

# Types of patients in a psychiatric intensive care unit

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**Objective:** This paper reports the findings of a descriptive study of a patient population over a three-month period on an eight bed psychiatric intensive care unit (PICU) in Western Australia. The report provides a quantitative insight into the profile of patients in PICUs. It provides information on patients' diagnoses, presenting signs, symptoms and/or behaviours, legal codes assigned to patients, treatment interventions and management.

**Method:** Data were collected prospectively from August to October 1999. A total of 122 patients were admitted to the PICU during the review period. Data were entered into an Access program then exported to SPSS (Version 9 for Windows) for analysis and frequency distributions were obtained.

**Results:** The results confirmed that the majority of patients admitted to the PICU were assessed as a high level of risk or needed containment. This finding is in line with the admission criteria developed by staff working in the PICU. It also supports the view that staff working in these units require expertise and confidence to communicate with and manage potentially aggressive and highly aroused patients.

**Conclusion:** This study demonstrates the importance of ongoing evaluations of patient populations in promoting best practice initiatives in psychiatric care.

**Key words:** acuity level, least restrictive environment, psychiatric intensive care, psychosocial interventions, risk assessment.

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The challenge facing mental health professionals in providing care in the in-patient setting is to optimize the patient's level of functioning to enable them to deal with future stresses. This in turn should lead to a decrease in the necessity for further hospitalization. While many people with a mental illness are successfully cared for in the community, in-patient units mainly treat patients

who are behaviourally disturbed, treatment-resistant and/or actively suicidal or homicidal [1]. A large percentage of these patients are disturbed psychotic young men [1]. The decision to admit is focused around the assessment of the patient's acuity level; that is their level of risk, severity of symptoms, available support or limited alternatives to in-patient treatment, and the patient's willingness to accept treatment [2]. These criteria also determine the environment into which the patient is admitted. Patients who display the highest degree of risk and need for containment are usually placed in psychiatric intensive care units (PICU), and staff in these units communicate with and manage potentially aggressive and highly aroused patients on a regular basis [3].

A Medline and CINAHL search of the literature provided several definitions of PICU [2,4–6]. While authors agree that PICUs are locked environments, there is debate regarding the number of beds, the patient profile,

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and the objectives of treatment while patients are in these units [6]. Although some authors are still defining the new speciality of psychiatric intensive care [7], others are debating whether specific units for highly aroused acutely psychotic patients are beneficial or detrimental to patient care. Such commentators consider that each ward would be better positioned managing their own acutely ill patients rather than having a centralized unit [2]. While the debate continues, the high acuity level of patients in PICUs presents staff with complex challenges. Therefore, staff working in these areas, require a broad and comprehensive knowledge of the legal, ethical, health and social factors affecting their patients. Given the complexity of the care in PICUs along with the extraordinary needs of both the patients and staff, it is essential that research be undertaken to evaluate the effectiveness of this care. The current study aimed to provide some objective insight and measurements relating to patient diagnosis, treatment interventions, and patient care. Furthermore, the information obtained from this research was used to shape future best practice initiatives in the PICU.

This study was completed at the PICU at Fremantle Hospital and Health Service, which provides psychiatric care to a catchment population of around 300 000. The in-patient adult service consists of a 50 adult-bed unit in a purpose-built, stand alone, facility. When the service commenced in 1994 there were 38 'open' ward beds and 12 acute beds in a locked unit. In 1999, the number of beds in the locked unit was reduced and currently the in-patient service is comprised of 42 'open' ward beds and an eight bed locked PICU. The change in the number of beds in the locked unit occurred in response to the occupancy rates throughout the in-patient service. Occupancy rates in the PICU for the three-month period prior to the reduction in the number of beds ranged from 71 to 84% while in the 'open' wards the rates ranged from 97 to 109%.

In 1996 staff made a commitment to change the focus of the acute admission ward from a 'locked' ward to a PICU. This commitment included the appointment of a consultant psychiatrist and a full-time medical officer to the unit. Prior to these designated appointments the number of professionals visiting the unit on a daily basis was a cause of stress for staff and dislocation of care for patients. The appointments also enhanced the collaboration between medical and nursing staff, which led to further changes to policies and practices. For example, specific medication protocols were designed for managing highly aroused patients, along with professionals being more accountable when using restrictive management strategies, such as seclusion. Protocols were also established for seclusion and the management of aggression.

There are four full-time equivalent (FTE) nursing staff on day and afternoon shifts in the PICU and three on night shift. Primary nursing is used in the unit and an emphasis is placed on maintaining a therapeutic milieu that promotes the philosophy of providing care in the least restrictive environment. Furthermore, the nursing staffs' therapeutic skills are valued and are a key factor in the delivery and focus of care to patients in the unit.

Staff developed specific criteria for admission to the unit. Patients admitted to the PICU must be suffering from a mental illness and most are involuntary patients under the Western Australian 1996 Mental Health Act [8]. Furthermore, the individual needs to:

1. Have been assessed as an identified risk of harm to others, usually physical harm.
2. Be exhibiting suicidal and/or self harm behaviour deemed or demonstrably unmanageable on an open unit or in the community (e.g. requiring 1:1 nursing for greater than four hours).
3. Have been assessed by an authorized person under the act as an identified risk of (involuntary patient) absconding from the unit with a high likelihood of damage to reputation, social and occupational, as defined in the Western Australian 1996 Mental Health Act.

Although patients who are 'voluntary' in terms of the Western Australian 1996 Mental Health Act are not as a rule, admitted to the PICU there are two reasons why admission can occur. Firstly, when no 'open' ward beds are available and the patient requires admission to hospital they might be asked whether they will accept admission to the PICU. Informed consent must be given by the 'voluntary' patient to this placement and it is made clear to them that they can legally exit the PICU at any time. Secondly, patients who need to be admitted to the PICU because of their presenting signs, symptoms and/or behaviours may be given the option of 'voluntary' status if it is regarded by the psychiatrist and senior staff that this least restrictive treatment option will have additional benefits for the patient.

## Method

Staff developed a data collection form and data were collected prospectively every 24 h for a 3-month period from August to October 1999.

The study had the following objectives:

1. To evaluate the impact of a reduction of four beds in the PICU on the overall functioning of the in-patient service.
2. To determine what factors contribute to high acuity levels in the PICU.
3. To measure the frequency and type of aggressive incidents occurring in the unit.
4. To determine the type and frequency of prn medication usage.

5. To compare patients' presenting behaviours against specified admission criteria.

6. To detail a profile of the diagnosis of patients admitted to the PICU.

7. To identify the type of legal code assigned to each patient in the unit. (When seen by a psychiatrist on arrival to the unit, each patient is given a legal code under the 1996 Western Australian Mental Health Act) coding includes 'voluntary', 'involuntary', '24- h assessment' and 'revocation of a community treatment order'.

8. To determine the use of seclusion in the PICU.

9. To identify the number of days patients remained in the PICU after it was determined that they were ready to be transferred to an 'open' ward environment.

10. To measure the average length of stay of a patient in the unit and the unit's occupancy rate.

Data analysis was completed using SPSS (Version 9 for Windows). Frequency distributions are presented.

## Results

Data were collected from all 122 patients who were admitted to the PICU over the three-month period. The population consisted of 84 (69%) males and 38 (31%) females.

### Most frequent diagnostic categories assigned to patients during their stay in the unit

Overall, schizophrenia was the most common diagnostic category assigned to patients in the unit (42%), followed by mood disorders (29%). The remaining 29% of patients were each assigned a variety of different diagnostic categories. Categories included delusional disorder, borderline personality disorder, schizoaffective disorders, acute intoxication due to cannabinoids, unspecified non-organic psychosis, unspecified depressive episode, and severe depression without psychotic symptoms. The five most frequent diagnostic categories were schizophrenia, paranoid type (22%), bipolar disorder, most recent episode hypomanic (14%), mood disorder, major depressive disorder (9%), delusional disorder (7%), and schizophrenia, residual type (6%). Eleven (9%) of the 122 patients had more than one diagnostic category assigned to them during their stay in the unit.

### Primary signs, symptoms and behaviours displayed by patients during their stay in the unit

One hundred and twenty-eight primary signs, symptoms and/or behaviours were recorded for the 122 patients during the 3-month period. The five most frequently identified signs, symptoms and/or behaviours were paranoid symptoms (10%), delusions (10%), aggression (8%), psychotic symptoms (6%) and mania (6%). Other presenting signs, symptoms and/or behaviours included self-harm (5%), auditory hallucinations (4%) and depression (3%).

### Legal code assigned to patients during their stay in unit

Twenty-two (12%) of the 179 codes assigned to the 122 patients during the three-month period were 'voluntary' admission codes (see Table 1 for details).

### Rate and type of aggression and staff injuries

Twenty-three (19%) of the 122 patients were involved in an aggressive incident. There were 39 episodes of aggression with one patient accounting for eight of these episodes. Sixteen (41%) of these incidents were physical aggression and 15 (39%) were verbal. Staff did not identify the type of aggression on the data collection tool on eight (20%) occasions. There were two instances of injury to staff during the period under study.

### Number and type of prn medications administered

Sixty-four (52%) of the 122 patients received a total of 130 prn medications. The five most commonly used prn medications were thioridazine (25%), haloperidol and clonazepam combination (22%), clonazepam (13%), zuclopenthixol acetate and clonazepam combination (3%) and lorazepam (3%). One patient was given prn medications on 11 separate occasions.

*Table 1. Legal codes (179) entered on 122 patients in unit (note some patients had more than one code assigned to them during an admission.)*

Legal code	Frequency	Percent
Involuntary admission	62	35
Initial 24 h assessment	52	29
Voluntary admission	22	12
Extension of 24 h assessment to 72 h	31	17
Revocation of Community Treatment Order	4	2
Interhospital transfer	5	3
Continued detention of an involuntary patient > 6 months	3	2
Total	179	100

### Use of seclusion as a management strategy

Eighteen episodes of seclusion involving 12 (10%) patients were recorded during the period of the study. One patient accounted for four episodes of seclusion. The time any one patient spent in seclusion ranged from 20 to 360 min with a mean seclusion time of 106 min and a median seclusion time of 105 min recorded.

### The number of days the patient remained in the unit when they were ready to be transferred to an 'open' ward

Twenty-three (19%) of the 122 patients remained in the unit after they were assessed by staff as being ready for transfer to an 'open' ward. These 23 patients recorded a total of 71 days where they were ready for transfer from the unit with a mean of 3.1 days per patient being recorded.

### Length of stay in unit

The average length of stay in the PICU for the 122 patients ranged from 3.73 days in August to 5.43 days in October.

## Discussion

Imboroni *et al.* [9] emphasized that with the changes in the delivery of mental health care there is an increasing onus on health care professionals to provide objective measurements of patient care. These measures are particularly relevant for patients placed in restrictive environments such as PICUs. The results of this study confirm that the majority of patients admitted to the PICU were assessed as being at a high level of risk either to themselves or others. This finding is in line with the unit's objectives and admission criteria. Furthermore, this level of risk is often exacerbated by the severity of these symptoms that results in limited alternative management strategies when the patient is unwilling to accept treatment. The diagnoses of patients admitted to the PICU in this study were consistent with those identified by Hyde *et al.* [10], and supported Farnham and James [1] who suggested that a high proportion of patients who were hospitalized were disturbed psychotic men and those with affective disorders. This finding highlights the importance of staff making accurate predictions of and having organized management plans to deal with potentially violent patients. This is fundamental for improving safety in psychiatric in-patient area [11], and a priority for staff working in PICUs. The accurate assessment and planned management of patients during their stay in a PICU ensures that a patient's potential for violence is decreased, and facilitates increased psychosocial interventions. Staff also should be encouraged to develop specialized interpersonal and therapeutic

skills. The use of cognitive behavioural therapy with psychotic patients provides additional treatment options for staff [12,13] working in PICUs.

The average length of stay in the PICU ranged from 3.73 to 5.43 days during the study period. In comparison, the average length of stay in the two 'open' wards ranged from 6.42 to 8.44 days during the same time period. Bed occupancy rates in the PICU ranged from 83 to 101% compared with 94 to 97% in the 'open' wards for the same time period. The rate of readmissions to the PICU following the reduction in the number of beds decreased from 6.6% in the 3 months prior to this evaluation to 4.1%. However, occupancy rates in the PICU were much higher and 19% of patients still remained in the unit after they were assessed as being ready to be moved to an 'open' ward environment. This is an important finding, as it may have had an influence on the readmission rate and hence the overall acuity level of patients in other wards in the health service. Anecdotal information from staff working on the 'open' wards indicates that the acuity level in these wards has marginally increased. However, staff remain committed to the decision and ongoing monitoring of the impact on the reduction of beds in the PICU on the 'open' wards continues.

The finding that 18% of patients in the study were 'voluntary' is significant when the admission criteria for the unit stipulates that 'voluntary' patients are, as a rule not admitted to the PICU. This result suggests that a further evaluation of the admission of 'voluntary' patients to PICUs is warranted to fully understand all of the dimensions surrounding the assigning of 'voluntary' status under the Western Australian 1996 Mental Health Act. Research conducted in the United Kingdom suggested that this group of patients do not necessarily regard their status as genuinely 'voluntary' and many felt that they were coerced into accepting the 'voluntary' admission status [14,15]. While 'voluntary' admission was simpler, less restrictive and provided a greater level of involvement of patients in care (due to their increased level of responsibility and ability to make decisions), these patients forgo many of the advocacy supports afforded to involuntary patients. Appelbaum *et al.* [16] also reported that while the majority of patients were able to comprehend the information relevant to their decision-making a small group of patients required special education surrounding the consequences of accepting 'voluntary' admission. Although voluntary patients in this current study may have taken up the least restrictive treatment option in accordance with the spirit and intention of the Western Australian 1996 Mental Health Act there was a lack of evidence to demonstrate the extent of patient involvement in this process. The findings of this current study have led to the service introducing a more

accountable system of voluntary consent documentation. The new system will demonstrate the patient's acceptance of this treatment option and reduce the ambiguity regarding the patient's legal status as well as affording some protection to staff directly involved in care. This system will allow the patient access to increased education regarding their 'voluntary' status and facilitate the ongoing movement towards best practice outcomes in the management of patients in the PICU.

## Conclusion

This study reviewed practice in one PICU in Western Australia over a 3-month period. The finding of the study added support to the decision to reduce the number of beds in the PICU from 12 to eight. The findings also support other studies regarding the profiles of patients admitted to PICUs. The need to provide special education to patients accepting 'voluntary' admission to PICU is also highlighted by the findings of this study. To facilitate best practice outcomes for all patients admitted to PICUs, evaluations of care need to occur on a regular basis.

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