An audit of acute psychiatric admission bed occupancy in Northern Ireland

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Accepted 1 March 1998

SUMMARY
The Northern Ireland Section (Irish Division) of the Royal College of Psychiatrists were requested to investigate apparent increasing pressures on acute psychiatric beds. Information on bed occupancy and associated service activity was collected by clinicians on site in every psychiatric unit in Northern Ireland over the past eight years. Three separate years (1987, 1991 and 1995) were studied. Bed occupancy rose across these three years. There was an associated reduction in the number of acute psychiatric beds, reduction in adult continuing care beds, increased recorded referrals to psychiatric units and evidence of considerable numbers of new long-stay patients and difficulties with community placements. Acute bed occupancy in Northern Ireland is high, frequently over 100% and rising. Occupancy rose between each of the years studied. The problem is not confined to urban areas and several associated service factors may be contributing. Without change, acute bed provision will inevitably fail to match mental health needs.

INTRODUCTION
Acute admission beds for patients with psychiatric illness remain essential for the assessment and treatment of the most severely mentally ill. Demonstration projects have shown that with considerable extra resources, reduction in the number of acute admissions and their duration is possible. These projects have not been evaluated over prolonged periods in standard clinical settings, without additional resources, in the United Kingdom. They are limited to large urban centres.

Concern has been expressed about the reduction in numbers in acute psychiatric beds throughout the United Kingdom. Anecdote originally suggested this was most severe in London. Subsequent research, from London, has shown excessive levels of bed occupancy during the early 1990s which have continued to rise. Reductions in the provision for new long-stay patients have been noted and their impact on service provision discussed.

Northern Ireland is served by six large mental hospitals and several district general hospital facilities. All have acute or short-stay psychiatric beds. The large mental hospitals also have a varying number of continuing care (non-dementia) psychiatric beds for patients requiring longer-term hospital care. The latter group comprises a declining number of patients who have spent long periods in hospital and a group of more recent admissions who are unable to survive outside hospital because of complex disabilities associated with their psychiatric disorder (new long-stay).

There have been substantial reductions in both acute admission beds and adult (non-dementia) continuing care beds over the last 15 years. As in Great Britain, concern had been expressed that units are frequently full and it was not possible to arrange urgent admissions. Anecdotally pressures were thought to be greatest in Belfast. The above situation pre-dated suggestions from the Department of Health and Social Services.

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Northern Ireland (DHSS NI) to further reduce bed day occupancy by 20%.

The Northern Ireland Section (Irish Division) of the Royal College of Psychiatrists set up an Acute Bed Project Board, with representatives from all hospitals with acute psychiatric admission beds (excluding addictions) to assess the extent of bed occupancy past and present. In addition, factors which were considered possible influences on bed utilisation were investigated, such as referral rates, numbers of new long-stay patients in acute psychiatric units and difficulty obtaining community placements.

**METHODS**

A structured questionnaire was sent to all members of the Project Board. It was decided to examine bed occupancy in 1995, 1991 and 1987. Four-year intervals were felt likely to allow demonstration of any trends.

Information requested included numbers of acute functional psychiatric beds in each year, whether the service was sectorised, and data relating to bed occupancy for three months (February, June and October) in each of the above three years. These months were chosen to observe any seasonal trends. Addiction, child and adolescent beds were not included.

The following definitions were used:

- **Inpatient Days** – Number of inpatients daily summated over one calendar month.
- **Leave Days** – Number of patients on leave daily summated over one calendar month.
- **Total Bed Days** – Number of acute admission beds multiplied by number of days in one calendar month.
- **Bed Occupancy/Month** – Inpatient + leave days total bed days.
- **Percentage Occupancy** – Bed occupancy/month x 100.

Each member of the Acute Project Board was asked to review all inpatients in acute beds on 28 March 1996. Data on new long stay, those unable to be found community facilities, and those where specialist inpatient facilities might possibly have been more appropriate were recorded.

In addition, the numbers of adult (non-dementia) continuing care beds at hospital sites were requested for the years 1987, 1991 and 1995. The total number of psychiatric referrals to hospitals for the above years was also sought. Some additional information was obtained from DHSS NI sources.

Descriptive statistics are used to report data.

**RESULTS**

*Acute Bed Occupancy*

Returns from all 13 hospital units showed that in 1996 there were 616 acute admission beds. This represents 0.37/1000 for Greater Belfast, 0.38/1000 for outside Belfast and Northern Ireland as a whole.

Data for each month studied is presented in Table 1. Information is given for Belfast and hospitals outside Belfast separately. However, there was no difference between urban and rural hospitals.

The bed occupancy for all units in Northern Ireland combined is shown in Figure. Occupancy rose in each study-month progressively across years. The acute bed occupancy ranged from 98%-105% in the three months studied in 1995. Data was available for seven hospitals in 1987, nine in 1991 and 13 in 1995.

| Table 1 |
| --- |
| **Percentage occupancy for Acute Psychiatric Beds in Northern Ireland** |
|  | **Belfast** | **Outside Belfast** |
| February 1987 | 90% (n=1) | 79% (n=6) |
| June 1987 | 89% (n=1) | 81% (n=6) |
| October 1987 | 90% (n=1) | 75% (n=6) |
| February 1991 | 94% (n=2) | 87% (n=7) |
| June 1991 | 88% (n=2) | 87% (n=7) |
| October 1991 | 99% (n=2) | 77% (n=7) |
| February 1995 | 98% (n=3) | 98% (n=10) |
| June 1995 | 112% (n=3) | 104% (n=10) |
| October 1995 | 98% (n=3) | 105% (n=10) |

n = number of psychiatric units for which data is available

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Figure

Percentage Occupancy for Acute Psychiatric Beds in Northern Ireland

(All Units)

| Month | 1987 (n=7) | 1991 (n=9) | 1995 (n=13) |
|-------|------------|------------|-------------|
| FEB   | 81%        | 88%        | 98%         |
| JUNE  | 82%        | 87%        | 105%        |
| OCT   | 77%        | 85%        | 103%        |

n=number of psychiatric units for which data is available

Table II

Inpatient Census on 28 March 1996

|                         | Belfast (133 Beds) | Outside Belfast (483 Beds) | Northern Ireland (616 Beds) |
|-------------------------|---------------------|----------------------------|-----------------------------|
| Patient admitted > 6 months | 7                   | 33                         | 40                          |
| Patients < 18 years old  | 5                   | 9                          | 14                          |
| Patients with alcohol or drug use only | 10 | 21                         | 31                          |
| Patients with head injury only | 0          | 7                          | 7                           |
| Patients awaiting community placement | 5          | 25                         | 30                          |
| Patients admitted as no beds available in another hospital | 4          | 2                          | 6                           |
| Total                   | 31                   | 97                         | 128                         |

(23%) (20%) (21%)

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Inpatient Census of Acute Admission Beds

Table II gives the categories in the inpatient census on 28 March 1996. On the day chosen, these groups accounted for 21% of adult acute psychiatric admissions in Northern Ireland. Patients present for over six months and those where community placement was unavailable, occupied 11% of available acute admission beds.

Referrals to Psychiatric Services

Only four hospitals were able to obtain data for the three study years. Five hospitals had information for the years 1991 and 1995. Referrals increased by over 100% between 1987 and 1995 for the four hospitals studied and by 49% between 1991 and 1995 for the larger sample. The referral numbers are shown in Table III.

| Year | Data for all years (n=4) | Data for two years (n=5) |
|------|--------------------------|-------------------------|
| 1987 | 1105                     | 2163                    |
| 1991 | 1577                     | 3224                    |
| 1995 | 2320                     |                         |

Adult Continuing Care Beds

Only six of the 13 hospitals ever had adult continuing care beds on site. Of those six hospitals, four were able to detail number of beds. They declined from 858 beds in 1987, 649 in 1991 to 369 in 1995, a total reduction over the period of 57%.

DISCUSSION

The main finding of the acute bed project is a steady increase in acute psychiatric bed occupancy throughout Northern Ireland (see Figure) over the last eight years. Occupancy figures are now frequently over 100%. The rise in occupancy is not restricted to the larger urban setting.

One advantage of this study is the collection of data locally by clinicians using agreed definitions. Also, as there are no private psychiatric facilities in Northern Ireland, no patients will be lost via extra-contractual referrals to the private sector.

A limitation of the study is that the occupancy data was obtained retrospectively and not all hospitals were able to furnish complete data. However all individual hospitals showed increased bed usage over the period. The study design make it unlikely that the results are occurring by chance.

It is possible that those hospitals without data for the earlier years could bias the results. For this reason the percentage bed occupancy was calculated for those hospitals with information at all time points in the study (n=7). The results were essentially the same with a rise in percentage bed occupancy to over 100% by 1995 in all of the months studied (February 1995=119%, June 1995=108%, October 1995=110%).

The increased occupancy supports the results of Powell et al\(^5\) and extends them to another area of the United Kingdom using a different methodology. Of major concern is recent data by that group\(^6\) suggesting bed occupancy in Greater London is continuing to rise. Based on their findings and the progressive rise in bed occupancy in Northern Ireland from 1987 to 1995, it is likely that increased difficulties will also occur in Northern Ireland without corrective action.

As well as defining the extent of the problem, it is also important to attempt to identify the possible reasons for its occurrence. One obvious possibility is a reduction in acute beds. This has been so in Northern Ireland. The number of short-stay (acute) beds has declined in the Province by 17% between 1991 and 1995 (DHSS NI). This is a figure not dissimilar to the increase in occupancy. As with associated service changes, it is not possible to imply direct causation. Estimates of psychiatric bed requirements have been made previously but these have not always been taken into account when planning services.\(^9\)

Referrals to psychiatric units would appear to have risen substantially. Although these figures appear somewhat low, and poor recording may be the cause, it is likely that the systems in place have detected an increased demand. This is perhaps not surprising given educational programmes such as the 'Defeat Depression Campaign' trying to raise awareness and detection of mental illness in the community.

Occupancy presents important information on acute bed pressures but does not describe details of bed usage. Instruments for the audit of bed usage\(^10\) allow intensive study of admissions to

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acute psychiatric units. However with no funding such a device could not be used in this project. Instead, clinicians assessed inpatients on a given census date. The most striking feature was the large number of individuals who were resident for over six months or where difficulties in community placement were evident. The effects such patients have on acute units have been reported previously both in terms of their numbers and the effects of failed placements on the patients themselves. Smaller reductions in acute psychiatric bed occupancy may also be achieved by comprehensive specialist services for other groups. As with other areas of the United Kingdom, adult continuing care bed numbers have fallen in Northern Ireland.

Lack of beds for new long stay patients, difficulties in obtaining community placements and reduced facilities for those requiring continuing care have all contributed to this worrying situation.

Clinicians' attitudes regarding difficulties with bed shortages will be the subject of a separate report.

ACKNOWLEDGEMENTS
The acute project board comprised Dr D Day Cody, Dr O Daly, Dr S Egan, Dr M Headley, Dr C Kelly, Professor D J King, Dr G Loughrey, Dr A O'Hara, Dr M McCourt, Professor R J McClelland, Dr T O'Neill, Dr A Scott, Dr N Scott.

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