What happens when 55% of acute psychiatric beds are closed in six days: an unexpected naturalistic observational study

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What happens when 55% of acute psychiatric beds are closed in six days: an unexpected naturalistic observational study

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Summary
Objective: The sudden closure of 30 out of 54 acute psychiatric beds in Cornwall presented a stressful challenge to staff but also a natural experiment on how a service dealt with this situation. We aimed to evaluate the outcomes of patients needing to leave the closed ward, how bed occupancy rates were affected and the impact on admission rates.
Design: A service evaluation of the impact of the ward closure.
Setting: A comprehensive secondary NHS mental health service in Cornwall serving 550,000 population.
Main outcome measures: The destination of the patients needing to leave the acute unit, the effect of the closure on bed occupancy, admission rates and serious untoward incidents.
Results: Of 26 patients needing to be moved from the acute ward, only 10 needed an acute psychiatric bed. None of the seven patients who had been on the ward longer than nine weeks needed an acute unit. Admission rates fell over the subsequent three months. There was no increase in serious incidents due to the closure.
Conclusions: This naturalistic event suggests that many patients on acute units could be cared for elsewhere, especially recovery/rehabilitation care environments, if political and financial urgency is present. Admission rates are responsive to the pressure on beds.

Keywords
mental health, inpatient care

Background
Mental health services in Cornwall
Cornwall is a county in the farthest southwest peninsula of the United Kingdom. It is a rural county with about 550,000 inhabitants and is a relatively deprived part of the UK with one of the lowest average incomes of all UK counties.

The mental health service includes two acute psychiatric inpatient wards with a total of 54 beds for all adults from 18 years with an acute mental illness needing admission, including adults over 65 not suffering from a dementia. There is also a psychiatric intensive care unit with 12 beds (four of which are for Devon patients), a low secure unit with 12 beds and a recovery unit with 18 beds. This ratio of acute psychiatric beds to population is one of the lowest in the country, and very low compared to urban areas, perhaps reflecting the lower prevalence of psychosis in rural areas, although the difference is less between deprived rural populations and urban areas. However Cornwall, like other rural areas worldwide, has a higher rate of suicide than the UK average.

In recent times (the previous two years approximately) the service has struggled to accommodate those patients needing admission in those 54 beds. At any one time this has necessitated between 0 and 15 patients being cared for in out-of-county hospitals, as has become common in the UK, possibly due to a reduction in acute psychiatric beds nationally and increased pressure on community services in general since reductions in public spending in the UK.

The closure of 30 beds in six days
In May 2014, the unit of 30 beds in the west of the county was undergoing some redesign when it was discovered that the roof had a fire-safety flaw necessitating immediate closure on the advice of an independent fire consultant. The service allowed seven days for all patients to be moved from the ward. At the time 26 patients were on the ward. The service in Cornwall needed to manage on 24 rather than 54 acute psychiatric beds for the subsequent six months.
and use out-of-county units if admissions were needed when beds were full.

While this has been a challenging process, it also offers an unsought natural experiment and service evaluation from which lessons might be learnt. We therefore sought to evaluate the following questions:

- What happened to the 26 patients who had to leave the ward?
- How was total bed occupancy affected including both in-county and out-of-county bed use?
- What was the effect on admission rates?
- Did this affect outcomes in terms of serious incidents including violence and suicide?

Methodology

This service evaluation is a descriptive study of an unexpected situation. Service managers kept records of how the patients leaving the closed ward were provided for and outcomes were collated from electronic records. Bed occupancy and admissions are monitored by service managers as pressure on beds has been a problem for two years. The Clinical Governance team monitor serious incidents and can therefore give figures for the number of serious incidents over a period of time.

Results

What happened to the 26 patients who had to leave the ward?

Table 1 shows the outcomes for the patients who had to leave the acute ward within six days. The table is presented in order of how long patients had been on the ward. Those patients listed in bold font needed an admission to an alternative acute psychiatric unit on leaving the unit.

Of note is the finding that of 26 patients, 10 required finding an alternative acute psychiatric bed, a considerable minority of patients.

None of the seven patients who had been on the ward longer than nine weeks went to an acute ward, although two of these patients did need an admission to a rehabilitation unit. Of these seven patients, none needed readmission to an acute psychiatric bed in the subsequent six weeks.

All of the patients requiring an acute bed were on a section of the Mental Health Act, although one informal patient discharged required readmission five days later. Five of the eight patients admitted in the previous two weeks required an acute bed, suggesting that they were still unwell.

The Trust was authorised to ignore commissioning protocols and bureaucracy and could act immediately. Directly taking control from the commissioner enabled services to respond quickly and in a person-centred approach avoiding delays.

What happened to bed occupancy?

Figure 2 shows the number of out-of-county admissions in the six months before the closure and three months after. In the UK, if a local NHS bed is not available, the patient is sent 'out of county' to a private sector unit which can be many miles away.

These figures suggest an increase in out-of-county admissions after the closure of the unit, but nothing like the figure expected considering the closure of 30 out of 54 beds. The total number of patients out of county at any one time is shown in Figure 3. It was initially in the first two months fewer than 10 but crept up in the third month to a figure of 35. The total number of beds needed did not reach 54 until 10 weeks after the closure.

What was the effect on the total admission rate from Cornwall?

Figure 3 shows the total admission rate from the Cornwall population. The admission rate in June fell to its lowest of the year at 46 admissions and fell further in July and August. This suggests that the community services were able to maintain more patients in the community due to the pressure on beds. Despite the reduction in the total number of admissions from Cornwall, the number of patients out of county continued to grow (Figure 2). This may have been due to increased lengths of stay in out-of-county placements or an accumulation of new patients on acute units who do not need an acute bed but who cannot be discharged because of no appropriate placement in the community or rehabilitation unit.

Did this affect outcomes in terms of serious incidents including violence and suicide?

Figure 4 shows the number of serious incidents before and after the closure of the ward. There was an increase in May 2014. These have been examined by the nurse consultant for the service along with a member of the clinical governance staff. They both judged that no serious incident in the two months after the closure was directly attributable to the closure. As can be seen in Figure 4, the number of serious incidents in June, July and August similar was to the months before the ward closure.
Table 1. Outcomes for 26 patients on the ward that was closed in six days (patients requiring an acute bed in bold).

| Patient number and gender | Mental Health Act status | Length of admission at time of ward closure (weeks) | Destination on discharge within three days | Outcome six weeks later (20 June 2014) | Outcome 12 weeks later (1 August 2014) |
|---------------------------|--------------------------|--------------------------------------------------|-------------------------------------------|---------------------------------------|---------------------------------------|
| 1: Female                 | Section 3                | 60                                               | Rehabilitation ward                      | Continues on ward                     | Continues on ward                     |
| 2: Male                   | Section 3                | 39                                               | New flat                                 | Continues in flat, on Community Treatment Order | Continues in flat, on Community Treatment Order |
| 3: Male                   | Informal                | 16                                               | Supported housing                        | Continues in supported housing        | Continues in supported housing        |
| 4: Female                 | Informal                | 14                                               | Discharged                               | Settled at home                        | Settled at home                        |
| 5: Female                 | Section 3                | 14                                               | Rehabilitation ward                      | Continues on ward                      | Continues on ward, having home leave  |
| 6: Male                   | Section 3                | 13                                               | Leave to home with Intensive Home Treatment Team Support | Settled at home                       | Settled at home                        |
| 7: Female                 | Informal                | 10                                               | Discharged                               | At home, one overdose, no readmissions | Further overdose, no readmissions      |
| 8: Male                   | Section 3                | 9                                                | Acute ward Cornwall                     | Continues on ward                      | Discharged from hospital 24 July 14   |
| 9: Female                 | SECTION 3               | 8                                                | Acute ward Cornwall                     | Continues on ward                      | Continues on ward, specialist placement being sought |
| 10: Male                  | Section 3                | 7                                                | Supported housing                        | Continues in supported accommodation  | Continues in supported accommodation  |
| 11: Female                | Section 3                | 6                                                | Acute ward Cornwall                     | Continues on ward                      | Commenced leave at residential care home, then discharged from hospital |
| 12: Male                  | Section 3                | 6                                                | Leave to home (with a plan to transfer Section 3 to CTO) | Continues at home on leave, demonstratinq relapse indicators | Continues at home, CTO forms completed |
| 13: Female                | Informal                | 6                                                | Discharged                               | Continues at home                      | Continues at home                      |
| 14: Male                  | Informal                | 4                                                | Bed and breakfast                        | Re-admitted to acute ward in Cornwall five days following discharge, Section 2 MHA, then discharged to supported housing | Discharged to supported housing, appears stable |
Table 1. Continued.

| Patient number and gender | Mental Health Act status | Length of admission at time of ward closure (weeks) | Destination on discharge within three days | Outcome six weeks later (20 June 2014) | Outcome 12 weeks later (1 August 2014) |
|---------------------------|--------------------------|----------------------------------------------------|------------------------------------------|----------------------------------------|----------------------------------------|
| 15: Female                | Section 3                | 4                                                  | Out-of-county acute ward                 | Commenced Section 17 leave, discharged from hospital following review | Continues at home                     |
| 16: Female                | Section 2 Section 3 (from 9 May 14) | 4                                                  | Acute ward Cornwall                     | Continues on ward                     | Continues on ward, having daily leave home |
| 17: Female                | Informal                 | 3                                                  | Discharged with night support           | Continues at home, supported by HTT and carers three times per week to assist with personal care | Continues at home, supported three times per week to assist with personal care |
| 18: Female                | Section 2                | 3                                                  | Nursing home                           | Returned to own home, remains mentally well | Continues at home, remains mentally well |
| 19: Male                  | Informal                 | 2                                                  | Discharged                             | Moved to new accommodation, mentally well | Continues in accommodation, mentally well |
| 20: Female                | Section 2                | 2                                                  | Acute ward Cornwall                    | Discharged from hospital Not engaging with CMHT, discharged from caseload | Not currently on CMHT caseload         |
| 21: Female                | Section 2                | 2                                                  | Acute ward Cornwall                    | Discharged with follow up Took paracetamol overdoses, discharged home when medically fit Continues at home with CMHT and psychology support | Remains at home, with CMHT and psychology support |
| 22: Male                  | Section 2                | 2                                                  | Discharged                             | Continues at home                     | Continues at home                     |
| 23: Male                  | Informal                 | 2                                                  | Discharged                             | Readmitted to Acute Ward in Cornwall Sec 2 MHA, deteriorating mood | Continues on ward, plan for discharge |
| 24: Male                  | Section 2                | 2                                                  | Acute ward in Cornwall                 | Remains in hospital                   | Remains in hospital, discharge planning in progress |
Table 1. Continued.

| Patient number and gender | Mental Health Act status | Length of admission at time of ward closure (weeks) | Destination on discharge within three days | Outcome six weeks later (20 June 2014) | Outcome 12 weeks later (1 August 2014) |
|---------------------------|-------------------------|----------------------------------------------------|------------------------------------------|----------------------------------------|----------------------------------------|
| 25: Male                  | Informal               | I                                                 | Acute ward Cornwall                      | Discharged with HTT support            | Continues at home with CMHT support   |
|                           |                        |                                                   |                                          |                                        |                                        |
| 26: Female                | Informal               | < I                                               | Acute ward Cornwall                      | Discharged with HTT support Detained Sec 136, discharged home under care of CMHT | Continues at home supported by CMHT   |

Figure 1. Number of admissions out of county (ward closed 9 May 2014).
Discussion

What are the lessons in terms of patients occupying acute beds?

Most patients on an acute ward longer than nine weeks may not need an acute bed, and more assertive efforts to move them to more appropriate settings will release pressure on acute units and may improve the personalised care for the patients in finding more appropriate therapeutic environments. When the situation demands and funding is available promptly, placements can be found quickly. Crucially the Trust was able to ignore commissioning protocols and bureaucracy and act immediately. Directly taking control from the commissioner enabled services to respond in a person-centred approach avoiding delays.

Healthcare is a risky business and preventable mistakes are common. Regulators set standards which
healthcare organisations strive to attain to provide assurances to the public and patients that clinical risks are minimised. Clinical risk can be contained through risk management initiatives at the level of the individual healthcare organisation, at corporate and regional level. However, from time to time in an emergency such risk templates are of little use and patient interest is best served by organisational initiative to react quickly to the threat at hand, as it was in this situation.

What are the lessons in terms of enabling patients to leave acute units?

More assertive management to move patients on from hospital after nine weeks on an acute unit may support patients in a less restrictive environment, release pressure on inpatient units and decrease the necessity of sending patients hundreds of miles from their homes when acutely unwell, which is distressing for them and their families and friends. What was noticeable in this emergency situation was that funds were urgently released for appropriate placements, whereas to get funding in normal circumstances can be lengthy and bureaucratic. The prolonged time taken for funding assessments leads to inappropriately long stays in acute psychiatric wards for some patients with chronic needs resulting in new admissions of acutely unwell patients having to go to out-of-county hospitals.

What are the lessons in terms of managing with fewer beds?

It was possible to manage with far fewer beds when the situation demanded initially, but it is unclear how much pressure that puts on community services and families. The costs of running a lower bed-based system were higher than the cost of the inpatient unit. However, people were in less restrictive environments. After two months the numbers of beds needed out of county began to creep up. This was not due to increased numbers of admissions (Figure 3). It may possibly be due to longer lengths of stay in out-of-county placements or the gradual return of longer stays of patients with chronic needs who are not acutely unwell.

Lessons from the Intellectual Disability service

In 2006 following a healthcare commission investigation all Intellectual Disability hospitals were closed in Cornwall; 24 of the most complex people in Cornwall with Intellectual Disability and challenging behaviour were repatriated into the community as a matter of urgency. At present of the original 24 who were in the Intellectual Disability hospitals for a long time prior to closure, 20 are supported in the local community, two are in out-of-county hospitals and two have died due to natural causes.

Cornwall has not provided any specialist Intellectual Disability inpatient beds since 2006 and utilises mainstream mental health beds as required and appropriate. There were nine admissions to the acute mental health unit in the three years between 2010 and 2012. In 2006 all 24 previous inpatients were supported by the Intellectual Disability Intensive Support Team. Despite having no Intellectual Disability beds in the county, Cornwall currently has the lowest rates of Intellectual Disability patients in out-of-county hospital beds per 100,000 in the South West of UK. A crisis situation has resulted in a shift of emphasis from inpatient care to community care which appears to be working well.
This highlights that with the right legal framework, person-centred care plan and appropriate commissioning, most people with Intellectual Disability can be supported to their satisfaction in the local community which could also be true of people with mental health problems. It is striking how the reduction of available in-county beds led to a reduction in the total admission rate.

**Limitations of the service evaluation**

This is not a piece of controlled research but a service evaluation of an unusual event. Numbers are relatively small. But it is a description of a ‘real world’ and very unusual situation from which lessons can be learned.

**Conclusions**

We conclude that greater emphasis and urgency needs to be placed on moving patients on from acute mental health units after nine weeks of admission. This can lead to more appropriate care for patients in less restrictive environments and reduce demand on acute psychiatric units and reduce the necessity and stress to patients and carers of acute admissions far from home. There needs to be more urgency in finding funding for such placements.

In the event of sudden loss of bed capacity, community services can run on fewer beds and reduce the admission rate for three months. However, the number of beds needed may begin to creep up possibly due to longer lengths of stay in out-of-county placements or the return of inappropriately long stays in hospital as the urgency to find and fund appropriate long-term placements is diminished.

**Declarations**

**Competing Interests:** All authors were employees of Cornwall Partnership NHS Foundation Trust

**Funding:** None declared

**Ethical approval:** Not needed as service evaluation

**Guarantor:** RL

**Contributorship:** RL: idea of the study, coordinated data collection, wrote the drafts of the paper. MB and AM: collated the data on admissions. LP: collected the data on patients who had been on the closed ward. PC, RS, ME, MM, DW-J, BK all commented on the draft manuscript as involved in the closure of the ward. KG and JH: helped to design the tables and present the data.

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