Acute mental health care and South African mental health legislation

Part 1- morbidity, treatment and outcome

ABR Janse van Rensburg
Division of Psychiatry, University of the Witwatersrand, Johannesburg, South Africa

Abstract
Objective: This is the first of three reports on a follow-up review of mental health care at Helen Joseph Hospital (HJH). In this first part, qualitative and quantitative descriptions were made of the services and of demographic and clinical data on acute mental health care users managed at HJH, in a retrospective review of clinical records over a four year period. Objectives for this review were to provide information on mental health care outcome, to do a cost analysis and to establish a quality assurance cycle that may facilitate a cost centre management approach. The operational areas identified were service delivery, teaching, and research. Activities within each area were in-patient care, out-patients and consultation/liaison, under- and postgraduate teaching and self initiated or contract research. **Method:** The study reviewed the existing mental health care program and activities in context of relevant policy and legislation. **Results:** Norms from a World Health Organization model for acute mental health care showed that significant staff shortages existed, especially for nursing. A total of 520 users were admitted for in-patient mental health care during the financial year 2007/08. The average length of stay was 15.4 days and ranged from 1 to 85 days. Ninety users (17%) had an extended period of stay of 25 days and more, while 39 users had multiple admissions during the 12 month period. The most common Axis I diagnoses made were schizophrenia n=138 (29%), substance-related conditions n=99 (21%) and bipolar mood disorder n=69 (14%). After discharge, 139 users (27%) were referred back to the HJH out-patient department for follow-up. **Conclusion:** The information from these reports may be used in the allocation of adequate resources to align this acute unit with its responsibilities according to recent legislation.

Key words: Mental health service; Legislation; South Africa

Received: 13-02-2009
Accepted: 28-09-2009

Introduction

Reliable data is necessary to facilitate the effective planning, management and restructuring of mental health care facilities. Access to accurate information on clinical conditions, treatment outcomes and expenditure is essential to ensure accountability, quality and cost-effective mental health care. This article is the first of three that reports on a review of a local acute mental health care unit in a general specialist hospital in Johannesburg, South Africa.

The in-patient mental health care unit at Helen Joseph Hospital (HJH) is a mixed (male and female), 30-bed, acute, adult assessment unit in a general regional referral hospital setting with an average length of stay (LOS) of about 3 weeks. Major changes in the extent and scope of services were expected from the unit since its designation as a 72-hour assessment unit according to the Mental Health Act, No. 17 of 2002 (MHCA). However since the promulgation of the MHCA in December 2004, no additional resources have been made available to this facility on hospital or provincial level for this purpose. There is also still no delineation of the catchment area or clarity on the size and profile of the population that HJH as a regional hospital is supposed to serve.

A pilot clinical audit study of mental health care at HJH was undertaken during 2003/04, prior to the implementation of the MHCA to: - obtain a provisional state of affairs analysis of care activities; - provide a baseline for future cost centre management; and - provide a framework for more focused research on the morbidity, treatment and outcome of care. As an introductory study, it focused on mental health care at HJH as a care component in a specific geographical area, which is part of a network of referral facilities on different levels, including community psychiatric services. It meant to contribute to the

Correspondence
Dr. B van Rensburg
PO Box 1247, Pinegowrie, 2123, South Africa
email: bernardj@gpg.gov.za

process of clinical audit of mental health services in the southern Gauteng area, or at least to serve as some benchmark for other acute units with similar mandates. Although a description and assessment of the program and of expenditure was included in reports to local hospital and academic management at the time[1,2], only the data on the clinical profile of the acute in-patients at HJH was published previously.[3,4] Following implementation of the MHCA, this follow-up review was undertaken of a four-year period (2004-2007) of mental health care activity and outcome at HJH, reviewing service delivery, teaching and research. Where the pilot study for example offered only a provisional and proportional calculation of expenditure, the purpose of this follow-up study was to provide a more detailed review of mental health care activity and outcome at this facility, employing activity-based costing as a method to do a cost centre analysis of recurrent cost. An architectural assessment was also made of the current physical facilities and structure of the unit and of the utilization of available space.

The objectives of this study in parallel with the original pilot study were to: - provide continuous quantitative and qualitative information on mental health care activities; - establish a continuous quality assurance cycle in order to facilitate cost center management; - provide realistic estimates of cost to align the current facilities and program with requirements and acceptable standards according to the unit's designated function; and - provide regular, reliable information on the morbidity and treatment outcome trends.

Method

As no catchment area for the hospital had been determined, no calculation was possible of the incidence and prevalence of mental illness in the regional population HJH is supposed to serve. Therefore, only an analysis of trends for specific cohorts of in-patient users was possible. Both studies - the current review as well as the previous pilot, were retrospective descriptive clinical record reviews of mental health service delivery, training and research functions performed at HJH. Assessments in this follow-up study were undertaken in several steps (which encompass the range of content to be presented in the current and subsequent papers):

Step 1: Program of care

(a) review and interpret current hospital, provincial and national policy, as well as appropriate applicable norms and standards;
(b) define and describe the operational areas of service, teaching and research as cost center domains and the activities within each area;

Step 2: Clinical profile

(c) describe the demographic and general clinical profile of users, the management and outcome of treatment;
(d) describe the demographic and clinical profile of HIV positive users and the outcome of treatment.

Step 3: Running cost

(e) calculate current cost of each activity to establish resources necessary to continue the status quo program;
(f) estimate projected cost if appropriate norms and standards were to be implemented to align the quality and scope of care for each functional area;

Step 4: Design and capital cost

(g) calculate projected cost applying appropriate, reasonable norms and standards to (re-) construct and refurbish physical facilities according to activities expected from a designated 72-hour assessment unit of this nature.

Methods for this first report (Part I), included Steps 1 and 2. Methods for Part II (Activity-Based Costing) included Step 3, while methods for Part III (Structuring Space for Mental Health Care) included Steps 1(a) and 4(g).

Data used for the quantitative review of the demographic and clinical profile of users was the routine clinical discharge summaries of users completed by doctors on discharge. It was assumed that it would be unlikely for the general clinical profile of the cohorts of acute in-patient users to change significantly over a 4-year study period. Therefore, instead of a clinical review of each successive year, it was decided to only do a review of the more recent twelve months (financial year of 2007/08) and compare it with the earlier twelve months of the pilot study (2003/04). The study period was coordinated with the financial year 2007/08 to accommodate the financial analysis to follow. A comprehensive review of all the in-patient users that were diagnosed with schizophrenia was however done for each year of the 4-year period Jan 2004 to Dec 2007 and was reported on separately.[5]

Ethics

Ethics clearance was obtained from the WITS Health Research Ethics Committee in December 2007 for the protocol: ''Mental health care at Helen Joseph Hospital according to recent mental health legislation.'' (reference number M071010). This protocol also covers the other two articles that were part of the original submission to AJOP (Part II - Activity-based costing and III - Structuring space for acute in-patient care.)

Results

Policy, norms and standards

A review of current legislation regulating mental health care rendering in South Africa was done previously and discussed in an earlier report.[6] Apart from the new Mental Health Care Act, No.17 of 2002, a substantial body of other health related legislation exists that constitutes the basis for current policy, in particular the Constitution of the RSA, No. 108 of 1996, the National Health Act, No. 61 of 2003 and the Traditional Health Practitioners Act, No. 35 of 2004.[7]

Muller, Flisher, Lund and others have reported extensively on the process of developing norms and setting standards for mental health care in South Africa.[8-11] They adopted the World Health Organization's (WHO) model for calculating quantitative norms for acute mental health care beds and for associated staff ratios.[9] Based on the one-year prevalence of certain severe psychiatric conditions (SPC), this model calculates the average expected number of users in a population of 100 000 people older than 15 years of age suffering from a SPC to be 3004. Based on this number of users' need for acute hospitalization per year, at an average length of stay of 17 days, it is calculated that 28 acute mental health care beds are needed per 100 000 population. For these 28 beds, the following associated staff allocation is proposed: 1 psychiatrist; 1 registrar/medical officer; 14 professional nurses and related categories at a nurse/bed ratio of 1:0.5; occupational therapist (OT) - not indicated; psychologist (0.5); and social worker (0.5). Although it corresponds well with the average length of stay observed for HJH during the pilot study, this model however refers to a service

delivery unit and does not take the ''70:30/service:academic''-principle as applicable to HJH into account, where joint appointed staff also have academic responsibilities. As a regional hospital, HJH has 480 approved but 530 operational beds.[10] Applying the WHO model's norm will mean that the hospital is supposed to serve a population of 530,000 people. In reality though, users from different regions across the city base rely on the hospital's services. The total population figure for Gauteng province currently used by the provincial department of health is 10.1 million people (HJH, Statistics and Information Section), of which 3.7 million are allocated to Johannesburg Metro region, 2.9 million to Ekurhuleni region and 0.8 million to the West Rand region. Historically, the vast majority of users admitted to HJH's acute mental health care unit are routinely from the Johannesburg Metro area, although some from the other two regions as well.

Operational areas and activities

The operational areas of the mental health care program at HJH consisted of service delivery, teaching, and research. Activities within each area included: in-patient care, out-patient care and consultation/liaison; under- and postgraduate teaching; and self initiated and contract research (Table I). From this a ''footprint'' of duties can be derived according to adopted care norms and standards, from which staff ratios, job descriptions and performance objectives for different categories of workers can be established.

Table I: Operational elements of the mental health care program at HJH, 2004-2007

OPERATIONAL AREA	*ACTIVITIES*
Service*	Inpatient care Outpatient care Consultation/Liaison
Teaching**	Undergraduate Post graduate
Research**	Self initiated (degree and non degree purposes) Contractual

* For joint staff – 70% of core working hours (28 hours).
** For joint staff – (combined) 30% of core working hours (12hours)

Service

For the 30-bed acute adult assessment unit, the clinical team during the study periods consisted of 1-2 (mainly female) professional nurses (PN) and 3-4 enrolled nurses (ENA) or nursing assistants (NA) on duty during an average routine shift for inpatient care, 2 consultant psychiatrists, 4 doctors (medical officers or registrars), 1-2 clinical psychologists, 3-4 psychology interns, 1-2 community service psychologists, 1 OT and a part time social worker. All doctors, psychologists and the OT were responsible for out-patient care and doctors and psychologists for consultation/liaison services. The nursing allocation for outpatient care (one ENA for 2 two clinic days) was shared with three other departments on a rotation basis. A full time administrative officer was allocated to the unit only by the end of 2006 and is responsible for all administrative duties as regulated by the MHCA and for archiving and communication involved with the implementation of the Act. As the unit has to accommodate voluntary, as well as assisted and involuntary mental health care users – i.e. users with a compromised capacity to make informed decisions about their own mental health care - in the same physical area, some on-site security cover has been provided by the hospital since 2007.

- In-patients - The inpatient care program consisted of medical, psychological, psychiatric, functional and social examination and assessment of service users; initial containment and treatment; obtaining collateral information; family intervention; health education; referral or placement after assessment; and reporting on treatment and recommendations.
- Out-patients - Psychiatric out-patient care consisted of a follow-up clinic on Wednesdays to review prescriptions and users' progress, as well as a clinic for new users on Thursdays. Psychology and OT rendered separate routine out-patient services.
- Consultation-liaison - One doctor and one psychology intern were typically allocated to do routine and emergency consultations on a rotational basis. Psychiatric consultations included emergency assessments and management in the casualty department or routine consultations referred from medical and surgical departments. Routine consultations included assessments after attempted suicide, co-morbid psychiatric and medical conditions; personality and intellectual capacity, as well as behavior modification, pain intervention and psychological assessments prior to dialysis.

Teaching

The supervision and clinical training of medical staff and students was shared between the two consultants. Although the nursing staff and the OT were not joint appointees and while the latter was often a community service worker, they were all involved with and were made responsible for the regular clinical teaching and supervision of undergraduate nursing and OT students from the affiliated college and universities.

- Undergraduate (medical) – Under- and postgraduate medical teaching involved registrars and consultants and required specific time inputs. Since 2004, the old MBChB-curriculum was restructured and subsequently ''Graduate Entry Medical Program'' (GEMP) III and IV undergraduate students were accommodated in the unit for their respective clinical blocks.
- Postgraduate (psychiatry) - Typically 3-4 doctors at a time were allocated on six-month rotations during the study period, who were medical officers (not in training posts) or registrars (with specific academic obligations). Structured teaching in the unit for registrars included case presentations, journal reviews, clinical case supervision and psychotherapy supervision.

Research

The unit started to operate as an identified ''syndicate'' of the University of the Witwatersrand Health Consortium (WHC) during 2007. Protocols were submitted to the WITS Human Research Ethics Committee (HREC) for approval and monitoring.

- Self initiated (degree and non-degree purposes) – Since 2007 all MMed candidates (registrars) have been required to complete a research project in order to fulfil requirements for registration as specialists. Four postgraduate protocols for degree purposes and two for non-degree purposes have been registered with the HREC since 2007.

- Clinical contract research - Some capacity for clinical contract research at the mental health care unit at HJH was established during 2007. The two consultants were investigators for the site and a part–time study co-ordinator was designated by WHC. The unit has been involved in two clinical trials since 2007.

Applying the WHO model to the HJH scenario

The reality about the nursing ratios during most of the study period was that only 1-2 PN's and 3-4 ENA's/NA's were typically available for duty per day shift. Compared with the WHO norm, this translated into a situation where the average nursing staff member on duty was carrying the load of 2 to 3 workers at a given time. In other words, being 200 to 300% ''over employed''. The result in practice was indeed that most of the time only the most essential nursing tasks were performed and that the potential risk element for individual workers often escalated to unacceptable levels. Inadequate time was routinely available for individual case management, group therapy, health education or attending ward rounds by nurses. Some professional nurses resigned during this period, while others were transferred to other wards, exacerbating a vicious circle. An unreasonably risky demand remained on the available nursing staff to uphold service standards. The practice of using outside agency-nursing to alleviate the problem, was costly and limited in its effect, as inexperience and discontinuity often added to the challenge of dealing with difficult users after-hours.

A 1:10 doctor to user/bed ratio was mostly maintained during the study period. It was calculated that given the high turn-over of users, they were regularly affording a 1-hour initial assessment interview and 2 subsequent 30-minute follow-up interviews to each user per week, in parallel with their regular outpatient duties, meetings with families and telephone calls, were actually already spending 80% of their time on service delivery (excluding consultation/liaison). With no formal provision for lunch, tea or research time, only 16% of the 40-hour week remained available for formal academic activities (e.g. lectures and journal club). If one hour for lunch per day was added, doctors were utilized at ''110%'' during an average 40-hour week. The common result was that doctors had to spend less time with in-patient users on the ward.

The existing staff establishment for the financial year 2007/08, as well as a proposed staff establishment calculated in terms of the WHO model's norms and standards, is presented in Table II. The proposed staff establishment according to this calculation represents an overall increase of 103% for all staff categories. For medical staff 37%, 48% for psychology, 267% for nursing, 69% for occupational therapy and 100% for social work. Comparing the WHO model's nurse to bed ratios of 1:0.5, the 5-6 nurses per 30 acute beds at HJH during the study period implies that the current nursing staff should be more than doubled to be on par with this norm. While the medical staff ratio per acute bed was much better in comparison, constraints still exist if 30% academic time is fully applied. A full-time occupational therapist and social worker, as well as two full-time psychologists are minimum requirements for the other categories of workers

Table II. Staff establishment for acute mental health care at HJH: existing (2007/08) and proposed according to WHO model [11]

CATEGORY	*LEVEL*	*EXISTING*	*PROPOSED*
NURSING			
- Chief professional nurse		1	2-3
- Professional nurse		4	8-10
- Registered nurse		3	6-7
- Assistant and general assistant		2-3	6-8
MEDICAL / PSYCHIATRY			
- Psychiatrist	Level 13	0	1
- Psychiatrist	Level 12	2	2
- Registrars & medical officers	Level 9-11	4	5
- Medical Interns			
PSYCHOLOGY			
- Clinical Psychologist (middle manager)	Level 9-12	0	2
- Psychologist	Level 9-10	2*	2
- Community service	Level 8	2	2-3
- Intern	Level 7	2-3	
OCCUPATIONAL THERAPY			
- Full time		0	2
- Community service		1	1
SOCIAL WORKER		0	1
ADMINISTRATIVE SUPPORT			
- Clerk		1	2

(*1 post blocked by medical disability application)

Demographic and clinical profile of in-patient users

An increase in the numbers of users managed by the 72-hour assessment unit at HJH was observed during the study period, in particular from 2004 to 2006 where a 35% relative increase in the total number of admission was found (Table III). A total of 438

Table III. Total number of acute in-patient mental health care users, HJH (2004-2007)

Year (Jan-Dec)	*In-patients n=*	*Active out-patients*	*Consultation/Liaison*	*Total*
2004	447	**	***	-
2005	549	317	***	-
2006	602	470	***	-
2007	545	445	1273	4919
Apr2007-Mar08	520*			
Total	2143	1232	-	-
Avg/yr	535.8	411		

* Data covering the 12 months Apr2007-Mar2008 was compared with the earlier 12-months Sep03-Aug04 covered by the pilot study;
** An outpatient register was only compiled in Jan 2005;
*** A full record of consultation/liaison service was only available since Jan 2007.

service users were admitted during the earlier study period (2003/04) with a monthly average of 37, while a total of 520 service users was admitted during 2007/08 (43 monthly average). The majority of referrals were from the casualty unit: in 2003/04 n=317 (72.4%) and 2007/08 n=443 (85%) and the Department of Medicine: in 2003/04 n=43 (9.8%) and 2007/08 n=56 (10.8%). Non-compliance with previously prescribed treatment was confirmed in 206 (47%) service users admitted in 2003/04, while in 2007/08 203 users (39%) were non-compliant. About 40% of users in 2003/04 (n=176) and in 2007/08 (n=204) actively abused substances. Substance abuse by diagnostic group is summarized in Table IV.

Length of stay (LOS)
The average LOS in 2003/04 was 18.5 days, while in 2007/08 it was 15.4 days and ranged from 1 to 85 days. About 17% (n=90) of users stayed significantly longer than the average 15 days (>25 days), resulting in an increase of the average cost per user.

Readmissions
During the 2007/08 study, 39 users (8%) were re-admitted to the ward, of which three users were admitted three times in twelfth months. Of these users, 9 were diagnosed with schizophrenia, 6 each with bipolar mood disorder and mood disorder due to a general medical condition (GMC) and 5 with mainly substance abuse and personality related problems. The other diagnoses included dementia (n=2), psychosis due to GMC or substance abuse (n=6) and schizo-affective disorder (n=2). Co-morbid substance abuse was documented for twelve of these users. The average LOS of 32 days for these readmitted users were markedly longer than the general average of 15.4 days per user and would therefore contribute much more to the proportion of resources used during this period.

Average bed-occupancy 2007/08 – See Table V(a)

Demographics - See Table V(b)

Investigations - See Table V(c)

Table IV. Co-morbid substance abuse of acute in-patient mental health care users per diagnosis, HJH 2007/08

Axis I diagnosis (2007/08)	*Total Number n=*	*Co-morbid substance abuse; n= (%)*
Schizophrenia	138	42 (30.4)
Depressive disorders	38	16 (42.0)
BMD*	69	13 (18.8)
Dementia	25	9 (36.0)
SAD**	18	5 (27.8)
GMC ***	49	5 (10.2)

* Bipolar mood disorder; ** Schizo-affective disorder; *** General medical condition

Table V(c): HIV-status of acute in-patient mental health care users, HJH

	HIV status known	*Positive*	*Negative*
2003/04	n=77 (17.6%)	n=34 (7.7%)	n=43 (10.2%)
2007/08	n=97 (18.7%)	n=35 (6.3%)	n=52 (10%)

Table V(a): Average bed-occupancy rate for acute in-patient mental health care users, HJH (2007/08)

Month	*Apr*	*Mar*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*TOT*
%	70	42	49	89	73	75	82	90	72	71	77	82	72%

Table V(b): Demographics of acute in-patient mental health care users at HJH

(i) Age (number and percentage)

	10-19y	*20-29y*	*30-39y*	*40-49y*	*50-59y*	*60-69y*	*70-79*	*NS**
2003/04	27:6%	123:28%	119:27%	79:18%	50:13%	20:5%	8:2%	7:2%
2007/08	36:7%	146:28%	131:25%	95:18%	65:13%	34:7%	6:1%	7:1%

* Not Specified

(ii) Gender

	Male	*Female*
2003/04	n=213 (48.6%)	n=225 (51.4%)
2007/08	n=259 (49.8%)	n=261 (50.2%)

(iii) Race

	Black	*White*	*Coloured*	*Indian*
2003/04	n=172 (39.3%)	n=145 (33.1%)	n=70 (15.9%)	n=37 (8.4%)
2007/08	n=215 (41.3%)	n=173 (27.5%)	n=92 (17.7%)	n=29 (5.2%)

Diagnoses - Axis I
See Table V(d). The 2003/04 pilot study reported that almost a quarter (23.9%, n=105) of the total (n=438) in-patient users were diagnosed with schizophrenia. During the subsequent four years (2004-2007) 436 of a total of 2143 users were diagnosed with schizophrenia. The observation was consistent that on average 20% users were being diagnosed with schizophrenia as in-patients - Table V(e). Most users with schizophrenia (n=348, 80%) were admitted once over this 4-year period. Twenty percent (n=88) had multiple re-admissions: twice (n= 66), three times (n=18), four times (n=3) and one user 5 times in four years. Axis II - Most common diagnoses made in 2003/04 were: mental retardation (n=19, 4.3%), cluster-B personality traits or disorder (n=50, 24%) and cluster-C traits or disorder (n=12, 2.8%). In 2007/08, Axis II diagnoses were specified in 142 users (27%): personality traits/disorder (n=119, 27.3%) and intellectual impairment (n=23, 4.4%).

Table V(d): AXIS I diagnoses of acute in-patient mental health care users at HJH

	2003/04		*2007/08*	
	n	*%*	*n*	*%*
Schizophrenia	105	23.9	138	28.6
Substance related	72	16.4	99	20.5
BMD	74	16.9	69	14.3
GMC related	47	10.7	49	10.1
Depressive do	50	11.4	38	7.9
Dementia	19	4.3	25	5.2
SAD	17	3.9	18	3.7
Other diagnoses	30	6.9	12	2.5
Other psychosis	5	1.0	11	2.3
No diagnosis			24	5.0
Not specified			36	6.9

Table V(e): Acute in-patient mental health care users at HJH diagnosed with schizophrenia, 2004 TO 2007

Year (Jan-Dec)	*Total Admissions (n=)*	*Diagnosis with schizophrenia*	*Percentage (%)*
2004	447	118	26.4
2005	549	99	18.0
2006	602	92	15.3
2007	545	127	23.3
Apr2007-Mar08	520*	138 *	28.6*
Total	2143	436	20.3
avg/yr	535.8	109	20.3

*Data covering the 12 months Apr2007-Mar2008 was compared with the earlier 12- months Sep03-Aug04 covered by the pilot study

Treatment
A total of 467 in-patient users were documented to have received routine medication during 2007/08. Trends in the use of medication were very similar to the use in 2003/04. Agents for acute sedation (n=280,39%) included zuclopenthixol acetate, clonazepam and lorazepam. Antidepressants (n=80,15.4%) mostly used included citalopram (n=20,25%) and fluoxetine (n=38,47.5%). Antipsychotics (n=357, 68.7%) routinely used were haloperidol (n=185, 51.8%); risperidone (n=115,32.2%) and fluopenthixol deconoate (n=30,8%). Mood stabilizers (n=156, 30%) mostly used, were lithium (n=22,17.7%) and sodium valproate (n=124,79.5%). Other medications included anti-cholinergics (n=71,11.9%) for extra-pyramidal side-effects and medical treatment for concomitant medical conditions (n=102,19.6%).

Referral after discharge from HJH
See Table V(f).

Demographic and clinical profile of HIV tested users
Of the total of 443 service users that were admitted to Ward 2 during 2003/04, only 77 (17.4% of total) were tested for HIV status. Of these, 34 service users (7.7% of total) tested positive and 43 negative. The majority of users tested were between 20 to 40 years of age (n=28). About double the amount of females (n=22) were tested compared to males (n=12). The users during 2003/04 who were tested for HIV, stayed on average markedly longer (29.3 days as opposed to 19) compared to other users (Janse van Rensburg and Bracken, 2007). Presenting symptoms then included elevated mood, psychosis, disorganized behaviour, confusion, aggression and mutism. A very similar picture was observed for 2007/08: 97 (18.7%) users' HIV status were known, with 35 positive, 52 negative and 10 tested but no results documented. These users stayed on average 20 days compared to the general average of 15 days. It was not determined whether this difference represented a statistically significant longer LOS. For the users with schizophrenia (n=436) over the four year period 2004 to 2007, 53 users' HIV status was known, with 7 positive and 44 negative.

Discussion

A particular limitation of this review was that the quantitative investigation was only able to focus on the in-patient aspect of service delivery activities. Future reviews and cost estimates should in more detail also include out-patients and consultation liaison, as well as the academic activities in the

Table V(f): Referral of acute in-patient mental health care users after discharge from HJH

	*SFH**	*TARA***	*PCSG****	*HJH-OPD*****	*LHE******
2003/04	n=58; 13.2%	n=105;23.7%	n=112;25.6%	n=108; 24.7%	n=15; 3%
2007/08	n=65; 12.5%	n=49;9.4%	n=157; 30%	n=139; 26.5%	n=8; 1%

*SFH – Sterkfontein Hospital; **TARA –Tara, the H Moross Center; ***PCSG – Psychiatric Community Services in Southern Gauteng; ****OPD – Helen Joseph Hospital Out-patients; *****LHE – Life Health Esidimeni

unit. The study was subject to the inherent limitations of a retrospective review of this nature regarding the availability and completeness of data from routine clinical records. The fact that no statistical comparisons were made - as it moved somewhat beyond the primary scope of the study - should also be cited as a limitation of the review. Future studies should include the comparison of different variables for their effect on – for example - the length of stay.

Policy, norms and standards

The WHO model for the calculation of norms for services and staff as quoted by Muller, Flisher, Lund and others, was a useful point of departure. But as they also suggested, additional factors and refinements applicable to a particular unit or region should be taken into account. In the case of HJH, the nursing ratio's represented a critically understaffed situation of almost 270%, posing a daily unacceptably high level of safety risks to staff and users alike, significantly compromising an acceptable quality and standard of care in this acute 72-hour assessment unit. For joint appointees in the unit with a responsibility for training and research, the principle of 30% of time to be allocated for academic responsibilities should be included in the calculation of the requirements for the unit. The 3-4 registrars/medical officers and 2 consultant psychiatrists therefore represented an understaffed scenario, especially if the number of beds may be increased. An additional (third) specialist and another (fifth) registrar/medical officer should be motivated for HJH. It is also suggested, that a clear differentiation of joint appointees' academic responsibilities and the routine service delivery of other non-academic staff should be established, with a different career path and appropriate remuneration for each. A particular problem that continued to exist in the application of the WHO model was that no formal catchment area has been identified for HJH and that population figures have also not been readily available in a format that allowed for the calculation of incidence and prevalence rates for the population served by the hospital.[11] In addition to quantitative norms for beds and staff, qualitative standards for mental health services at HJH should also be established and should include the guarantee of human rights and the redress of historical inequalities. It should also cover special issues facing the care of people with SPC, legal aspects, as well as abuse and complaints.[12]

Operational areas and activities

Additional burden on the unit was caused by recent legislation, by an increasing number of users, by the re-admission of the same users and by the frequent co-morbidity of medical conditions. Since the promulgation of the MHCA, the program at HJH had to be adjusted to accommodate the differentiated but integrated care of three different legal categories of users - voluntary, assisted and in-voluntary, for male and female users in one confined area. While rights of voluntary users for example to unrestricted movement need to be protected, at the same time, users in the latter two categories often have to be managed in a more secure environment, as their capacity to make informed decisions about their own mental health care has been compromised. Involuntary users often have to be treated against their will when refusing treatment. In addition, over the four years 2004-2007, a steady increase in numbers of acute in-patient mental health care users was observed, especially from 2004 to 2006. This could be due to an increased demand for services or it might be due to the fact that following the promulgation of the MHCA, all 72-hour observations of users are being done in state facilities, as no private facility in the Johannesburg area has yet been licensed for this purpose. The users readmitted during the study period generally stayed longer than others, therefore represented a relatively larger proportion of resources used and thus played a role in adding to the burden and cost of acute admissions. Readmissions also implied that inadequate follow-up of these users in community psychiatric services should be addressed. Another factor that was also often contended with in this acute unit was the co-morbidity of concomitant acute medical conditions. The nursing of medically ill users in an acute mental health care unit, stretched the demand on available nursing staff even further.

Demographic and clinical profile of users

The profile of users over the four-year period stayed fairly consistent - Table V(g). A possible explanation for the fact that (mostly uninsured) white and coloured users continued to be relatively predominate could be that while HJH is located closer to the historically ''coloured'' suburbs of Westbury and Riverlea and the ''white'' suburbs of Westdene, Auckland Park and Discoverers, the hospital still operates as the main referral facility for these areas. Further investigation into the reasons for this observation may be needed. The information on the clinical profile of users whose HIV status was known, could not be generalized due to the ad hoc nature of the testing. During the follow-up study period (2007/08), HIV-status was still not routinely tested in this unit, although the outcome of testing did significantly influence the clinical management and outcome of these users. The view also held by other investigators that a new policy approach is needed to allow routine HIV testing given the availability of effective anti-retroviral treatment, can be supported by the clinical experience and outcome in this unit.[13,14]

Table V(g): Demographic and clinical profile of acute in-patient mental health care users at HJH, 2003/4 and 2007/08

- White and colored users were relatively proportionally predominant.
- The average length of stay of 15.4 days in 2007/08 was shorter than in 2003/04 (18.5 days).
- Schizophrenia diagnosed in about a quarter of users was consistently the most common diagnosis made.
- A 40% rate of both documented co-morbid substance abuse and non-compliance to medication persisted.
- Anti-psychotics (about 70%) were the pharmacological agents most often used.
- On discharge about a third of users were referred to community psychiatric services, a third to HJH out-patients and the remainder to intermediate and long-term in-patient stay.

Conclusion

This study described the areas and activities that were used to make detailed estimates of the current and projected recurrent and capital cost of in-patient mental health care at HJH as a cost centre. The documented clinical profile of in-patient users at HJH can also be used for comparison in subsequent reviews and by other acute units in similar settings with similar duties. The analysis of the morbidity, treatment and outcome of cohorts of acute in-patient mental health care users managed at HJH, must however eventually be assessed in the context of services provided by the rest of the referral system and in view of the actual incidence and prevalence of SPC in the population that the hospital has to be made responsible for. Information from this review may motivate and may be used to allocate more adequate resources to the unit in view of its responsibilities according to the recent mental health care legislation.

References

1. *Janse van Rensburg ABR. Clinical Audit Of Mental Health Care At Helen Joseph Hospital. Sep2003 to Aug 2004; Internal report submitted 31 January 2005.*
2. *Clinical Audit of Mental Health Care at Helen Joseph Hospital. Minutes of Executive Committee Meeting: Division of Psychiatry, Faculty of Health Sciences of the University of the Witwatersrand; 7Jul 2004, par 12 p4.*
3. *Janse van Rensburg ABR, Bracken CA. Acute psychiatric in-patients tested for HIV status: a clinical profile. South African Psychiatry Review 2007; 10(2):83-85.*
4. *Janse van Rensburg ABR. Clinical profile of acutely ill psychiatric patients admitted to a general hospital psychiatric unit. African Journal of Psychiatry 2007;10(3): 159-163.*
5. *Janse van Rensburg ABR, Olorunju SAS. Diagnosis and treatment of schizophrenia in an acute 72-hour assessment unit. African Journal of Psychiatry 2010; 13(3): 204-210.*
6. *Janse van Rensburg ABR. ''A framework for current public mental health care practice In South Africa''. African Journal of Psychiatry 2007;10(4):205-209.*
7. *Department of Health, South African. Retrieved October 17, 2006; from hhtp://www.doh.gov.za/docs/top.html.*
8. *Department of Health. Norms Manual for Severe Psychiatric Conditions, 1998.*
9. *World Health Organization (WHO). Public mental health guidelines for the elaboration and management of national mental health programmes. Geneva: WHO. 1996.*
10. *Helen Joseph Hospital, Statistics and Health Information Section. Personal communication, 19 Jan 2009.*
11. *Statistics South Africa, 2003. Census 2001 in brief. Report no 03-02-03 (2001). Retrieved January 26, 2009; from http://www.statssa.gov.za/census01/html.*
12. *Muller L, Flisher AJ. Standards for mental health services in South Africa. South African Psychiatry Review. 2006; 9(1a).*
13. *Joska JA, Kaliski SZ, Benatar SR. Patients with severe mental illness: A new approach to testing for HIV. S Afr Med J 2008; 98(3) 213-17.*
14. *Singh D, Berkman A, Bresnahan M. Seroprevalence and HIV-associated factors among adults with severe mental illness. S Afr Med J 2009; 99(7) 523-527.*