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Is 333 the Future of Mental Health Inpatient Care?

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Is 333 the Future of Mental Health Inpatient Care?

Abstract

Objective: 333 is a radical redesign of mental health acute care. Functionalised time limited inpatient pathways, 3 days assessment, 3 weeks treatment and 3 months recovery, replaced traditional geographical sector wards. By making beds available 333 aspired to improve access, deliver early treatment and shorten hospital stays. The improved quality would generate savings through reductions in beds and out of area placements (OAPs). This paper describes 333’s performance against national benchmarking and internal targets.

Methods: The general adult bed complement over time was mapped out. Patient flow data from April 2015 to March 2017 was extracted from the trust’s data warehouse and was systematically compared with 2016 NHS benchmarking and 333 targets.

Results: Between 2012-16 there was a 44% reduction in beds in comparison to 17% nationally. OAPs due to bed unavailability became extremely rare. 2679 patients got admitted to 333, 74% of patients admitted to the assessment unit were discharged back to the community keeping fragmentation of care to a minimum. Median length of stay was 1/6th the national median but readmission rates were higher due to “Open Door”, an innovative approach to managing personality disorder patients. Bed occupancy was below national average with beds being available every night over two years.

Conclusion: A focused recovery approach within 333 has reduced lengths of stay and ensured that any stay on any ward is meaningful and adds value. The paper demonstrates that simultaneous bed and OAPs reduction, along with safe care is both achievable and deliverable.

Highlights:

- 333 provides a solution to the bed crisis and a template for radical redesign of mental health acute care.
- Crisis resolution and home treatment teams provide a foundation for time limited pathways for assessment, treatment and recovery.
- Patients do not fit into pathways, pathways fit around the patients.
- Recovery oriented care focused on adding value can shorten lengths of stay and improve patient experience.

Introduction

Mental health acute care was radically redesigned in Cambridgeshire and Peterborough NHS Foundation Trust (CPFT). Catchment wards were replaced by time limited inpatient pathways for assessment and specific interventions. The Crisis Resolution and Home Treatment Team (CRHTT) provides the foundation for this 333 model of inpatient care that includes 3 day assessment units (AU), 3 week treatment units (TU) and 3 month recovery units (RU). Box 1 provides unit focus and functions. Roll out was in phases, Oct 2011 in Peterborough and May 2013 in Cambridge.

----- Box 1 -----

Improving access and quality of care, when demand for beds far exceeded supply, called for a system rethink. Pushing quality up and costs down was the challenge. This was in the context of a steep cost improvement programme (CIP)^(1,2) and stretch quality metrics with close regulation from Monitor⁽³⁾ (financial regulator) and Care Quality Commission⁽⁴⁾ (quality regulator). The bed crisis was driven by decreasing beds⁽⁵⁾, increasing population from immigration into East of England⁽⁶⁾, increasing number of people in contact with mental health services^(5,7), social housing crisis^(8,9) and impact of recession⁽¹⁰⁾. Locally, timely beds were difficult to find and 75 patients were being treated in long term private sector out of area placements (OAPs). Inpatient treatment delays would result in deterioration in the community. When admitted, they would be so unwell that they would need longer hospital stays, have poor outcomes and perpetuate the bed shortage cycle^(11,12). If they ended up as an OAP, being away from their families would result in poor patient experience^(13,14). OAPs diverted finances away from community services which was delivering most of the CIPs⁽¹²⁾.

Reducing community provision could be a false economy. In 2016 the cost of an adult acute bed per year stood at GBP 131,267 (USD 161,879), 6% higher than 2015⁽¹⁵⁾. For an individual patient a year of generic community mental health support costed GBP 2,880 (USD 3551), 3% higher than 2015⁽¹⁵⁾. The cost of inpatient care increased more rapidly and annually the expenditure of one adult mental health bed can support delivery of care for 46 community patients. Decreasing community provision delays treatment, resulting in more unwell patients needing beds, deepening the demand supply mismatch⁽¹²⁾. So the CIP was redirected from community to inpatient services. A systems solution to inpatient care delivery was needed if there was to be a reduction of generic adult mental health bed stock and simultaneous decrease in OAPs. Moneys released could then be reallocated to make community services robust and responsive.

In the UK, the last two decades of the 20th Century witnessed the closure of large mental health institutions and a move towards community care⁽¹⁶⁾. In 1999 the National Service Framework was published⁽¹⁷⁾. This was followed by the National Health Service plan in 2000⁽¹⁸⁾ which made CRHTT mandatory for all catchment

areas in England. There is now considerable evidence to suggest that CRHTTs are an effective alternative to hospital stay allowing for bed reduction^(19–21). In CPFT, CRHTT implementation allowed for closure of an inpatient ward in 2005 (CRHTT patient flow diagram available online). Even without such alternative to hospital stay, in 2006 the average length of stay in the US for people with serious mental illness was reported to be 10.0 ± 3.0 days⁽²²⁾, considerably shorter than the 25.6 of the 1990s⁽²³⁾. In comparison, a decade later, the 2016 UK National benchmarking quotes an average of 35.9 days⁽¹⁵⁾ revealing potential bed day savings. Many would link the US shortening to economic considerations of insurance providers⁽²⁴⁾. In the UK, bed pressures has brought about a similar focus on patient flow and 7 day short stay/assessment units have been tried. However, a literature review does not reveal any publications that report on the effectiveness of such approaches. This is a gap in the evidence base that urgently needs addressing.

333 sought to create a step change in quality of care. A focussed recovery approach with clarity about how every inpatient hour added value was expected to release bed days, make inpatient care timely, result in rapid recovery with better outcomes and overall shorten lengths of stay. This paper describes how 333 performed in the different process measures against national benchmarking and targets set at inception. To our knowledge this is the first publication attempting to provide evidence for the effectiveness of a systems solution to the universal problem of bed shortage and address the gap in literature.

Methods:

CPFT general adult bed complement, pre and post 333 implementation was mapped out. For two financial years (April 2015 to March 2017), raw data was extracted from the trust’s data warehouse. These were compared against 2016 NHS benchmarking⁽¹⁵⁾ and targets set at the inception of 333. These are categorized into:

1. Admissions and patient flow:
 - a. 1200 care episodes annually (1 care episode is a patient journey across 333)
 - b. Direct admissions ratio AU:TU:RU at 75:25:0
 - c. Discharge from AU to community \geq 70%
 - d. Transfers from AU to TU \leq 30%, TU to RU \leq 20%, AU to TU to RU \leq 5%
 - e. Backflow from TU or RU \leq 5%
2. Length of stay and readmission rates:
 - a. Median length of stay for AU \leq 3 days, TU \leq 3 weeks, RU \leq 3 months
 - b. Readmission rates: 30 days \leq 15%, 7 days \leq 5%
3. Monthly occupancy levels
 - a. Occupancy (leave beds considered occupied): AU \leq 70%; TU \leq 95%, RU \leq 100%, Overall \leq 85%

- b. Nights without beds/annum (leave beds considered vacant): across CPFT = 0, across AUs \leq 5, across TUs \leq 10, in Cambridge \leq 5, in Peterborough \leq 5

Results:

Bed complement and OATs pre and post 333 implementation

Table 2 provides the changing adult mental health bed complement within CPFT from 2011 to 2016, serving an adult population of 550,000⁽⁶⁾. Given smaller wards are at the heart of healing environments⁽²⁵⁾, large catchment wards were functionalised and rebranded into smaller 333 units. These are supported by regional specialist units. Table 2 shows a 44% reduction in beds in comparison to 17% nationally⁽¹⁵⁾. Over 70 OAPs were repatriated and new OAPs became extremely rare. Inclusion of these in the percentage bed reduction provides a bed reduction figure of 62%. As of Dec 2016 adult acute beds/100,000 adult population for CPFT stands at 16.9 compared to a median of 19.9 nationally⁽¹⁵⁾.

-----Table 2-----

Admissions and patient flow

Table 3 shows that over the two years, 2679 patients received inpatient care in the 333 system, exceeding the annual target of 1200 by 11.7%. The target was set through a bed mapping exercise, assuming bed occupancy at 85%. Between AU and TU, target admissions ratio of 75:25 was set. This ratio allowed retention of generalist assessment skills on TU, while allowing both units to specialize in their stated function. As detailed in the discussion, it was also a systems approach to decreasing restrictive care under the Mental Health Act. This target was delivered successfully at 76% to the AU and 23% to TU. Direct admissions to the RU were extremely rare (patient flow diagram available online).

Fragmentation of care due to repeated transfers arising from a singular focus on lengths of stay was a concern. To mitigate against unnecessary transfers when discharge was impending, balancing targets of percentage turnover back into the community were set. Patient need dictated transfer to the next step and not how long it has been since admission. Time scales were indicative and not absolute. Table 3 shows that from AU 74% were discharged back into the community and only 25% were transferred for further treatment. In a similar way only 15.5% of patients on TU were transferred to the RU. Only 1 in 23 patients got exposed to all 3 steps of the pathway and 1 in 26 patients (settled mover) needed to be transferred to an alternative bed to make room for another patient. All balancing targets set around patient transfers were delivered.

-----Table 3-----

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Lengths of stay and Readmission rates

Table 4a provides details of length of stay for each step of 333. The median targets of 3 days, 3 weeks and 3 months came from bed mapping with aspirations to eliminate OAPs through bed availability. The AU target was missed narrowly but the TU and RU target were met quite easily. Across 333 the median length of stay was 5.83 (2015-16) and 6.13 days (2016-17) compared to 2016 national benchmark of 36.1 (including leave)⁽¹⁵⁾. For average, the figures for 333 were 15.32 (2015-16) and 16.02 days (2016-17) compared to 35.9 (including leave) nationally⁽¹⁵⁾.

-----Table 4a-----

Table 4b displays the readmission rates for patients to any adult ward, 7 and 30 days post discharge. Readmission is the anticipated consequence of short lengths of stay. However continuous bed availability allowed for early readmission at first signs of deterioration, empowering patients and clinicians to embrace positive risks. From 1st April 2015 the AU launched ‘open door’, a proactive initiative to manage care for patients with severe personality disorder⁽²⁶⁾. At the face of it CPFT figures of 13 to 17% readmission rates for 30 days look considerably higher than the national mean of 8.4%. However, removing 100 open door readmissions (10 patients, 10 readmissions each – detailed in discussion) from the 2016-17 figures would half the 30 day readmission rate of 13.19%. This would bring CPFT below the national average⁽¹⁵⁾.

-----Table 4b-----

Bed Occupancy:

There was an overall occupancy (including leave beds) target of 85% (Table 5) in keeping with Royal College guidance^(25,27). Both AUs had a pivotal role in ensuring bed availability and they consistently delivered on a stringent 70% target. National median bed occupancy (excluding leave) for 2016 was 94.2%⁽¹⁵⁾ compared to CPFT’s 80.6%. National median bed occupancy (including leave) for 2016 was 102%⁽¹⁵⁾ compared to CPFT’s 87.6%.

Occupancy figures average out bed pressures and conceal peaks in bed demand. Given the aspiration to eliminate OAPs, an annual target of 0 was set for number of nights without 333 beds (overnight leave bed considered vacant). Overnight leave beds were taken as available for new admissions. Within 333, patients were discharged daily and if accommodated overnight, the ward team could find a bed the next day. All site and function specific targets were met (Table 5). There was not a single night over 2 years that there was not a 333 bed. In Peterborough, there was one night (20/3/2016) where there were no beds but beds were available in Cambridge. Similarly, in Cambridge there was one night (27/11/2016) when there were no beds, but beds were available in Peterborough.

-----Table 5-----

Discussion

333 provides a solution to the national mental health bed crisis. The Royal College of Psychiatrists recommend 85 per cent occupancy for quality and safety^(25,28). 10 per cent above recommended levels are associated with violent incidents on wards⁽²⁹⁾. Inspections have shown the use of seclusion rooms to accommodate patients who have been admitted without a bed being available^(30,31). OAPs is a natural outcome of this bed crisis. A freedom of information request found a total of 4,447 OAPs among 37 NHS mental health providers in 2014/15, up 23.1 per cent from the previous year⁽³²⁾. 88 percent of these were due to local bed unavailability. OAPs not only impact negatively on patient experience, they have also been associated with increases in patient suicides⁽¹⁰⁾. The 2016 national bench marking⁽¹⁵⁾ figures for occupancy demonstrate how frequent a crisis this is. 333 was designed to counter this situation by delivering 0 nights without beds annually. In addition, it supported a 44% bed reduction and virtual elimination of long term OAPs

For a radical shift in care delivery, the leadership identified 3 limiting mindsets that needed changing⁽³³⁾.

1. Silos to collaboration: We are in this together.
2. Top to tap: I am here to help you help yourself.
3. Targets to outcomes: Doing right by the person.

5 engagement events with over 300 stakeholders were held. The Influence Model was used to script a compelling narrative, set up reinforcement mechanisms, acquire skills for change and role model the new behaviours and mindsets⁽³³⁾. Attendees defined 'where we are' and shaped 'where we want to get to and how'. Open and honest discussion about what's in it for me, my patients, my team, my organisation and society enthused attendees⁽³⁴⁾. Site visits to different organisations and detailed process/bed mapping was carried out. During target setting, balancing measures were incorporated to reinforce the patient story and disincentivise target chasing, particularly length of stay. Collaboration was the focus, so system performance rather than unit level targets took priority. To acquire new attitudes and aptitudes, a ward was temporarily closed to release the staff team to train and then backfill staff across the system for training events. Patients delivering training was crucial in shifting from the paternalistic "on top" stance to a coaching one of "on tap"⁽³⁵⁾. Valuing the person as an expert in the management of their own condition was a major paradigm shift. To ensure role modelling key individuals (Consultant Psychiatrists, Modern Matrons and Ward Managers) went through an open redeployment process to ensure sign up and alignment of skills to pathways. This was then replicated throughout the 333 workforce in a tiered fashion.

Recovery principles⁽³⁵⁾ of finding and maintaining hope, re-establishing a positive identity, taking control and responsibility, and building a life meaningful to the person, was central. For example, on the 3 day AU staff consider themselves hope vendors. For someone severely unwell, 3 day treatment goals are limited. However the journey of rediscovering hope may be initiated. Establishing all is not lost becomes the foundation of the safety planning balance sheet which involves shared risk mitigation. They still need their treatment, but our results show that for 74% of patients admitted to the AU, within a median of 3.75 days, they can be safely

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managed at home using recovery oriented interventions. Median from the national confidential enquiry for suicides per 10,000 people under mental health care in 2013-15 is 7.1⁽³⁶⁾ in comparison to CPFT's 5.5.

Added value from any stay on any ward is scrutinised with regular exploration of alternatives. Staff and patients working in partnership, set up realistic but challenging recovery milestones towards which they work together and hold themselves to account. Each pathway has well defined roles. For example, in addition to the core function of 'assuring safety through hope', AU staff have five specific assessment goals. These include a formulation of the person's needs and strengths, a provisional diagnosis, what treatment is indicated, where is it best delivered and for how long. Every hour of every stay is accounted for on the AU with clear milestones from hour one. The assessment process is continuous and is integrated into the daily routine. A patient's attempt at a jig saw, creates concentration related documentation. If peers are interacting staff will be observing for eye contact, rapport and reactivity of mood. This continuous process feeds into a holistic formulation that guides the opinions relating to treatment and safety. Similar to AU, the TU has day by day milestones and week by week for the RU.

Promoting common sense as common practice was adopted as a principle to navigate the interfaces in the patient journey. Patients do not fit into pathways, the pathways fit around the patient. Clinical judgement and common sense overrule archetypal policies/protocols. Dialogue is the preferred way to resolve any pathway bottleneck. To provide seamless care, key individuals like the community care coordinator remain involved all through and consultant work across TU and RU following the patient. CRHTT and AU work very closely and are co-located, sharing staff and expertise. This provides smooth transition and eradicates wasteful double assessments.

The new mindsets have created a 'can do' attitude and a milieu in which innovation centered on 'doing right by the patient' flourishes. 'Open Door' is such an initiative for personality disorder patients⁽²⁶⁾. Within 333, AU serves as a short term safe haven for their distress to settle. Sometimes to manage risk they would be transferred to TUs where long stays would achieve little. Following emergency presentations, lot of resources are unhelpfully spent in efforts to keep personality disorder patients out of hospital⁽³⁷⁾. Staff proposed a radically opposite approach of taking down barriers to admission and handing control over to these patients. Those included in the Open Door programme, so long they had not self-harmed, they could request a 2 day admission without having to give any justification. Following discharge, 24 hours at home was expected before a further request for admission. Patients felt validated and the safety net created a sense of containment. Admission requests spaced out fairly quickly for individuals as they treated the privileged access with extreme responsibility. Most registered long self-harm free periods and extremely rarely were 'Open Door' privileges withdrawn. An initiative like this could only be launched in a system where beds are reliably available. Admission requests need to be honored for the safety net to retain its efficacy. It doubled CPFT's readmission rates but it changed the care seeking trajectory of these patients. The leadership took the view that there is not much to be gained by hitting a target but completely missing the point of putting patients first. Although 'Open Door' is a specific initiative for personality disorder, 333 as a system caters to the needs of all diagnostic groups.

333 system design reinforced recovery principles. For example, involuntary patients bypassed the AU. So, when setting targets, recovery oriented care was incentivised through a target ratio for direct admissions for AU to TU at 75:25. In 2011 the split of voluntary to involuntary admissions stood at 65:35. Thus 75:25 reflected organisational aspiration to provide least restrictive care through a higher proportion being admitted voluntarily to the AU. Mental Health Act use declined as continuous bed availability meant timely inpatient care before patients got extremely unwell in the community. Also for many reluctant patients or those worried about the stigma of a hospital stay, a 3 day voluntary admission was a compromise they were willing to make. 2016 national benchmarking shows a national mean of 35.1% for proportion of patients admitted involuntarily, compared to CPFT's 19.8%⁽¹⁵⁾.

Over the same period, in the same setting within a parallel programme to decrease coercion in care (PROMISE) has reduced was successfully implemented, and physical interventions was reduced by 36%, and prone restrains by 58%⁽³⁸⁾ and registered patient experience scores of 87%⁽³⁸⁾. Inpatient experience surveys (N = 4591) administered between April 2014 and March 2017 provide further evidence of high quality care. 87% rated the care received as good, very good or excellent, with 98% feeling involved in their care/treatment. Staff attitudes were highly commended (staff polite and friendly: 98%, admission welcoming: 97%, respect and dignity maintained: 96%) followed by action oriented measures (medication purpose explained: 94%, weekday activities supported: 93%, have a care plan: 93%). These scores were registered in spite of the involuntary status of approximately 20% of patients⁽³⁸⁾.

Limitations:

333 has provided a viable inpatient mental health care solution within the resources available, however it does not meet the needs of patients who require longer term care and needs the support of specialist wards. The system is interdependent and any issue in one part affects the whole. It needs daily oversight or else patient flow tends to break down across interfaces. Positive risk management is crucial to its success. It requires an engaged recovery oriented workforce that believes in the model. Recruitment, training and retention of skilled and experienced staff is thus essential.

This paper provides a range of process measures and refers to patient safety and experience. Claims of quality care are based on enhanced access, shorter lengths of stay, more treatment in the least restrictive environment and decrease in OAPs but not clinical outcomes. The primary outcome measure used in CPFT for finished pathway episode is the Health of the Nation Outcome Scales (HoNOS) score⁽³⁹⁾. The scoring is based on the presence of symptoms in the previous two weeks. This makes it unsuitable for assessing outcomes in the 333 system as scores would be unchanged between admission and discharge for patients in the assessment and treatment unit as their median lengths of stay were 3.71 and 15.12 days respectively. HONOS was administered at initial entry into CPFT and repeated every 6 months and at discharge from secondary care mental health services into primary care. This

was the preferred outcome measure as HONOS clusters were linked to the ‘payment by results’ initiative in the UK and HONOS drop provided valuable information for the overall patient journey through NHS trusts, but its ‘previous two weeks’ caveat makes it unsuitable for evaluating the quality of care within 333. To address this in late 2017, attempts were made to incorporate Clinical Global Impression into standard practice⁽⁴⁰⁾ for 333. However, reporting on it is outside the scope of this paper.

Conclusion:

A focused recovery approach within 333 has reduced lengths of stay and ensured that any stay on any ward is meaningful and adds value. The bed capacity that has been created has made the acute care service more responsive resulting in earlier intervention, decreased suffering and improved outcomes. Over 70 patients in OAPs have returned home and bed stock has been reduced by 44% releasing moneys for CIP and reinvestment in the community. The new mindsets promoted collaboration through common sense and added value to individual recovery journeys. On most metrics, 333 has outperformed national figures and has now developed a track record of delivering high quality, seamless, cost effective, safe and innovative care. The paper demonstrates that simultaneous bed and OAPs reduction, along with safe high quality care is both achievable and deliverable.

Box 1: The components of 333 model of acute mental health care delivery

Crisis Resolution and Home Treatment

Key challenge: assuring patient safety

Key recovery focus: reconnect to the life that is meaningful to the person

Key functions:

- Rapid response to evolving crisis in the community
- Gate keep and facilitate early discharge - judgement calls on home treatability or hospital admission and continued stay
- Deliver treatment in the least restrictive setting – the person's home

What is new? Day by day accountability time line on what is to be achieved, setting the right expectations in those who are being admitted to hospital and continued input into inpatient stay to assess home treatment readiness.

3 Day Assessment Unit

Key challenge: managing patient turnover

Key recovery focus: finding and maintaining hope in individuals who feel all is lost

Key functions:

- Assess patient's current clinical state in terms of safety and severity of illness
- Make a provisional diagnosis
- Formulate needs and strengths, bio-psycho-social aetiology, risk and safety
- Predict what treatment is indicated, where is it best delivered and for how long

What is new? Hour by hour accountability time line on what is to be achieved and hope based safety planning and prediction through the safety balance sheet approach

3 Week Treatment Unit

Key challenge: managing patient acuity

Key recovery focus: reassuming control and responsibility

Key functions:

- Initiate evidence based treatment
- Monitor response closely and adjust treatment protocol
- Detailed safety planning

- Make early referral and recommendations to home treatment or community team for treatment completion and post discharge care

What is new? Day by day accountability time line on what is to be achieved and continuous evaluation of how any stay on any bed is adding value over and above what home treatment may provide.

3 Month Recovery Unit

Key challenge: managing patient chronicity

Key recovery focus: building a positive identity

Key functions:

- Continue evidence based treatment in patients with continued symptoms that warrant hospital stay
- Rehabilitation that supports independent living
- Connecting with community resources and preparing for life that is not defined by mental illness

What is new? Week by week accountability time line on what is to be achieved and twin tracking of symptomatic remission and social recovery. This contrasts with previous practice where being relatively asymptomatic was a prerequisite to rehabilitation.

Table 2: Bed complement and out of area placements pre and post 333 implementation.

Pre 333 (Oct 2011)		333 (April 2015)		333 (Dec 2016)	
Cambridge					
Friends (Generic adult locality ward)	25	Mulberry 1 (AU)	14	Mulberry 1 (AU)	14
Adrian (Generic adult locality ward)	24	Mulberry 2 (TU)	16	Mulberry 2 (TU)	16
Cedars (Rehabilitation Unit)	20	Mulberry 3 (RU)	16	Mulberry 3 (RU)	16
Cobwebs (Rehabilitation Step Down Unit)	12	Closed	0	Closed	0
Huntingdon					
Acer (Generic adult locality ward)	17	Closed	0	Closed	0
Peterborough					
Oak 1 (Female Generic adult locality ward)	24	Oak 1 (TU – Female)	16	Oak 1 (TU – Mixed)	16
Oak 2 (Male Generic adult locality ward)	24	Oak 2 (TU – Male)	16	Closed	0
		Oak 3 (AU)	14	Oak 3 (AU)	13
Lucille Van Geest (Rehabilitation Unit)	20	Oak 4 (RU)	14	Oak 4 (RU)	18
9 Wards	166	7 Wards	106	6 Wards	93
Long term out of area placements	>75				<2
Specialist Wards (beds used regionally and not just for CPFT catchment)					
Male Psychiatric Intensive Care Unit (PICU)	6		6		6
Learning Disability	16		16		10

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Personality Disorder	12		12		12
Eating Disorder	14		14		14
Low Secure	20		20		20

For Review Only

Table 3: Patient flow and care fragmentation: admission split across units, total patients admitted, patient transfers

	Target % (N)	2015- 16 (N)	2015- 16 (%)	2016- 17 (N)	2016- 17 (%)	2015- 17 (N)	2015- 17 (%)
Admissions to:							
AU	75%	1120	77.7%	919	74.3%	2039	76 %
TU	25%	312	21.6%	309	25%	621	23.2%
RU	0%	10	0.7%	9	0.7%	19	0.7%
Total	1200	1442		1237		2679	
Transfers from:							
AU to Community	≥70%	836	74.6%	674	73.3%	1510	74.1%
AU to TU	≤30%	275	24.6%	236	25.7%	511	25.1%
TU to RU	≤20%	84	12.1%	111	17.1%	209	15.5%
AU to TU to RU	≥5%	68	4.72%	47	3.80%	115	4.3%
Backflow from TU or RU	≥5%	52	3.6%	50	4%	102	3.8%

Table 4a: Length of stay

Length of Stay (Days)	Target Median	Median 15/16	Mean 15/16	Median 16/17	Mean 16/17
AU	≤3	3.75	4.81	3.71	5.18
TU	≤21	16.21	23.08	15.12	20.89
RU	≤90	36.71	75.14	42.40	63.22
All		5.83	15.32	6.13	16.02

Table 4b: Readmission rates

333 patients readmitted to any adult ward	Target %	2015-16 (%)	2015-16 (%)
Within 7 Days	≤5%	7.38%	5.10%
Within 30 Days	≤15%	17.06%	13.19%

Table 5: Bed Occupancy

Annual Occupancy Levels		2015-16 (%)	2015-16 (%)	2016-17 (%)	2016-17 (%)
Bed Occupancy	Target % including home leave	Including Home Leave	Excluding Home Leave	Including Home Leave	Excluding Home Leave
CAMBRIDGE	≤85%	87.23%	83.02%	89.44%	85.47%
Cambridge AU	≤70%	68.11%	67.77%	69.67%	68.04%
Cambridge TU	≤95%	94.06%	87.69%	95.45%	89.11%
Cambridge RU	≤100%	93.30%	88.65%	96.43%	93.38%
PETERBOROUGH	≤85%	87.27%	80.93%	78.63%	73.19%
Peterborough AU	≤70%	69.33%	67.67%	55.77%	54.54%
Peterborough TU (F)	≤95%	92.32%	82.13%	81.27%	74.71%
Peterborough TU (M)	≤95%	90.54%	83.64%	86.72%	76.69%
Peterborough RU	≤100%	97.47%	90.86%	91.61%	86.71%
Nights without beds		2015-16 (N)	2015-16 (N)	2016-17 (N)	2016-17 (N)
	Target (Leave beds vacant)	Leave beds considered occupied	Leave beds considered vacant	Leave beds considered occupied	Leave beds considered vacant
All 333 Beds in CPFT	0	0	0	0	0
All 333 Beds in Cambridge	≤5	10	0	17	1
All 333 Beds in Peterborough	≤5	1	0	0	0
All AU Beds in CPFT	≤5	3	2	0	0
All TU Beds in CPFT	≤10	14	3	7	1
All RU Beds in CPFT	Direct admissions not expected	147	31	96	35

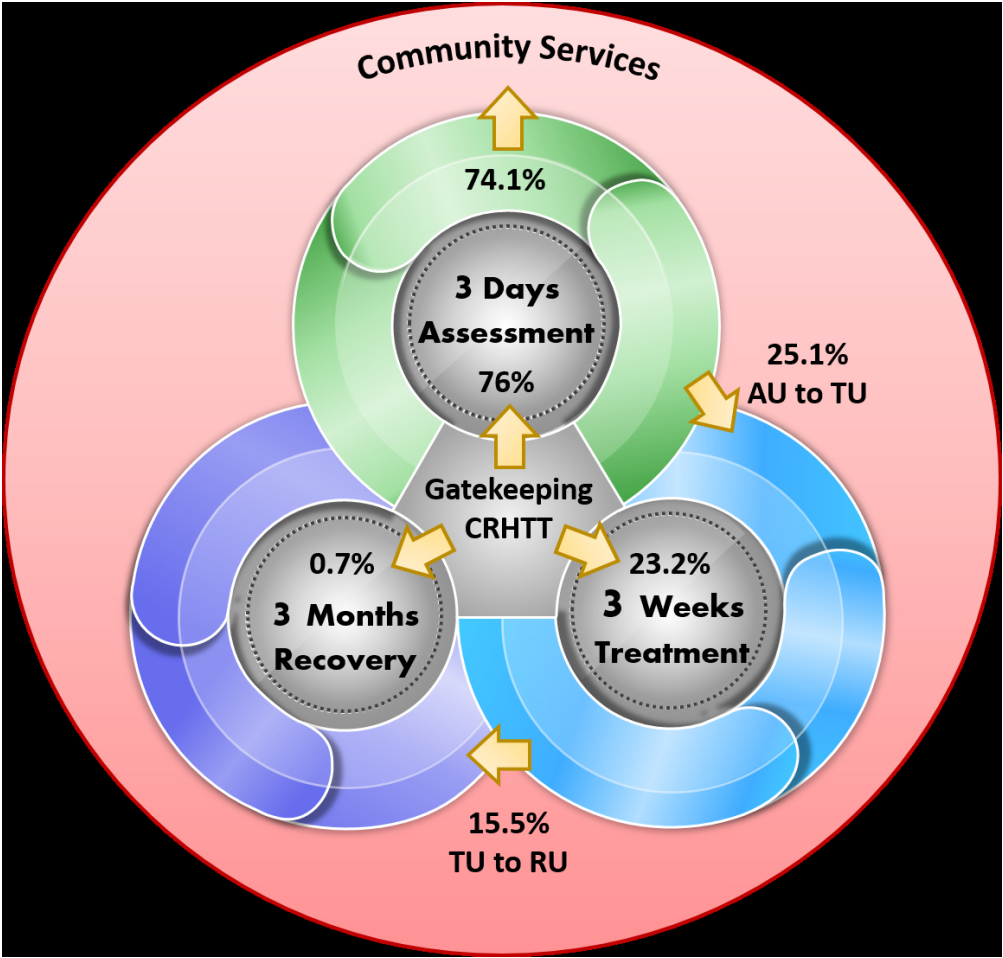
References

1. Appleby J, Galea A, Murray R. The NHS productivity challenge: experience from the front line. 2014 [cited 2018 Mar 25]. https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/the-nhs-productivity-challenge-kingsfund-may14.pdf
2. National Audit Office Department of Health. Delivering efficiency savings in the NHS . 2011 [cited 2018 Mar 25]. https://www.nao.org.uk/wp-content/uploads/2011/12/NAO_briefing_Delivering_efficiency_savings_NHS.pdf
3. Comptroller and Auditor General. Monitor: Regulating NHS foundation trusts . 2014 [cited 2018 Apr 2]. <https://www.nao.org.uk/wp-content/uploads/2015/02/Monitor-regulating-nhs-foundation-trusts.pdf>
4. Care Quality Commission. Adult inpatient survey 2016 | Care Quality Commission . 2016 [cited 2017 Dec 11]. <http://www.cqc.org.uk/publications/surveys/adult-inpatient-survey-2016>
5. Crisp, N., Smith, G. and Nicholson K. Old Problems, New Solutions: Improving Acute Psychiatric Care for Adults in England . 2016 [cited 2018 Apr 2]. https://www.rcpsych.ac.uk/pdf/Old_Problems_New_Solutions_CAAPC_Report_England.pdf
6. Cambridgeshire Insight. Cambridgeshire Insight – Population . [cited 2017 Dec 11]. <https://cambridgeshireinsight.org.uk/population/>
7. Health and Social Care Information Centre. Mental Health Bulletin, Annual Report - 2014-15 - NHS Digital . 2015 [cited 2018 Apr 1]. <https://digital.nhs.uk/catalogue/PUB18808>
8. McNicoll A. Mental health beds crisis ‘driven by discharge delays’ Community Care . Community Care. 2015 [cited 2018 Apr 2]. <http://www.communitycare.co.uk/2015/07/15/mental-health-beds-crisis-driven-discharge-delays-finds-report/>
9. The Commission to review the provision of acute inpatient psychiatric care for Adults. Improving acute inpatient psychiatric care for adults in England: Interim Report . 2015 [cited 2018 Apr 2]. http://media.wix.com/ugd/0e662e_a93c62b2ba4449f48695ed36b3cb24ab.pdf
10. Frasquilho D, Matos MG, Salonna F, Guerreiro D, Storti CC, Gaspar T, et al. Mental health outcomes in times of economic recession: a systematic literature review. BMC Public Health . 2016 Feb 3 [cited 2018 Apr 2];16:115. <http://www.ncbi.nlm.nih.gov/pubmed/26847554>
11. Mental Health Taskforce I. THE FIVE YEAR FORWARD VIEW FOR MENTAL HEALTH . 2016 [cited 2018 Apr 1]. <https://www.england.nhs.uk/wp-content/uploads/2016/02/Mental-Health-Taskforce-FYFV-final.pdf>
12. Kings Fund. Mental health under pressure . [cited 2018 Mar 25]. https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/menta

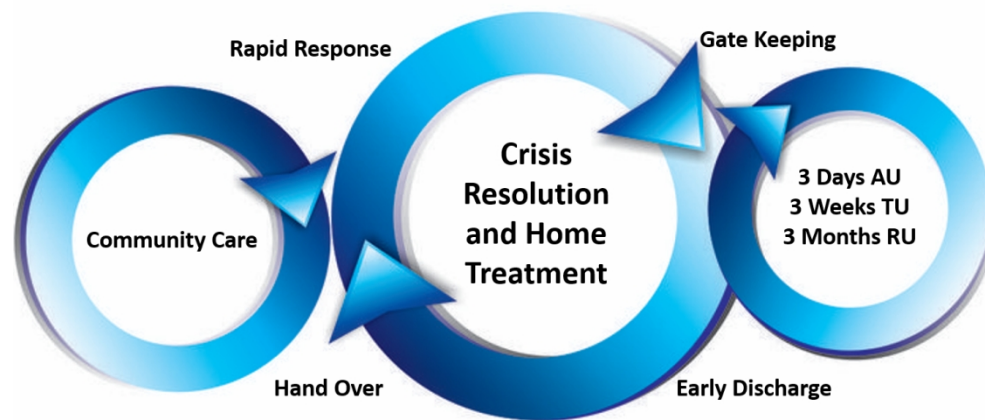
- l-health-under-pressure-nov15_0.pdf
13. Edwards T, Wolfson P, Killaspy H. A guide to good practice in the use of out-of-area placements . 2012 [cited 2018 Mar 25].
http://www.rcpsych.ac.uk/pdf/FR_RS_06_for_web.pdf
 14. Hopkins JE, Loeb SJ, Fick DM. Beyond satisfaction, what service users expect of inpatient mental health care: A literature review. *J Psychiatr Ment Health Nurs*. 2009;16(10):927–37.
 15. NHS Benchmarking Network. Inpatient and Community Mental Health Benchmarking. 2016.
 16. Thornicroft G, Tansella M. Balancing community-based and hospital-based mental health care. *World Psychiatry* . 2002 Jun;1(2):84–90.
<https://www.ncbi.nlm.nih.gov/pubmed/16946858>
 17. Department of Health. Mental Health Modern Standards and Service Models national service frameworks . 1999 [cited 2018 Nov 15].
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/198051/National_Service_Framework_for_Mental_Health.pdf
 18. Department of Health. The NHS Plan: a plan for investment, a plan for reform . 2000 [cited 2018 Nov 15]. <https://navigator.health.org.uk/content/nhs-plan-plan-investment-plan-reform-2000>
 19. Jacobs R, Barrenho E. Impact of crisis resolution and home treatment teams on psychiatric admissions in England. *Br J Psychiatry*. 2011;199(1):71–6.
 20. Tyrer P, Gordon F, Nourmand S, Lawrence M, Curran C, Southgate D, et al. Controlled comparison of two crisis resolution and home treatment teams. *Psychiatrist* . 2010;34(2):50–4. <http://pb.rcpsych.org/content/34/2/50.short>
 21. Johnson S, Nolan F, Hoult J, White IR, Bebbington P, Sandor A, et al. Outcomes of crises before and after introduction of a crisis resolution team. *Br J Psychiatry*. 2005;187(JULY):68–75.
 22. Lee S, Rothbard AB, Noll EL. Length of Inpatient Stay of Persons With Serious Mental Illness: Effects of Hospital and Regional Characteristics. *Psychiatr Serv* . 2012 Sep 1 [cited 2018 Nov 15];63(9):889–95.
<http://www.ncbi.nlm.nih.gov/pubmed/22751995>
 23. NAMI. National Alliance for the Mentally Ill . Outpatient services experience big decline in availability according to new study. 2000 [cited 2011 Aug 20].
<https://www.nami.org/Press-Media/Press-Releases/2000?page=1>
 24. Jobes DA. Managing Suicidal Risk A collaborative Approach. New York London: The Guilford Press; 2006.
 25. Royal College of Psychiatrist. Do the right thing: how to judge a good ward Ten standards for adult in-patient mental healthcare . 2011 [cited 2018 Mar 31].
https://www.rcpsych.ac.uk/pdf/OP79_forweb.pdf

26. Kar Ray M. PROMISE GLOBAL - Partnerships for Humane Mental Health Care . 2016 [cited 2018 Mar 25].
http://www.promise.global/promote_open_door.pdf
27. Perry J, Palmer L, Thompson P, Worrall A, Chittenden J, Bonnamy M. Standards for Inpatient Mental Health Services . 2015 [cited 2018 Mar 25].
https://www.rcpsych.ac.uk/pdf/RCPsych_Standards_In_2016.pdf
28. Royal College of Psychiatrists. Looking ahead – future development of UK mental health services: recommendations from a Royal College of Psychiatrists' enquiry (Occasional Paper 75). . 2011 [cited 2018 Mar 31].
<https://www.rcpsych.ac.uk/usefulresources/publications/collegereports/op/op75.aspx>
29. Virtanen M, Vahtera J, Batty GD, Tuisku K, Pentti J, Oksanen T, et al. Overcrowding in psychiatric wards and physical assaults on staff: data-linked longitudinal study. *Br J Psychiatry* . 2011 Feb 2 [cited 2018 Mar 31];198(02):149–55. <http://www.ncbi.nlm.nih.gov/pubmed/21282786>
30. McNicoll A. Concern as number of mental health patients placed in private hospitals rises by a third | Community Care . Community Care. 2013 [cited 2018 Mar 31]. <http://www.communitycare.co.uk/2013/04/23/concern-as-number-of-mental-health-patients-placed-in-private-hospitals-rises-by-a-third/>
31. Care Quality Commission. Inspection Report St Ann's Hospital . 2014 [cited 2018 Mar 31]. www.cqc.org.uk
32. McNicoll A. Mental health patients sent hundreds of miles for beds as out of area placements rise 23 per cent | Community Care . Community Care. 2015 [cited 2018 Mar 31]. <http://www.communitycare.co.uk/2015/07/15/mental-health-patients-sent-hundreds-miles-beds-area-placements-rise-23-per-cent/>
33. Keller S, Price C. Beyond performance: How great organizations build ultimate competitive advantage. 6th Editio. New Jersey: Wiley, J and son; 2011. 77-107 p.
34. Keller S, Aiken C. The Inconvenient Truth About Change Management. [cited 2018 Mar 25];
<http://www.aascu.org/corporatepartnership/McKinseyReport2.pdf>
35. Shepherd G, Boardman J, Slade M. Making Recovery a Reality. 2008 [cited 2018 Mar 31]; www.scmh.org.uk
36. Burns J, Flynn S, Lowe R, Turnbull P, Baird A, Stones P, et al. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness . 2017 [cited 2018 Mar 31].
<http://research.bmh.manchester.ac.uk/cmhs/research/centreforsuicideprevention/nci/reports/2017-report.pdf>
37. Nice. Borderline personality disorder: treatment and management (NICE clinical guideline 78). [cited 2018 Mar 31]; www.nice.org.uk
38. Lombardo C, Van Bortel T, Wagner AP, Kaminskiy E, Wilson C,

- 1
2
3 Krishnamoorthy T, et al. PROGRESS: the PROMISE governance framework
4 to decrease coercion in mental healthcare BMJ Quality Improvement report.
5 BMJ Open Qual . 2018 [cited 2018 Aug 3];7:332.
6 <http://dx.doi.org/10.1136/bmjopen-2018-000332>
7
8
9 39. Royal College of Psychiatrists. HoNOS . 1996.
10 [https://www.rcpsych.ac.uk/traininpsychiatry/conferencetraining/in-](https://www.rcpsych.ac.uk/traininpsychiatry/conferencetraining/in-housetraining/honos/copyright.aspx)
11 [housetraining/honos/copyright.aspx](https://www.rcpsych.ac.uk/traininpsychiatry/conferencetraining/in-housetraining/honos/copyright.aspx)
12
13 40. Busner J, Targum SD. The clinical global impressions scale: applying a
14 research tool in clinical practice. Psychiatry (Edgmont) . 2007 Jul [cited 2018
15 Nov 16];4(7):28–37. <http://www.ncbi.nlm.nih.gov/pubmed/20526405>
16
17
18
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20
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Patient flow within the 333 system with transition of care information (from Table 3): Crisis Resolution and Home Treatment Team (CRHTT) gate keep all patients. 76% get admitted to the 3 day assessment unit, 23.2% get admitted to the 3 week treatment unit (primarily involuntary patients who bypass assessment unit) and 0.7% get admitted to the 3 months recovery unit. From the assessment unit 74.1% get directly discharged to the community (primarily CRHTT) and 25.1% move forward to the treatment unit. 15.5% of patients who get admitted to the treatment unit need a further stay in the recovery unit.



Patient flow overview of Crisis Resolution and Home Treatment Team (CRHTT): CRHTT is the principal interface between community care and the 333 inpatient system. It provides home treatment as an alternative to hospital stay and gate keeps all admissions by rapidly responding to evolving crisis in the community. CRHTT also facilitate early discharges from inpatients and supplement inpatient care with home treatment before facilitating seamless transition of care back to the community teams.