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The Psychiatric Intensive Care Unit

ROBERT GOLDNEY, JULIA BOWES, NEIL SPENCE, ANDREW CZECHOWICZ and ROD HURLEY

Summary: The first three and a half years' operation of a psychiatric intensive care unit, based on the general hospital model, is described. This eight-bedded ward focusses on the treatment of the most acutely psychiatrically ill patients, and not on the forensic or custodial aspects of such units previously described. It has gained general acceptance within the setting of a state psychiatric hospital, and has received 1132 admissions since its inception. Demographic, clinical, and treatment data are presented and the advantages and disadvantages of the unit are discussed.

Intensive care units have become an integral part of general hospital treatment in the last twenty years, and have provided a concentration of expertise for the management of the most acutely physically ill patients. However, there have been few reports of analogous units in psychiatric hospitals (Rachlin, 1973; Mounsey, 1979; Crain and Jordan, 1979; Basson and Woodside, 1981). Furthermore, these have tended to reflect an uneasy compromise between the opposing needs for forensic security and for intensive care for the most severely psychiatrically ill. This report describes a psychiatric intensive care unit which is based on the general hospital model, and reviews its first three and a half years' operation.

Clinical setting

The intensive care unit is located in Glenside Hospital, a 550-bed psychiatric hospital situated in the inner suburbs of Adelaide, a city of a million people. Glenside Hospital provides psychiatric services for half the State of South Australia, and thus serves a population of 600,000. Forensic psychiatric services are provided elsewhere by a separate hospital attached to a prison.

The unit was designed as an eight-bed ward, six of which beds have been accommodated in single rooms. It has ready access to a larger 17-bed ward which serves more chronically disturbed patients. There is a television lounge and an open dining/day area, and the central nursing station has good visibility of most areas. Although it is a locked ward none of the individual rooms can be locked from the inside, thus enabling patients to have free access from their rooms to the open living areas at all times. Access is also provided to a grassed court-yard which is open to a tennis-court area. This adjoins the park-like grounds, and a relative sense of freedom can be maintained despite the secure nature of the ward.

Admission criteria

Admission criteria are not rigid and patients are readily accepted from the admitting centre or from other wards if the assessing psychiatric resident considers there is a need for more intensive care than can be provided in the other wards. In general, this means that the most severely psychotic patients who have problems with impulse control and who are exhibiting disinhibited, violent or suicidal behaviour tend to predominate. Catatonic patients, and others such as the profoundly depressed who may be at risk because of poor fluid or nutritional intake, are also managed within the unit. Patients with schizophrenia and with affective disorders in both the manic and depressed phases comprise the majority of admissions.

Staffing

Two psychiatric residents work half-time and are responsible through a staff psychiatrist to the director of the unit. There are three nursing staff rostered during the day and two at night, and these are occasionally supplemented by additional nurses when patients require special care. There is a full-time social worker, and a clinical pharmacist and psychologist provide consultative services. Visiting physicians and anaethetists are also readily available. There is a daily business meeting and more formal rounds are conducted twice each week.

Admission and demographic statistics

In the first three and a half years there have been 1132 admissions involving 691 individual patients, 371 (53.7%) being male, 318 (46.0%) female and 2 (0.3%) trans-sexual. Their mean age was 35.1 years (S.D. 13.0 years). Two hundred and eleven (30.5%) were married or living with a partner, 24 (3.5%) were widowed, 128 (18.6%) were separated or divorced and 326 (47.3%) had never married.

There were 456 (66.0%) patients who had only one admission, a further 144 (20.8%) who had two admissions, and only 4 (0.6%) patients who had more than 6 admissions. The mean length of stay for all admissions was 4.8 days (range 1–67 days). Only 56 (4.9%) patients remained longer than fourteen days, and of those, only 6 (0.5%) remained in the ward longer than 30 days.

Referrals were from other wards within the hospital (315, 27.8%), family physicians (245, 21.7%), police or courts (214, 18.9%), general hospitals (206, 18.2%) and other sources such as crisis care agencies or self referral (152, 13.5%). Only 40 (3.5%) of the admissions were voluntary, and the remainder were compulsorily detained. Of the 691 individual patients, 198 (28.8%) had their first psychiatric illness admission, whereas the remainder had been previously hospitalised either at Glenside or elsewhere.

Clinical characteristics

Psychiatric illness diagnoses for all admissions included schizophrenic disorders 457 (40.3%), major affective disorders 282 (24.9%), of whom 209 (18.5%) were in the manic phase, and substance-induced organic mental disorders 56 (4.9%). The remaining 337 (29.9%) were given a variety of diagnoses such as schizo-affective disorder, brief reactive psychosis, adjustment disorder and personality disorder.

Suicide risk was considered to be severe in 113 (10.0%) admissions, and to be present in a further 148 (13.1%). There was a history of violence before entry to the unit for 286 (25.3%) admissions. During treatment, actual violence was observed in 110 (9.7%) admissions and threatened violence in a further 168 (14.8%).

Twenty-four per cent of admissions were considered to have concomitant physical illness, with gastrointestinal, cardiovascular and endocrine disorders most prominent.

Management

Neuroleptic medication alone was used in 511 (45.1%) of the admissions, and in combination with other drugs in a further 483 (42.6%). The most commonly prescribed neuroleptic was haloperidol, which was used for 59.1% of admissions. Chlorpromazine was used in 34.9% of admissions, and fluphenazine was also used extensively either as the short acting hydrochloride (11.0%) or the long acting decanoate (15.0%). Intra-muscular neuroleptics were used in 402 (35.5%) admissions and a further 100 (8.8%) of the patients received an intravenous neuroleptic. Extrapyramidal reactions were noted in 26.8% of admissions who received neuroleptic medication.

The table demonstrates the changing use of neuroleptics in the past three full years' operation. The use of haloperidol is delineated, as is the overall use of all neuroleptics expressed in chlorpromazine equivalents, based on the comparative doses reported by Davis (1976). There has been a significant reduction in the doses of neuroleptics without an increase in the length of stay in the intensive care unit.

Antidepressants were used in 88 (7.8%) of admissions, and lithium in 150 (13.3%). Electroconvulsive therapy was used to treat patients in 54 (4.8%) of the

TABLE

Neuroleptic treatment and length of stay over yearly periods for admissions to a psychiatric intensive care unit

Period	*No. of unit admissions*[1]	*No. of admissions receiving haloperidol*	*Mean maximum 24-hour dose of haloperidol (mgm)*	*No. of admissions receiving any neuroleptics*	*Mean maximum 24-hour dose of neuroleptics in chlorpromazine equivalents (mgm)*	*Mean length of stay (days) for unit admissions receiving neuroleptics*
1979–80	322	183	112.6	271	4790	5.1
1980–81	380	235	72.7	321	3860	5.0
1981–82	372	223	51.3	310	2530	5.7
Total N	1074	641	76.6	902	3680	5.3
F ratio			29.43		16.46	1.39
P <			0.0001		0.0001	.250

[1]Excludes data for 58 admissions occurring in 1978–79.

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admissions. Non-psychotropic drugs were used in 274 (24.2%) admissions, with anticonvulsants, antibiotics and those used for cardiovascular disease being used most frequently.

The majority (589, 52.0%) of patient admissions were transferred from the intensive care unit to open hospital wards. Others were transferred to a closed ward (355, 31.4%), discharged directly from hospital (120, 10.6%), transferred to another psychiatric hospital (26, 2.3%), or transferred to a general hospital (26, 2.3%). One patient died, and one absconded.

During the period that the intensive care unit has been operating, there have been 7417 admissions to Glenside Hospital, and there is thus a mean utilisation rate of 15.3%. For the last three full years, the rate has been 19.5%, 16.9% and 14.4% of all hospital admissions.

Discussion

Before noting the benefits and shortcomings of this psychiatric intensive care unit, it is pertinent to place it in perspective relative to similar units reported in the literature.

There has been passing reference to psychiatric intensive care in connection with the seclusion room (Mattson and Sacks, 1978), the prevention of suicide (Flinn *et al*, 1978), the evaluation of aggressive patients (Yesavage *et al*, 1981) and in its use as an adjunct to day hospital care (Gudeman *et al*, 1983), but there have been few reports of the actual functioning of psychiatric intensive care units.

The first publication describing such a unit appears to be that of Rachlin (1973) from New York, who focussed more on his facility's role as a closed ward. The admission policy was restrictive in that patients were only accepted from other psychiatric wards "after the sending ward had exhausted all methods" of management, and this was reflected in an overall utilisation rate of 6%. Although the short-term nature of treatment is emphasised, it is of interest that the median length of stay was 25.5 days, and a fifth of the patients stayed for more than two months.

Crain and Jordan (1979), also from New York, emphasised the containment of violent adult patients in their intensive care unit, and again their admission policy was one of only accepting patients after "every effort" had been made to manage patients on regular wards. They also reported "brief" treatment, but noted that the majority of patients required between three and four weeks' treatment in their unit.

The report of Basson and Woodside (1981) from Edinburgh typifies the dilemma that is posed when such units are contemplated. They describe a 13-bedded unit which served the purpose of a "secure/intensive care/forensic ward". Admission criteria were noted to be "complex", but for those other than the forensic patients the main reasons were given as "violence to staff or patients or self-abuse of a serious nature". This ward clearly attempted to serve purposes additional to those of the presently described ward. It is again of interest that, although Basson and Woodside noted that "the short stay requirement is emphasised", the average admission was of four weeks' duration.

The intensive care unit which appears to be most analogous to that of Glenside Hospital is that described by Mounsey (1979) in a 320-bedded psychiatric hospital in the south of England. A 12-bedded unit was established for patients who "had presented serious management problems in their ward of origin". Mounsey correctly noted that the concept of the psychiatric intensive care unit could be perceived by some as "merely a euphemism for the traditional disturbed ward", and emphasised the high degree of therapeutic input. It was stated that the majority of patients remained in the unit for less than two weeks, but noted that 13.6% where there longer than four weeks.

The functioning of the Glenside Hospital psychiatric intensive care unit therefore appears to be unique in the literature, in the sense that it has a liberal admission policy and a rapid turn-over of patients, with a short mean stay of only 4.8 days.

It is generally considered that the unit is functioning well and provides a valuable service to the hospital. However, there have been some difficulties, which bear examination.

As noted by Crain and Jordan (1974), the need for intensive care and observation of acutely ill psychiatric patients, particularly when there may be problems of impulse control, can be very stressful and there have been occasions when staff anxiety has been high. This stress seems closely analogous to that described in the general hospital intensive care unit (Hay and Oken, 1972). It is also germane to the view of Leib (1983) who in commenting on the practice of emergency psychiatry perceptively questioned whether it was "a new frontier or just hard work". Notwithstanding these comments, staff morale appears to have been high and indeed, there has been a tendency by other hospital staff to regard the ward as an *élite* specialised unit. This has been countered to some extent by the rotation of staff in a similar manner to that in other wards.

The liberal admission policy can appear frustrating to intensive care unit staff, particularly if there is a heavy work-load. However, it is recognised that admission is not considered without due thought, and certainly every care is made to ensure that admission is

not interpreted by patients as a punishment. There is also a risk that such a ward can become an admission or triage ward, but the facts that the intensive care unit admissions comprised only 15.3% of the total Glenside Hospital admissions since the unit opened, and that the proportion has declined marginally in the last three years, suggest this is not so.

Treatment comprises the whole psychiatric armamentarium, including psychotherapy. It is emphasised to all staff that even in the acute phases of psychotic illness a broad psychotherapeutic approach is encouraged, rather than simply allowing tranquillization to occur. This has proved particularly important with paranoid patients, where the high staff-to-patient ratio has facilitated the development of therapeutic relationships, thus allowing access to psychopathological data which in a less intensive setting would not be obtained. It has also been observed that many manic patients are accessable to interpretation of the relationship of precipitating life events to their clinical condition.

It is of note that the intensive care unit was established in 1978, when rapid neuroleptisation had gained general acceptance and before the sporadic reports of sudden deaths associated with high dose neuroleptics had appeared (Ketai *et al,* 1979; Modestin *et al,* 1981). Among the first 150 admissions one sudden death occurred, and a further patient had a cardiac arrest. The death followed 90 mgm of haloperidol over 24 hours in an extremely manic woman with a history of alcohol cardiomyopathy, and the cardiac arrest occurred after another woman (who was resuscitated) had received 240 mgm of haloperidol in 24 hours. Because of the possible association with high dose neuroleptics, and notwithstanding our general belief in the safety and efficacy of rapid neuroleptisation (Donlon *et al,* 1979), it is now ward policy to administer no more than 100 mgm of haloperidol, or its equivalent in other neuroleptics, in any 24 hour period, and there have been no similar episodes in the subsequent 980 admissions.

The clinical effectiveness of this approach is indicated by the fact that significant reductions in the use of neuroleptics have occurred without a concomitant increase in length of stay in the intensive care unit. It is difficult to compare these findings with those of other reports, as there is no general agreement on what constitutes a high or very high dose of neuroleptic. The present data suggest that doses of haloperidol over 100 mgm daily have no advantage over more moderate doses, and this is consistent with the report of Bollini *et al* (1984). However our recent experience, with almost 1000 admissions, suggests a greater margin of safety than is indicated by their results.

There are some patients whose acute treatment cannot be continued within the unit. Although over half the psychiatrically trained nursing staff at Glenside Hospital are also qualified in general nursing, the absence of full-time anaesthetic and specialist medical staff limits the degree of physical illness which can reasonably be managed. Thus each year, in addition to those patients transferred from the ward because of significant concomitant physical illness, an occasional patient, usually with severe catatonic symptoms which have not responded to initial neuroleptic and electro-convulsive therapy and who is developing fluid and electrolyte imbalance, is transferred to a nearby general hospital where closer monitoring of physical state can accompany continuing psychiatric treatment. Such patients are readmitted to Glenside Hospital when their physical condition has improved.

Although responsibility for individual patients once admitted to the intensive care unit is that of the director, other psychiatrists who have had contact with them are encouraged to continue that contact by liaising with the intensive care unit staff, and in this manner ward transfers have been facilitated. The optimum time for transfer to other wards has often evoked much staff discussion. Inevitably some severely disturbed patients feel particularly safe in such a ward and quickly develop a strong attachment to it and the staff. This is sometimes manifest by an exacerbation of symptoms when transfer to an open ward is suggested, an observation consistent with that described by Sarwer-Foner and Kealey (1981). This is countered by arranging for these patients to attend occupational therapy in open wards for several hours a day before full transfer occurs. Similarly, if it is necessary for a mother with a puerperal psychosis to be admitted to the ward, arrangements are made for daily contact with her baby who remains in the mothers' and babies' unit in another ward.

Not only do some patients quickly develop the feeling that the intensive care unit is the only ward which can adequately treat their illness, but it is necessary for all staff to be aware of similar feelings of omnipotence in themselves. Particularly if the ward is not busy, it is tempting to assume that the overall management will be better in the intensive care unit rather than in other wards. This issue is always present when patients with continuing suicidal ideation are managed, and the security that the ward provides has to be balanced against the autonomy and personal responsibility which must be accepted by such patients.

Finally, it should be noted that some hospital staff have indicated that by focussing on severely ill patients in one area it is possible that the general skills involved in managing such patients in other wards will be diminished. This is accepted, but it is suggested that

the development of expertise in the intensive care unit provides the optimal treatment for those who are most acutely ill, a suggestion perhaps best illustrated by the fact that the reduction in the doses of neuroleptic medication has occurred concurrently with staff members feeling more confident in using adjunctive psychotherapeutic measures in these acutely psychotic patients. Furthermore, considerable experience has developed in the monitoring of changes in mental state and in the detection of unwanted drug reactions. It is also pertinent that the unit takes pressure off the general admission wards, thus allowing staff in those areas more opportunity to utilise other psychiatric therapeutic skills, and so further to enhance overall patient care.

Conclusions

Although there have been some difficulties, the first three and a half years' operation of a psychiatric intensive care unit indicates that the gains outweigh them. There has been a reduction in the number of acutely psychotic and impulsive patients in the general open wards, and staff have been able to develop considerable expertise in the management of these patients in a secure setting.

This experience suggests that it is possible to integrate the function of a psychiatric intensive care unit, based on the general hospital intensive care model, within a traditional psychiatric hospital to the benefit of both patients and staff.

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*Robert Goldney, MD. MRCPsych. FRANZCP. *Director, Dibden Research Unit*

Julia Bowes, RPN. *Project Nurse*

Neil Spence, PhD. *Research Psychologist*

Andrew Czechowicz, MB. FRANZCP. FRACMA. *Medical Superintendent*

Rod Hurley, BPharm. *Senior Clinical Pharmacist*

Glenside Hospital, Adelaide, 5063, South Australia

*Correspondence

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