

## Ward Six Psychiatric Unit at the Port Moresby General Hospital: a historical review and admission statistics from 1980 to 1989

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### SUMMARY

**Objective:** The objective of this study was to document the acute psychiatric service offered by the Ward Six Psychiatric Unit at the Port Moresby General Hospital by means of admission statistics. **Methods:** The study was designed to cover the period 1980 to 1989, for which reliable medical records were available. Data were collected on the total number of psychiatric admissions per year, diagnostic classification, occupation, province of origin of the patients, age and sex. A brief history of Psychiatric Ward Six is added. **Results:** The results showed that the total number of admissions to Ward Six from 1980 to 1989 was 725. There were 462 (64%) male and 263 (36%) female patients. The ratio of male to female patients was 1.8 to 1.0. Diagnostic classification of the patients was done by the International Classification of Diseases (Ninth Edition). The most common diagnosis was schizophrenia with 358 patients (49%). The majority (63%) of the patients were unemployed. A large number of the patients, 295 (41%), were from Central Province. The young age group 21-30 years accounted for 267 (37%) of the patients. The mean annual incidence for the ten-year period of the study was 5.4 patients per 10,000 population. There was an increase in the annual incidence from 3.6 per 10,000 population in 1983 to 7.9 per 10,000 population in 1989. **Conclusion:** In developing countries, including Papua New Guinea, hospital utilization studies and statistics provide an initial source of information. These may be followed later with community surveys and field surveys when more resources including funding become available.

### Introduction

General hospital psychiatric units which now care for 40% of all new psychiatric admissions in England and Wales are usually seen as a recent innovation (1). In fact, there is a long history of the care of psychiatric patients in general hospitals. During a short period in the late 18th and early 19th centuries, several general hospital psychiatric units were opened for reasons similar to those advanced today (2).

#### A brief history of Psychiatric Ward Six

The Psychiatric Ward Six of Port Moresby General Hospital (PMGH) was commissioned in 1969 (R. F. R. Scragg, personal communication). The Director of Public Health of Papua New Guinea at that time, Dr Roy F. R. Scragg, strongly supported the plan to open an acute psychiatric ward at the Port

Moresby General Hospital. The stated objectives for opening Ward Six included 1) admission, diagnosis and management of patients suffering from psychoneurosis and acute organic psychosis including some patients with cerebral malaria and postpartum psychosis; 2) teaching and training of medical students and nurses; and 3) psychiatric research. More disturbed and chronic psychotic patients would continue to be admitted to Laloki Psychiatric Centre (B. G. Burton-Bradley, David Gavera Giobun, Shem Wojeiba and Piti Kopi, personal communications).

The new Psychiatric Ward Six was opened with 25 beds consisting of 12 male beds, 8 female beds and 5 'security beds' in cubicles. The medical/psychiatric team in charge of Ward Six were Dr Burton G. Burton-Bradley (Senior Specialist Psychiatrist), David Gavera

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Giobun (a senior psychiatric nurse from England), Thomas Wongoto (a psychiatric nurse) and an Australian occupational therapist. There was no psychiatric social worker attached to the team at the beginning. The consultant physicians at PMGH participated in the management of patients admitted to Ward Six, especially those with acute psychosis complicating physical illness (for example, typhoid psychosis). Outpatient facilities and outpatient consultation were also introduced for psychiatric patients at PMGH. There is a general consensus among the past medical/psychiatric staff and nursing staff of Ward Six that the opening of this general hospital psychiatric unit has greatly helped in reintegrating psychiatry into general medical services.

Psychiatric Ward Six is currently used for training undergraduate and postgraduate medical students, postbasic psychiatric nurses and clinical psychologists. Since 1988, the final-year undergraduate medical students have undertaken an eight-week clinical block in the theory and practice of psychiatry followed by a mandatory end-of-block assessment test. Another innovation is that the medical registrars rotate through the Ward Six Psychiatric Unit for a period of three months, as part of their Master of Medicine (Physician) training program at the University of Papua New Guinea. The aim of this latter rotation program is to expose all specialists in internal medicine to the diagnosis, management and care of psychiatric patients. Chronic seriously aggressive and violent psychiatric patients are usually transferred to Laloki Psychiatric Centre, which is located about 20 km to the east of Port Moresby, in Central Province.

The purpose of the present clinical study and report is to document the work-load that Psychiatric Ward Six has carried in the care of acutely ill psychiatric patients during the years from 1980 to 1989.

### Methodology

I personally interviewed available past and current doctors and nurses who have worked (or are still working) on Psychiatric Ward Six to obtain a detailed and comprehensive history of the psychiatric unit. In addition, I examined past Public Health Annual Reports and other

available documents, including medical records and letters. Two fourth-year medical students assisted me in collecting the data on admission statistics for the period 1980 to 1989. The data were collected from the Ward Six admissions book and from the patients' clinical case-notes by completing purposely designed questionnaires. Unfortunately, there were no reliable medical records on patients admitted to Ward Six in the years before 1980. The two nursing officers in charge of Psychiatric Ward Six during the time of the study assisted me in collecting data on patients admitted in 1989. Additional data were collected through direct correspondence with Dr Roy F. R. Scragg, who is now resident in South Australia.

### Results

Figure 1 shows the total number of patients of each sex admitted to Ward Six per year during the period of the study, 1980 to 1989. The total number of admissions for the ten-year period (1980 to 1989) was 725. The highest number of admissions per year was in 1989 with 122 patients, comprising 72 male and 50 female patients.

Table 1 shows the diagnostic classification of all patients admitted to Ward Six from 1980 to 1989. The diagnostic classification was made according to the International Classification of Diseases (Ninth Edition) criteria together with the glossary (3) by qualified specialist psychiatrists. The following were the commonest diagnostic categories and their frequency in descending order: schizophrenia 358 patients (49%), psychosis (not otherwise specified) 130 patients (18%), depression 88 patients (12%) and mania 63 patients (9%).

Table 2 is a composite table showing a comparison of the diagnostic categories in the present study with similar studies by Burton-Bradley (4), Johnson (5) from Jos, Nigeria and Neehall (6) from Trinidad.

Table 3 shows classification of the patients according to their recorded occupation. Unemployed patients constituted the largest group with 353 patients (63%). This is a combined group of never employed and subsistence farmers. The rather large number of 168 patients did not have the nature of their

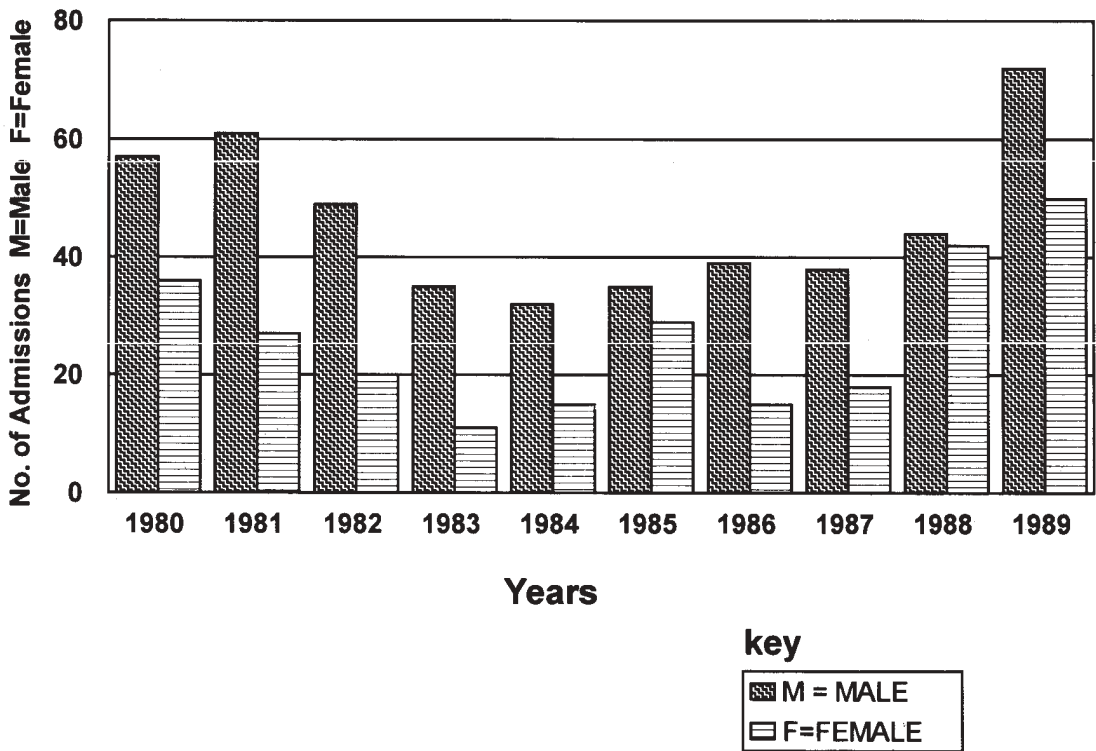


Figure 1. Number of male and female admissions to Ward Six Psychiatric Unit by year from 1980 to 1989.

occupation stated.

Table 4 shows classification according to province of origin in Papua New Guinea. All the administrative provinces except West Sepik Province were represented in the total population of 725 patients.

Table 5 shows age and sex distribution. The age group 21-30 years accounted for 267 patients (37%) (178 males and 89 females). This is followed by the unspecified 'adult' group with 147 patients (20%) (94 males and 53 females). The unspecified 'adult' group consisted of patients who could not give their dates of birth or estimate their approximate ages, a common problem in third world countries. There were three children aged under 10 years comprising two males and one female.

Table 6 shows the calculated incidence rate for each year from 1980 to 1989. The mean annual incidence rate for the whole ten-year period was 5.4 patients per 10,000 population. The last year of the study, 1989, had the highest incidence rate of 7.9 patients per

10,000 population. The mean annual incidence rate and even the rate in 1989 were less than the incidence rate of 9.4 patients per 10,000 population reported by Johnson (5) from Jos, Plateau State, Nigeria.

**Discussion**

The measuring diagnostic instrument in this study was the International Classification of Diseases, Ninth Edition (ICD-9) (3). This instrument was developed by representatives of specialist psychiatrists from all over the world meeting under the sponsorship of the Mental Health Division of the World Health Organization, Geneva. When used by a properly trained and qualified specialist psychiatrist the ICD-9 together with its glossary is recognized to have a high validity and reliability.

The second point to be discussed is about similarities and differences between the findings and results of this study and other studies, for example, those of Burton-Bradley (4), Johnson (5) from Jos, Nigeria and Neehal (6) from Trinidad. It is important to state that

**TABLE 1**  
NUMBER OF PATIENTS IN EACH DIAGNOSTIC CLASSIFICATION BY YEAR

Diagnosis	Number of patients											Total	
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	No	%	
Schizophrenia	48	45	37	24	21	31	30	28	32	62	358	49.4	
Depression	11	10	5	2	6	6	4	3	15	26	88	12.1	
Mania	4	9	4	4	7	7	2	11	8	7	63	8.7	
Mental retardation	6	0	5	2	0	3	2	1	5	0	24	3.3	
Psychoneurosis (NOS)	5	2	2	2	0	0	1	2	0	0	14	1.9	
Psychosis (NOS)	12	14	12	10	10	14	9	9	22	18	130	17.9	
Epilepsy	2	3	3	0	0	0	3	0	1	2	14	1.9	
Anxiety state	2	2	1	1	1	1	2	0	2	0	12	1.7	
Cerebral malaria	0	0	0	1	1	2	1	2	1	1	9	1.2	
Postpartum psychosis	0	0	0	0	0	0	0	0	0	2	2	0.3	
Organic psychosis	0	0	0	0	0	0	0	0	0	3	3	0.4	
Cannabis psychosis	0	0	0	0	0	0	0	0	0	1	1	0.1	
Not yet diagnosed	3	3	0	0	1	0	0	0	0	0	7	1.0	
<b>Total</b>	<b>93</b>	<b>88</b>	<b>69</b>	<b>46</b>	<b>47</b>	<b>64</b>	<b>54</b>	<b>56</b>	<b>86</b>	<b>122</b>	<b>725</b>	<b>100</b>	

NOS = not otherwise specified

**TABLE 2**

COMPARISON OF THE DIAGNOSTIC CLASSIFICATION IN THE PRESENT STUDY, BURTON-BRADLEY'S STUDY (1969), JOS - NIGERIA STUDY (1983) AND TRINIDAD STUDY (1991)

Diagnostic classification	Present study		Burton-Bradley (1960)		Jos - Nigeria (1983)		Trinidad (1991)	
	(N=725)		(N=454)		(N=1860)		(N=498)	
	No	%	No	%	No	%	No	%
Schizophrenia	328	49.4	215	47.4	824	44.3	219	44
Psychosis (NOS)	130	17.9	-	-	162	8.7	-	-
Depression	88	12.1	-	-	109	5.9	-	-
Mania	63	8.7	-	-	35	1.9	-	-
Manic-depressive psychosis	-	-	47	10.4	-	-	70	14
Mental retardation	24	3.3	8	1.8	2	0.1	-	-
Psychoneurosis (NOS)	14	1.9	20	4.4	29	1.6	-	-
Epilepsy	14	1.9	12	2.6	37	2.0	-	-
Anxiety state	12	1.7	3	0.7	-	-	-	-
Postpartum psychosis	2	0.3	5	1.1	17	0.9	-	-
Paranoid states	-	-	6	1.3	-	-	6	1
Personality disorder	-	-	8	1.8	2	0.1	15	3
Organic mental disorder	3	0.4	31	6.8	31	1.7	12	2
Cerebral malaria	9	1.2	7	1.5	-	-	-	-
Cannabis-induced psychosis	1	0.1	-	-	201	10.8	-	-
Alcohol and drug disorder (including cannabis)	-	-	-	-	-	-	139	28
Not yet diagnosed	7	1.0	35	7.7	362	19.5	-	-

NOS = not otherwise specified

in this study precautions were taken to count each patient as 'one case' even if that patient was admitted on more than one occasion in the particular year.

The total number of admissions during the ten years (1980-1989) under study was 725, consisting of 462 (64%) male and 263 (36%) female patients (see Figure 1 and Table 5). The present total number of admissions in ten years is 1.6 times the total number of admissions in a comparable period of ten years reported by Burton-Bradley in 1969 (see Table 2). The increase in the number of admissions may be partly due to increased population in the National Capital District and partly due to a real increase in the number of patients seeking psychiatric consultation, diagnosis and treatment.

Schizophrenia was the commonest diagnostic category in the present study with 358 patients

(49%). Similarly schizophrenia was the commonest diagnosis in the other three studies presented in Table 2 for comparison. The actual figures for schizophrenia were 215/454 (47%) in Burton-Bradley from PNG, 824/1860 (44%) in Jos, Nigeria and 219/498 (44%) in Trinidad. These results from Papua New Guinea, Trinidad and Nigeria support the theory that schizophrenia occurs universally and that it is the commonest disorder in psychiatric hospital wards. Another important diagnostic finding is that manic-depressive psychosis (both manic type and depressed type) is quite a common diagnosis in all the three geographical areas. In the present study depression and mania together account for 151/725 patients (21%) compared with 47/454 (10%) in Burton-Bradley's report (4), 144/1860 (8%) in the Jos, Nigeria study (5) and 70/498 (14%) in the Trinidad study (6) (see Table 2). These results support the theory that affective disorders, especially depression,

**TABLE 3**  
PATIENTS CLASSIFIED ACCORDING TO OCCUPATION

Occupation	Number of patients										Total	
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	No	%
Professional	7	9	7	5	2	3	4	4	2	7	50	9.0
Clerical	3	2	1	2	2	6	1	1	0	18	36	6.5
Student	0	3	1	3	3	0	0	0	0	12	22	3.9
Housewife	9	11	4	2	3	4	3	4	3	33	76	13.6
Labourer	1	0	1	2	0	1	3	2	1	2	13	2.3
Farmer	2	2	0	1	0	0	0	0	0	2	7	1.3
Unemployed	26	29	16	11	5	50	43	45	80	48	353	63.4
<b>Total</b>	48	56	30	26	15	64	54	56	86	122	557	100

Note: nature of occupation was not recorded for 168 patients

**TABLE 4**

PROVINCE OF ORIGIN OF THE 725 PSYCHIATRIC PATIENTS

<b>Province</b>	<b>Number</b>	<b>%</b>
North Solomons	8	1.1
Central	295	40.7
Gulf	94	13.0
Eastern Highlands	20	2.8
Southern Highlands	32	4.4
Western Highlands	5	0.7
Madang	5	0.7
Manus	12	1.7
Milne Bay	54	7.4
Morobe	41	5.7
East New Britain	8	1.1
West New Britain	2	0.3
New Ireland	10	1.4
Oro	28	3.9
East Sepik	24	3.3
West Sepik	0	0.0
Western	30	4.1
Simbu	10	1.4
Enga	10	1.4
National Capital District	21	2.9
Unknown	16	2.2
<b>Total</b>	<b>725</b>	<b>100</b>

**TABLE 5**

AGE AND SEX DISTRIBUTION OF THE 725 PATIENTS

<b>Age in years</b>				<b>Total</b>	<b>%</b>
	<b>Male</b>	<b>Female</b>	<b>No</b>		
Under 10	2	1	3	0.4	
11-20	65	44	109	15.0	
21-30	178	89	267	36.8	
31-40	80	60	140	19.3	
41-50	29	15	44	6.1	
51-60	14	1	15	2.1	
Adult (NOS)	94	53	147	20.3	
<b>Total: No</b>	<b>462</b>	<b>263</b>	<b>725</b>	<b>100</b>	
<b>%</b>	<b>64</b>	<b>36</b>	<b>100</b>		

NOS = not otherwise specified

Age range: 9 to 60 years

Mode: 21 to 30 years

Male to female ratio: 1.8 to 1.0

TABLE 6

## ANNUAL INCIDENCE RATES

Year	No of patients	Estimated population of the NCD	Annual incidence per 10,000
1980	93	123,624	7.5
1981	88	117,200	7.5
1982	69	122,100	5.7
1983	46	127,100	3.6
1984	47	132,000	3.6
1985	64	136,800	4.7
1986	54	141,500	3.8
1987	56	146,100	3.8
1988	86	150,600	5.7
1989	122	154,800	7.9
<b>Total</b>	<b>725</b>	<b>135,182</b>	<b>5.4</b>

NCD = National Capital District

Source of estimated populations: PNG National Statistical Office (Projection B281), as published in the Papua New Guinea National Health Plan 1986-1990 (9)

are not rare in developing countries as was previously reported. Single episodes of mania and of depression were diagnosed and distinguished from bipolar affective disorder because the patients in the two studies by Johnson had only one episode of illness (ICD-10 page 112) (7). This observation had implications for treatment. Many patients, 130/725 (18%) in the present study and 162/1860 (9%) in the Jos, Nigeria study, were given the diagnosis of psychosis (not otherwise specified). Most of these patients will fall into the diagnostic category of acute transient psychosis (ICD-10 page 99, 1992 code F23.9) (7,8). Acute transient psychosis is a well-recognized diagnostic category in many third world countries in Africa and in parts of the Asia-Pacific region including Papua New Guinea. These patients do not have adequate clinical features to support the diagnosis of acute schizophrenia or affective psychosis and they usually run a short clinical course with a good prognosis (7,8).

Classification according to occupation (Table 3) shows that 353/557 (63%) of the patients were described as unemployed. There are no

published data on the relationship between occupational groups and mental illness in Papua New Guinea to compare the present results with. However, long-term unemployment has been regarded as a social indication of mental illness.

Classification according to province of origin (Table 4) shows that a large number of the patients, 295 (41%), came from Central Province. In Burton-Bradley's report of 1969 (4) Central Province also contributed the largest number of patients - 379/454 (83%). The distribution of patients in Table 4 reflects the ethnic mixture of the population in the National Capital District (NCD).

It is the policy of the Mental Health Services of the National Health Department of Papua New Guinea that mentally ill patients in the locality who require inpatient treatment should initially be admitted to Psychiatric Ward Six through the accident and emergency department of the Port Moresby General Hospital (PMGH). Subsequently, patients whose mental illness becomes chronic and difficult to manage are transferred to the Laloki

Psychiatric Centre for further management and rehabilitation. This policy ensured that psychiatric patients in the National Capital District seeking this type of health care during the ten-year period of the study must have passed through Ward Six. It was therefore possible to calculate the annual incidence rate using the estimated population of the NCD for that year (9). The demonstrable increases in the rates of admission (Table 6) in the years 1983 to 1989 confirm that Psychiatric Ward Six plays an active role in the life of the PMGH. This is the national referral hospital and the major university teaching hospital of Papua New Guinea. In the future, Psychiatric Ward Six will increasingly be used as a centre for mental health research and training in clinical psychiatry for all categories of health workers including undergraduate medical students and postgraduate medical students.

The clinical study reported in this paper is mostly a retrospective study by force of circumstance. Prospective and retrospective studies have their advantages and disadvantages (10). Retrospective studies are simpler to perform and require less time but they are often less accurate than prospective studies. This criticism applies to the present study to some extent. The record keeping on Ward Six during the period of the study was reasonably accurate and satisfactory. Prospective studies are usually preferable, but they are more expensive, difficult to perform and take much more time. The data collection during the last year (1989) of this study was prospective and therefore more accurate. In the absence of published proper epidemiological studies on mental disorders in the NCD of Papua New Guinea, it is not possible to comment on whether or not the present data from Psychiatric Ward Six reflect the current epidemiological situation. In an area where there are very few published epidemiological data on mental disorders available, 'hospital statistics constitute an obvious initial source of information' (11). Community surveys or field surveys may be carried out later when more resources including funding become available.

### Conclusion

The findings and results of this historical review and admission statistics are consistent

with the conclusion that Psychiatric Ward Six of the PMGH has forced itself into existence. The driving power has been the number of severely disturbed patients admitted and probably existing in a similar percentage within the population at different times but increasing in number along with the increasing population (4). In planning general hospitals in the future, a psychiatric unit must be included to upgrade the quality of care given to patients. Hospital utilization studies provide essential data for the rational planning and reorganization of psychiatric services in developing countries, including Papua New Guinea.

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