psychosis and schizophrenia in adults (NCCMH, 2014) when considering the clinical effectiveness of self-management. The NCCMH (2014) identified 25 RCTs; 21 evaluated professional-led self-management and four evaluated peer-led self-management. Similarly, to the findings reported by Lean et al. (2019) the authors concluded the evidence was inconclusive regarding the effect on the risk of hospitalisation; five RCTs found

that the risk of admission in the short term was lower in the self-management group, but there was no evidence of benefit at end of intervention or medium- or long-term follow-up.

20 Supported housing

<u>Definition</u>

There is no clear definition of what constitutes supported accommodation for people with mental health problems however the term is usually used to cover services that combine accommodation and support to 'vulnerable' people to help them live more independently (Boardman, 2016).

The term may cover hostels, sheltered housing, shared homes and support to people living in their own homes. (Boardman, 2016).

The Centre for Mental Health (Boardman, 2016) highlight work by Pleace and Wallace (2011) that outlines three broad types of housing support services:

- Staircase models: the provision of a series of types of accommodation or stages that provide less support at each stage, with the aim of progression to independent living.
- Accommodation-based services: the provision of purpose-built supported housing with on-site staffing. The purpose is often to provide a 'halfway' house between institutional care and ordinary housing.
- Mobile support workers (often called 'Floating Support'): usually provided in independent accommodation with the aim of preventing problems related to sustaining a tenancy or maintaining stable housing.

<u>Evidence of effectiveness - Other secondary research</u>

In 2016 the Centre for Mental Health published a report that reviewed the evidence about supported housing services for people with mental health problems in England (Boardman, 2016). The report concludes that there is a lack of good quality research on supported housing and highlight a review from 2011 (Pleace and Wallace, 2011) in support of this.

The review also highlights more recent small-scale evaluations of supported housing projects in England. One of which considers the impact of support housing on healthcare use; Tile House in North London was set up to provide housing for people with severe mental health problems who had spent many years in registered care or forensic care homes. Re-admissions to hospital for the residents in the scheme did not decrease after their move to Tile House but they spent less time in hospital when they were admitted (81 days over two years since their move to Tile House compared to 317 days before the move). Hospital admissions costs were reduced from an average of £355,845 to £71,649 per person per year. The overall annual saving on accommodation and admission costs was £443,964.

The Centre for Mental Health (Boardman, 2016) highlight an evaluation of the Midland Heart Complex Needs Services which supplies supported housing services to homeless people with mental health problems and substance misuse conducted by Miller and Appleton (2014) which suggested that the success of the service was related to the approach of the staff, involving and engaging users of the service, linking successfully with other agencies and a positive risk management approach.

21 Recovery colleges

Definition

Recovery Colleges offer educational courses about recovery and mental health which are co-produced by mental health professionals and experts with lived experience (Bourne et al., 2018).

While Recovery Colleges vary, defining features include (Perkins et al., 2012):

1. Co-production between people with personal and professional experience of mental health problems
2. There is a physical base (building) with classrooms and a library where people can do their own research
3. It operates on college principles
4. It is for everyone
5. There is a Personal Tutor (or equivalent) who offers information, advice and guidance
6. The College is not a substitute for traditional assessment and treatment
7. It is not a substitute for mainstream colleges
8. It must reflect recovery principles in all aspects of its culture and operation

Evidence of effectiveness - Primary research

A controlled-before-and-after study evaluating the Sussex Recovery College found students used mental health services less after attending the Recovery College than before (Bourne et al., 2018). Students who attended the Recovery College showed significant reductions in occupied hospital bed days, admissions, and admissions under section in the 18 months post compared with the 18 months before registering. Reductions in service use were greater for those who completed a course than those who registered but did not complete a course:

- Participants who completed a Recovery College course: Occupied bed days significantly reduced from an average of 19.62 (SD=61.37) to 4.88 (SD=20.43; p=0.000, r=-0.21); a reduction per annum from 13.08 to 3.25 days. There were also significant reductions in overall admissions (p=0.002, r=-0.18) and admissions on a mental health section (p=0.001, r=-0.20).
- All recovery college participants: Occupied bed days significantly reduced from an average of 21.1 days in the 18 months pre (SD=68.01) to 9.5 days in the 18 months post (SD=41.32), (p=0.000, r=-0.16), equating to a reduction from an average of 14 to 6 days per annum. There were significant reductions for overall admissions (p=0.000, r=-0.12), admissions under a mental health act section (p=0.014, r=-0.08) and voluntary admissions (p=0.002, r=-0.10).

Implementation lessons

A review of the evidence exploring mechanisms of action and outcomes for Students in Recovery Colleges identified four mechanisms of action for recovery colleges (Toney et al., 2018):

1.   empowering environment;
2.   enabling different relationships;
3.   facilitating personal growth; and
4.   shifting the balance of power through coproduction and reducing power differentials. Outcomes were change in the student (for example, self-understanding and self-confidence) and changes in the student's life (for example, occupational, social, and service use) (Toney et al., 2018).

22 Medication review

No studies were identified that explored the use of medication review to reduce hospital admissions or length of stay.

23 Occupational Therapy (OT)

Definition

The College of Occupational Therapists (2006) describe Occupational therapy in mental health as being concerned with helping people to recover ordinary lives that have been affected by mental ill health. In order to meet the occupational needs of the people they serve, occupational therapists work in partnership with clients, carers and colleagues to provide creative solutions to problems of daily living (College of Occupational Therapists, 2006).

An evaluation of clinical practice in the acute mental health settings (Lloyd and Williams, 2010) identified four core elements of the occupational therapy role:

- Individual assessment
- Therapeutic groups
- Individual treatment
- Discharge planning.

Evidence of effectiveness - Other secondary research

A critical review of occupational therapy in the adult acute mental health setting found a paucity of literature (Lloyd and Williams, 2010). The review highlights earlier work by the College of Occupational Therapists (2006) setting out 'the strategy for occupational therapy in mental health services 2007–2017' that also found a lack of robust evidence and emphasises the importance for occupational therapy to develop a robust evidence base.

Evidence of effectiveness - Primary research

A small comparative evaluation of two UK acute psychiatric services, one inclusive and the other exclusive of occupational therapy found a statistically significant difference in the SLA performance indicators for number of home leave days, ward occupancy and number of under three-day admissions, with the service with occupational therapy performing better (Fitzgerald, 2016).

Birken et al. (2018) highlight that there is no evidence regarding the effectiveness of occupational therapy working post-discharge with people diagnosed with mental illness. The authors therefore produced a feasibility study of a four-month manualised intervention named Graduating Living skills Outside the Ward (GLOW) which was developed for use by occupational therapists for people with a diagnosed psychotic disorder following discharge from hospital. The intervention aims to reduce hospital admissions and crisis service use. The intervention will be tested to assess its clinical and cost effectiveness in a randomised controlled trial.

Evidence of effectiveness - Case study evidence

The Royal College of Occupational Therapists (2017) highlight mental health liaison occupational therapists' assessments in Cwm Taf University Health Board which enable the multi-disciplinary team to identify needs and to provide recommendations for discharge. People are offered the most appropriate service to meet their needs and hospital length of stay has been reduced on average by three days.

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