IMPROVING PATIENT FLOW ON ADULT MENTAL HEALTH UNITS: A MULTIMODAL STUDY OF CANBERRA HOSPITAL'S ACUTE PSYCHIATRIC FACILITIES

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SUMMARY

Background: Due to increasing demands on limited resources in the health care system, many hospitals are working to improve patient flow, thereby increasing their effective capacity. Identifying barriers to patient flow provides the best available evidence to improve such flow in The Canberra Hospital's acute psychiatric units.

Methods: This audit uses a multi-method design (combining focus groups, audits of flow in mental health units and retrospective data analysis on a cross-section of patients) to investigate current patterns of patient flow and barriers to discharge through the Canberra Hospital Mental Health Assessment & Adult Mental Health Units, and factors associated with increased length of stay.

Results: Mean LoS for MHAU and AMHU was 8.45 hours and 15 days respectively. Multiple factors were associated with an increased LoS including patient factors, certain hospital processes, and limited availability of community services.

Conclusions: These findings inform recommendations on improving patient flow and future research to support increases in available funding, staffing and resources.

Key words: *patient flow - length of stay - mental health - acute inpatient psychiatric unit*

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INTRODUCTION

Efficient patient flow is an important aspect of clinical quality. It allows for safe and timely patient care, improved patient experience and increased effective capacity to meet service needs by reducing waste, duplication and delay in the provision of healthcare services" (Showell 2012). Many Australian hospitals are undertaking hospital-wide reviews of current service delivery and patient flow, to more efficiently use limited physical and financial resources. Project Venturi at The Canberra Hospital is a whole-of-hospital approach to such a review, consisting of planned phases to analyse current practices, and then implement and monitor improvement strategies over a three year period (Canberra Hospital and Health Services 2014). This phase of the project analyses patient flow specifically related to The Canberra Hospital's mental health services. The information provided by this study will allow future researchers to apply the best available evidence on improving patient flow to the specific needs and priorities of these units.

This approach may be particularly helpful in the mental health setting as: (a) although multiple factors have been shown to affect length of stay in acute psychiatric inpatient facilities (see Table 1), patient factors only account for 15-20% of the variance in LoS (Huntly 1998); and (b) "good clinical practice does not necessarily translate into shorter length of stay" (Zhang 2011). Instead, some, if not most, of this variance *may* be attributed to differing efficiencies in hospital processes and limited availability of community services.

While certain diagnoses and presentations have been associated with a longer duration of stay, it is likely that these patient groups, with appropriate community and crisis team support, could be managed/supported entirely in a community setting. Furthermore, of those patients admitted to hospital, the quality and assertiveness of post-discharge treatment in the community, not that of inpatient care, decreases the risk of readmission (Huntly 1998).

According to a Cochrane review, short-stay hospitalisation is, importantly, associated with improved patient outcomes relating to social functioning (employment & housekeeping) and less reliance on institutional care compared to longer admissions, with no increased risk of death, readmission or compromised mental health improvement (Babalola 2014, Mattes 1982).

This study, therefore, aims to investigate current patterns of patient flow and barriers to discharge through the Canberra Hospital Mental Health Assessment & Adult Mental Health Units, and to identify factors associated with increased length of stay (LoS).

METHOD

This audit used a multi-method design. Qualitative information from focus groups served as an adjunct to quantitative retrospective analysis of data from mental health units on a cross-section of patients.

Descriptive statistical analysis of data was performed on the following databases covering a one year period from the 1st of July 2013 to the 31st of June 2014: (a) MHAU Consumer Register; and (b) Psychiatry discharge data from Business Intelligence Unit.

Table 1. Factors Associated with Length of Stay in Acute Psychiatric Inpatient Facilities (Huntly 1998, Zhang 2011, Shepherd 1997, Tucker 1993)

Increased LoS
Certain diagnoses (primary diagnosis of schizophrenia or mood disorder, drug and alcohol complicated psychosis, co-morbid medical condition), behavioural manifestations of illness, lack of social support structures (social deprivation/lack of social & family support, homelessness/lack of appropriate & affordable supported community housing, lack of specialised rehabilitation), non-compliance, a greater number of previous admissions and increased age

Decreased LoS
Certain diagnoses (drug or alcohol disorder, cluster B personality disorder, adjustment disorder, situational crisis), higher education level, having recently transferred from another mental health facility, and being a migrant from a non-Western country

Table 2. 10 Most Frequent Primary Diagnoses in MHAU

Primary Reason for Presentation	n	%
Suicidal Ideation	884	30.4
Situational Crisis	302	10.4
Mood disorder	264	9.1
Psychosis	251	8.6
Schizophrenia	215	7.4
Personality Disorder	153	5.3
Deliberate Self Harm	148	5.1
Anxiety	117	4.0
Schizoaffective Disorder	67	2.3
Other (Eg: Alcohol intoxication, Drug induced episode, Acute stress reaction, Missing data)	511	17.4

An audit of records of consumers with a long duration of stay, accessed via CRIS (Clinical Records Information System) and MHAGIC (Mental Health Electronic Medical Record), was performed. This cohort of consumers was identified on one Canberra Hospital *'Long-stay by Division Report'*. This is a hospital-wide, weekly report that identifies consumers admitted to AMHU at the date of publication and those already admitted to TCH for a period greater than 2 weeks. Information on a predetermined set of characteristics and circumstances was extracted on a data collection sheet (Appendix 1) and then analysed.

Further data was collected with a modified version of the Institute for Healthcare Improvement (IHI) Hospital Inpatient Waste Identification Tool (Appendix 2), called the 'What are they waiting for? Audit' when used at TCH. This audit was performed once daily at AMHU and three times a day at MHAU for a period of 7 days from Tuesday the 27th of January 2015 to Monday the 3rd of February 2015.

In addition, AMHU staff were asked to participate in one of two focus groups (Appendix 3a) used to determine staff perception of barriers to smooth patient flow on AMHU and ways in which these can be overcome. Nursing staff and doctors were invited to separate groups to facilitate open discussion. The questions (Appendix 4) were developed using Nagle & Williams' (Nagle 2014) question-prompt-probe format, in accordance with the principles of SWOT-analysis (strengths, weaknesses, opportunities and threats) (Houben 1999). For the purposes of this study, the 'T' in this abbreviation was additionally used to signify the 'trends' in the population/hospital catchment area. Participants were given the email address for Project Venturi upon completion of the session and encouraged to contact researchers should they wish to comment further (Appendix 3b).

All data was analysed using SPSS.

Ethics approval for this study was granted by the ACT Health Human Resources Ethics Committee's Low Risk Sub-Committee on the 14th of January 2015.

RESULTS

MHAU Consumer Register

Analysis of the MHAU Consumer Register revealed a total of 2912 consumer presentations from the 1st of July 2013 to the 31st of June 2014. 50.3% of these were by consumers presenting more than once during the study period. The maximum number of presentations made by any one consumer was 39.

Mean age of all consumer presentations was 32.98 years (*S.D.*13.38; range: 6 to 92). 46.4% of presentations were made by males (with 1 transgender patient); the majority of presentations were either self-referred (37.2%) or brought in by the AFP (29%); 57% were admitted voluntarily; and 12.5% of consumers were intoxicated with alcohol and/or drugs (7.3%) at the time of presentation. The most frequent reasons for presentation are outlined in table 2.

The mean length of stay (LoS) was 8.45 hours (*S.D.* 9.91, range: 0 to 87.75, median: 4, skewness: 2.32) as shown in figure 1. LoS ≤0 (n=89) or ≥40 000 min (n=3) were assumed to be erroneous and excluded from analysis (missing data: n=30). 24.8% (n=721) of presentations resulted in admission to AMHU, with 62% (n=1804) of consumers discharged directly home with community follow-up.

Psychiatry Discharge data from BIU

There were 837 admissions to AMHU during this period, treating 668 different consumers. That is, 119 consumers were admitted more than once (91

consumers were admitted twice; 17 were admitted 3 times; 7 were admitted 4 times, one was admitted 5 times, one 6 times, one 7 times and one 9 times).

The mean age across all admissions recorded in the BIU data was 35.87 years (*S.D.*12.56; range: 14 to 82); 55% of the sample was male. The majority (90.6%) of patients resided in the ACT (6.1% from NSW; 2% homeless; 1.3% from other Australian states and territories). The most frequent primary diagnoses are outlined in table 3.

Table 3. 10 Most Frequent Primary Diagnoses in AMHU

Primary Diagnosis	n	%
Schizophrenia	171	20.0
Depressive Episode	97	11.6
Schizoaffective Disorder	94	11.2
Bipolar Affective Disorder	84	10.0
Mental & Behavioural Disorders due to use of a substance	82	9.8
Acute Stress Reaction	53	6.3
Psychotic Disorder/Psychosis	43	5.1
Adjustment Disorder	40	4.8
Borderline Personality Disorder	37	4.4
Other (Eg: other personality disorders, anxiety disorders, anorexia nervosa, PTSD)	136	16.8
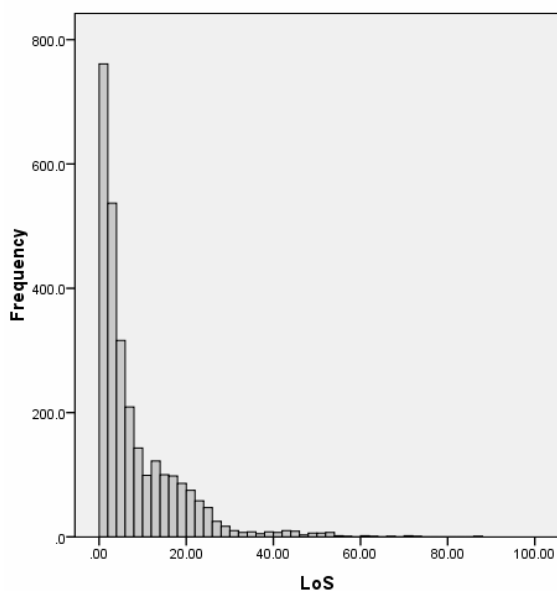
Figure 1. Histogram of LoS in MHAU (hours)

The mean length of stay was 15 days (*S.D.*18.12, range: 1 to 168, median: 9.03, skewness: 3.03) as shown in figure 2. The majority of consumers were discharged home or to a welfare institution (96.4%). 18 consumers were transferred to an acute hospital facility, 8 left against medical advice, and 4 transferred to another psychiatric hospital.
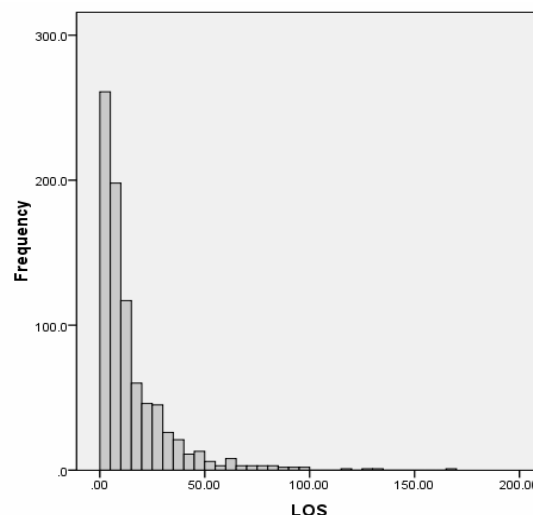
Figure 2. Histogram of LoS in AMHU (days)

Long-stay Reports

16 consumers were identified as having a long duration of stay on the TCH *'Long-stay by Division Report'* for the week ending the 14th of December 2014. 3 of these consumers, all with a primary diagnosis of schizoaffective disorder, were excluded as their admission was ongoing at the time of analysis (22nd of January 2015).

The mean length of stay for included patients was 61 days (*S.D.*49, range: 28 to 216; median: 52). This was a predominantly male sample (77%) of consumers from the ACT (77%), with a mean age of 37.9 years (*S.D.*14.7; range: 17 to 61). All consumers received acute care in the low dependency unit, 12 (92%) under a Psychiatric Treatment Order. According to their clinical records, 4 of these consumers spent a portion of their admission in the high dependency unit. ARC scores[1] ranged from 2 to 4 during early admission.

AMHU long-stay consumers were found to share similar characteristics, as shown in Table 4.

Other primary diagnoses were: major depressive episode with psychotic features (n=2), manic episode bipolar disorder (n=1) and post-concussion syndrome (n=1).

The mean number of psychiatric consumer admissions for this sample was 6.85 (S.D. 7.9, range: 0 to 25; median: 4), with a mean length of stay of 21.33 days (S.D. 25, range: 1 to 116; median: 12). 2 consumers had been directly transferred to AMHU from psychiatric units at other hospitals due to their violent behaviour in those facilities.

According to analysis of the 'Long-stay consumers', factors which delayed discharge from AMHU typically included: ongoing symptomatology/slow clinical response to medications (69%), risk of violence/aggression (69%), other ongoing risks (such as, of damage to reputation, misadventure, or self-harm: 61%), violence/ aggression during current hospitalisation (46%), ongoing assistance required with ADLs (31%), lack of suitable or supported accommodation on discharge (24%).

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[1] At Risk Category (ARC) Scores

Table 4. Common characteristics of AMHU long-stay consumers. Percentages indicate the proportion of long-stay consumers with the given characteristic

Characteristic	n	%
Brought to MHAU by AFP following a violent/aggressive incident	8	61
Brought to MHAU by AFP following episode of self-harm	2	15
Delusional, paranoid &/or psychotic symptoms demonstrated at presentation	9	69
Existing diagnosis of recurrent or chronic schizophrenia or schizoaffective disorder	8	61
Multiple previous psychiatric inpatient admissions	9	69
Episode likely triggered by period of non-compliance with medication in community	8	61
Poor insight and judgment	9	69
Past or current illicit drug use	8	61
Past history of violence when unwell	6	46

Table 5. SWOT-analysis of factors affecting patient flow on AMHU identified by either or both focus groups

Factors Internal to AMHU	
Strengths	Weaknesses
Consultant in MHAU triaging patients →↓ inappropriate admissions *Discharge planning:* begins 7 to 10 days prior to expected day of discharge, and includes graduated leave with feedback from families; all patients seen by senior clinician at admission; families involved in admission and discharge planning; discharge planning meetings (treating team, patient, NGO & family) occur as required; team attempts to provide patient with medications & paperwork the day prior to discharge	↑ workload due to reduction of treatment teams ↓ staff during holiday seasons Inefficient referral process to D&A team *Barriers to discharge:* patients may wait for review with consultant if ↑ workload; no supervised discharge lounge/waiting area → patients remain in bed or nurses feel responsible for patients in ward and those waiting in foyer for transport

Factors External to AMHU	
Opportunities	Threats & Trends
Community teams support/supervise discharged patients (including out of hours) *Allied health support during admission:* Case managers communicate patient's baseline functioning to treating team; psychosocial assessment by social workers early in admission; psychologists providing consistent patient support	Homelessness and lack of supported accommodation Limited availability of community services → avoidable admissions ↑D&A related admissions with associated psychosis and violence (especially methamphetamine) Limited availability of allied health support (social work, pharmacy and psychology) Limited availability of less acute facilities Lack of alternative residential services for D&A rehabilitation and behavioural/forensic issues Presentations of patients from NSW due to pressures on services outside of ACT Policy of not holding beds for patients on leave → reluctance to trial leave earlier in clinical course → delayed discharge *Barriers to Discharge:* Discharge medications only delivered twice a day (not on request) *Cultural and political factors:* Stigma towards mental health → funding issues, ↓ nursing graduates attracted to profession, limited patient & family trust in clinical decisions *plus*↑ expectations of consumer involvement due to patient-centred MoC → reluctance to commence medications and ↑"negotiation"(↑ demands on clinicians' time for consults and family meetings) Insufficient funding to staff all available beds →↓ capacity *Patient factors:* patient attitudes reflecting larger issues in community (some feel they are "better off staying," "can save money in AMHU"), patient interaction/conflict, ↓ ability to live independently

Key: AMHU=Adult Mental Health Unit; MHAU=Mental Health Assessment Unit; →=leads to; ↓=decreased; ↑=increased; D&A=Drug and Alcohol; NGO=non-governmental organization; ACT=Australian Capital Territory; MoC=Model of Care

Focus Groups

5 doctors (1 intern, 2 registrars, 2 residents, 1 consultant psychiatrist) and 2 clinical nurse consultants attended the 2 focus groups. Both groups made similar observations and suggestions (see table 5).

In addition, staff identified the following strategies to improve patient flow on AMHU: (a) increase community services for early support and intervention, monitoring of compliance with medication, and early treatment of drug and alcohol use; (b) encourage greater and more regular input from TCH's drug and alcohol team; (c) improve the ACT/NSW cross-territory relationship to facilitate communication on patients and available resources; (d) increase staff numbers to improve bed capacity and replace staff when on leave; and (e) provide therapeutic activity programs for inpatients with the goal of reducing boredom, violence and use of illicit and non-prescribed drugs on the ward.

Importantly, staff identified that the lack of low-income housing, intermediate & long-term rehabilitation facilities & appropriately supported accommodation in the ACT, serve as a barrier to discharge from the acute unit. For instance: patients with chronic illness who require ongoing care even with medication, often remain in the acute wards as more appropriate long-stay facilities or private residential housing with a higher rate of care are not available. Staff feel this serves as a barrier to discharge from the acute unit, places additional pressure on limited health resources and increases the likely hood of readmission to the acute ward. The Model of Care in Figure 3 shows that easier access to intermediate, recovery orientated rehabilitation wards would likely aid earlier discharge from the acute ward; and that long-stay rehabilitation, more 'step-up-step-down' programs and supported community-based care would in turn support patient flow from intermediate wards to the community.

Figure 3. Model of Care for Mental Health Patients. Patients may progress through above stages of care or exit the treatment model at any stage (to independent living and community based follow-up), as indicated by their clinical progress

The majority of these strategies aim to avoid preventable blockages in patient flow or unnecessary hospitalisations in the acute setting and required additional funding, with insufficient funding identified as a key barrier to the improvement of patient flow.

'What are they waiting for?' Audit

Data collection occurred at approximately 1am, 8.10am and 3pm at MHAU, and 9.50am at AMHU, for 7 days from Tuesday the 27th of January 2015 to Monday the 3rd of February 2015[2]. These times were selected to capture patient flow and system inefficiencies based on the following assumptions: a) AMHU reviews consumer treatment and discharge plans daily at morning meetings; and b) as MHAU is an emergency unit, patient flow will occur at a faster rate.

Figures 4 and 5 outline the percentages of beds occupied, the status of these patients and the proportion waiting for an action with the potential to inform suitability for discharge or a modification in treatment. These results were calculated according to each unit's total functional capacity: MHAU has a capacity of 8 "beds" as staffing and resources allow patients to be cared for across 6 beds, 1 interview room and a lounge-room. Conversely, AMHU has a capacity of 35 beds, despite physically containing 40 beds, due to funding limitations affecting staff numbers.
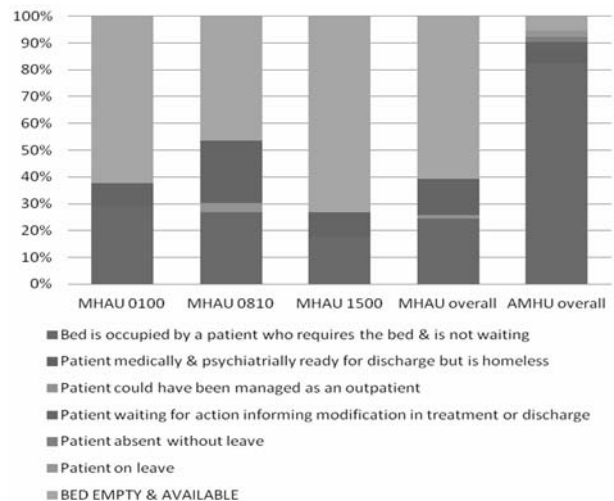
Figure 4. Proportion of beds occupied and patient status by unit and time of day
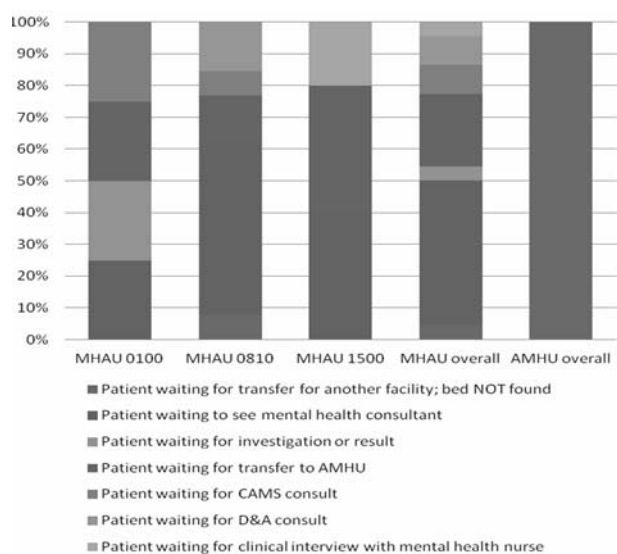
Figure 5. Type of action being awaited by unit and time of day

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[2]Missing data: MHAU 1am Tuesday the 27th of January 2015

DISCUSSION

This study investigates current patterns of patient flow and barriers to discharge through The Canberra Hospital Mental Health Assessment & Adult Mental Health Units. The mean length of stay for these units was 8.45 hours and 15 days respectively. Multiple factors were associated with an increased length of stay in these acute settings including patient factors, certain hospital processes, and limited availability of community services, as outlined in the results section. These findings are largely consistent with previous studies (Huntly 1998, Zhang 2011, Shepherd 1997, Tucker 1993) and as such these findings & subsequent recommendations may be applicable to similar mental health services in other regions. AMHU staff further identified strategies that may improve patient flow, placing particular emphasis on their perceived need for further low-income housing, non-acute residential and community based psychiatric care to be funded and established in the ACT.

Recommendations

Based on these findings, the following strategies may be implemented in the short term to improve patient flow: (a) increased monitoring and encouragement of compliance with medication in the community; (b) improved communication and timely referral of new patients to TCH drug and alcohol services, which may occur through daily, scheduled telephone contact; (c) increased funding for and recruitment of additional staff to increase AMHU effective capacity and community services; (d) development of robust data collection system in MHAU for further analysis; and (e) early planning for and/or recruitment of additional staff for periods of high demand or expected high staff absences, such as the Christmas holiday season.

Limitations

Many of the limitations identified in this study related to the pre-determined study duration of six weeks, which limited the amount of data collected and analysed as well as the types of analyses performed. For instance, the one long-stay report and 7 day 'What are they waiting for?' audits may not be representative samples; concerns which were raised by staff at the time of audit who felt patient numbers at that time were unusually low. Heterogeneity of coding in databases prevented measures of association between LoS and factors of interest from being performed as extensive cleaning of data and recoding would have been required. Further, there is increased potential for human error in analysis of the long-stay report as data collection relied on retrospective interpretation of clinical documentation which was not double coded by a second independent researcher.

Future Research

Future research should attempt to quantify the bed-days taken by patients in AMHU who would benefit from (a) less acute inpatient or residential care or (b) low-income housing with community based psychiatric care; the latter referring to patients who have been medically and psychiatrically cleared for discharge but remain in hospital due to social (housing) issues. Subsequent cost-analysis studies with particular focus on patient outcomes may then be indicated.

In addition, a longer duration modified 'What are they waiting for audit?' in MHAU should examine (a) the reasons patients re-present and (b) the proportions of patients that are waiting for consult with a consultant psychiatrist during the night or are intoxicated on arrival and therefore unsuitable for immediate psychiatric assessment. This would have implications for optimal staffing and ways to optimise the utility of MHAU, such as an alternative observation area for intoxicated patients.

Conflict of interest: None to declare.

Contribution of individual authors:

All Authors contributed egally to the design and exacution to the project

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Appendix 1. Data collection form for Long-stay Patients

URN:	Episode Number:	Ward:	Care type:
Demographic Information			
Age:	Gender:	State:	
Admission details:			
Presentation:			
Risk assessment:			
Length of stay (days):	Discharge destination:		Legal status:
Patient History			
Primary Diagnosis:			
Additional Diagnoses:			
History of presenting complaint:			
Clinical course:			
Drug or alcohol history:			
Violence:			
Primary reasons for long admission:			

Appendix 2.

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Project Venturi | Optimising Patient Flow
Improving Patient Experience

"What are they waiting for?" Audit AMHU and MHAU

The "what are they waiting for" Audit Tool is designed to provide a quick snapshot of bed capacity. It will identify key causes of delays for AMHU and MHAU clients quantify the most frequent causes of blocked bed capacity. The audit looks at all open AMHU and MHAU beds during a seven day period. The definition of an open bed is a functional and resourced bed and includes surge beds.

The audit will be undertaken twice a day in MHAU and daily in AMHU at approximately the same time each day by the audit team and the senior nurse of the ward. The audit period is from Tuesday 27th January to Monday 2nd February 2015.

The tool being used has been adapted from the audit tool used by Fremantle, Princess Alexandra and Royal Adelaide hospitals and is based on an Institute for Healthcare Improvement (IHI USA) tool developed by Carol Haraden.

One of the audit team will meet with the Clinical Nurse Consultant or senior nurse on the ward and assess every open bed on the ward and identify the status of the bed according to the Audit Tool criteria.

The results of the audit will be fed back to each ward and division and will assist in prioritising improvement work being facilitated by Project Venturi.

If you have any questions please contact Alison Kingsbury, Project Manager Project Venturi at alison.kingsbury@act.gov.au .

Appendix 4.

CANBERRA HOSPITAL AND HEALTH SERVICES

    4k Patient no longer needs clinical care but patient/family request to stay in hospital
    4l Other – please specify on audit data sheet
#5
The bed is occupied by a patient who is ready for discharge but is waiting transport by:-
    5a ACT or NSW Ambulance
    5b Taxi
    5c Private vehicle
    5d Patient Transport Vehicle
    5e Other – please specify on audit data sheet
#6
A patient has died and is waiting for family or transfer to the morgue or funeral home.

#7
Bed is empty but a patient is allocated to the bed:-
    6a A booked patient
    6b Transfer from ICU, CCU or Emergency Department
    6c Transfer in of an outlying patient or MAPU/SAPU/ MHAU
    6d Patient on leave – bed retained, not being used by another patient- please specify
#8
The bed is staffed but is temporarily not in use for reasons of maintenance, infection control, other clinical reasons, etc. Please specify on audit data sheet.
#9
The patient has been discharged and the bed is vacant:-
    9a Awaiting cleaning, is in the process of being cleaned or requires a special clean
    9b Has been cleaned but nobody has yet been allocated/"pulled" to the bed

#10
The bed is empty and available for a patient but there is no patient waiting for the bed right now.

Adapted from Fremantle Hospital Bed Capacity Audit Tool.   July 2013

Appendix 3.

CANBERRA HOSPITAL AND HEALTH SERVICES

"What are they waiting for"?
Audit

"What are they waiting for?" Audit Tool – List of Codes
Bed Status Full Explanation:

Please use the attached form to complete for each ward or unit, in collaboration with the Clinical Nurse Consultant or Nursing Team Leader.

Is there a patient in the bed?
If Yes- review codes #1- 6 and select the most appropriate code.
If No- review codes #7- 10 and select the most appropriate code.
#1
The bed is occupied by a patient and they require an inpatient bed. This includes someone in surgery (but previously in the bed and returning to the bed), patient receiving treatment and temporarily out of ward such as physiotherapy etc. Are they waiting for any of the following?
    1a Patient is waiting for emergency surgery
    1b Patient is waiting for consult from other inpatient team
    1c Patient is waiting for investigation or result prior to further treatment planning
    1d Patient is waiting for a Medical Imaging investigation
    1e Patient is waiting to see Mental Health Consultant for a decision regarding admission or discharge AND is suitable clinically for this assessment to be made (eg: not intoxicated)
#2
The bed has a patient who could have been managed as an outpatient.
    2a Patient admitted to access an investigation (e.g. MRI or CT scan to provide quicker access than as outpatient) – please specify on audit sheet
    2b Rural/Remote patients overnight stay (to provide place to stay)
    Are they suitable to stay in the Residences Yes/ No?
    2c No access to services or support at home (e.g.: radiation oncology, chemotherapy)
    2d Patient admitted prior to procedure for work up
#3
The Bed has a patient but awaiting another service before discharged can be scheduled.
    3a Specialist Opinion
    3b ACAT assessment
    3c Disabilities Services, Guardianship Board – please specify on audit data sheet
    3d Allied Health – please specify on audit data sheet.
    3e Tests – please specify (e.g.: exercise stress test, ultrasound)
    3f Procedures – please specify (e.g.: PEG insertion)
    3g Services such as home oxygen, equipment, modifications
#4
The bed is occupied by a patient who is ready for discharge/transfer but is delayed. Reasons for delay may include:-
    4a Waiting discharge medication – please specify, prescription not written, waiting for dispensing
    4b Seeing a Medical Consultant prior to discharge
    4c Waiting for medical discharge summary
    4d Waiting transfer to another facility Bed NOT found. (E.g. nursing home, rural hospital, TTCP, hospice) – please specify on audit data sheet
    4e Waiting transfer to another facility. Bed HAS been allocated but not ready to receive patient. (acceptable discharge times for nursing homes, GACS beds)
    4f Waiting transfer to another acute hospital facility
    4g Waiting for a interstate, international flight
    4h Waiting transfer to a rehabilitation bed
    4i Waiting transfer to another acute bed within Canberra Hospital
    4j Patient could be managed in Discharge Lounge (please specify on audit data sheet, not considered, waiting for transport, discharge lounge full)

Adapted from Fremantle Hospital Bed Capacity Audit Tool.   July 2013

Appendix 5.

ACT Government Health | **CANBERRA HOSPITAL AND HEALTH SERVICES**

"What are they waiting for?" Audit Data Sheet 2015

Ward/Unit: **AMHU**	Date & Time:
Auditor:	Ward CNC/TL:

Bed Number	Code	Time Waiting (Approximation) Please circle	Comment
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
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		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	
		<12 hrs; 12-24hrs; 1-3 days; 3-5 days; >5days	

Appendix 6.

ACT Government Health | **CANBERRA HOSPITAL AND HEALTH SERVICES**

"What are they waiting for?" Audit Data Sheet 2015

Ward/Unit: MHAU	Date & Time:
Auditor:	Ward CNC/TL:

Bed Number	Code	How long have they been waiting for this reason? (Approximation) Please circle	Comment
3	1c	< 1hr; (1-3hrs); 3-5hrs; >5hrs	*Example only*
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	
		< 1hr; 1-3hrs; 3-5hrs; >5hrs	

Appendix 7.

ACT Government Health | **CANBERRA HOSPITAL AND HEALTH SERVICES**

Project Venturi | **Optimising Patient Flow Improving Patient Experience**

...Is coming to AMHU

Join the discussion on how we can improve patient flow in mental health

Focus groups

For Junior Doctors: Wed 28th Jan 1pm
For nurses: Fri 30th Jan 2pm
Consultants: TBA

AMHU meeting room

How can you help optimise patient flow
And improve the patient experience?

Every patient counts and every minute counts to them

For more information email projectventuri@act.gov.au

Appendix 8.

ACT Government Health | **CANBERRA HOSPITAL AND HEALTH SERVICES**

Project Venturi | **Optimising Patient Flow Improving Patient Experience**

Thank you

for helping improve patient flow in mental health

Want to continue the discussion?
Please let know your thoughts and suggestions by emailing us at projectventuri@act.gov.au

How can you help optimise patient flow
And improve the patient experience?

Every patient counts and every minute counts to them

Appendix 7

Focus Group Questions *for* Improving Patient Flow on the Adult Mental Health Unit, TCH:
A Pilot Study for Project Venturi

Question 1: **What are the barriers to patient flow in AMHU?**
Prompts:
- What factors internal to the ward hinder patient flow? *(eg delayed discharge planning, communication issues)* **(Weaknesses)**
- What factors external to the ward hinder patient flow? *(eg: availability of community services, family & social support, transport, housing, funding, community demand, increasing D&A (eg ice), increasing population & demand)* **(Threats & Trends)**
- What patient factors hinder patient flow? *(eg diagnosis, drug & alcohol use, violence, homelessness, non-compliance)*
    Probes:
    - Do you feel *(above examples)* influences patient flow on AHMU?
    - Here is an example of key factors impacting on patient flow in hospitals identified in the literature. Which factors do you feel are relevant to this ward?
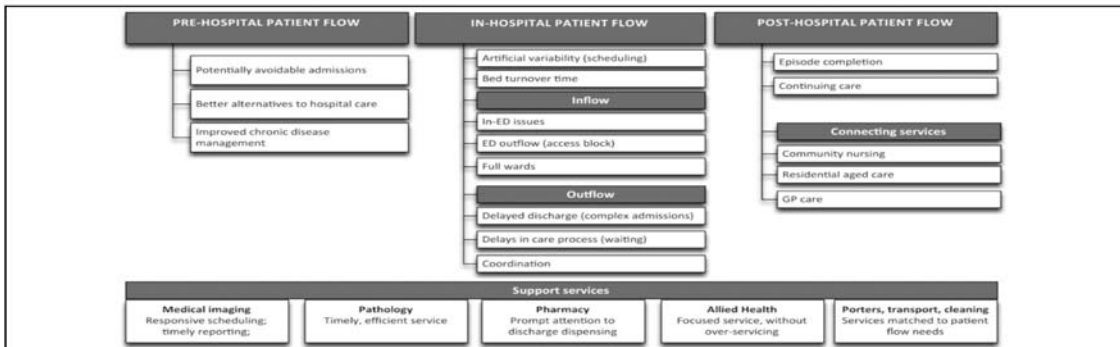

Figure 3. Key Factors Impacting on Patient flow

Showell, C., Ellis, L., Keen, E., Cummings, E., Georgiou, A., Turner, P. (2012) An Evidence-based Review and Training Resource on Smooth Patient Flow, *eHealth Services Research Group*, University of Tasmania, Australia (on behalf of the Ministry of Health, New South Wales Government).

Figure 1. Stimulus 1for Focus Group Question 1

Question 2: **What factors currently facilitate patient flow on AHMU?**
Prompts:
- What factors internal to the ward are being used to facilitate patient flow? **(Strengths)**
- What factors external to the ward are being used to facilitate patient flow? **(Opportunities)**
Probes:
- What education on improving patient flow have you received & to what extent are you able to utilise these methods on AMHU?

Question 3: **When & how does discharge planning occur on AMHU?**
Prompts & Probes:
- When is a realistic date of discharge estimated?
- When is this reviewed?
- How frequently are patients seen by staff member capable of making decision regarding their discharge?
- When is discharge planning commenced?
- Are the patient and their family involved in this process? If so, how is this achieved?
- When is the discharge date confirmed?
- To whom is this communicated? How is this done?
- How do you aid patients to leave ward as early as poss on day of discharge?

Question 4: **How do you think we can improve patient flow on AHMU?**
Prompts:

Research suggests that, in general, patient flow can be smoothed by:
- Segmenting different classes of activity;
- Standardising clinical and administrative processes;
- Identifying and removing bottlenecks in the system;
- Matching the throughput time of linked steps in the process; and
- Avoiding batch processing wherever that is feasible.

An evidenced-based review by NSW health indicated hospitals should also:
- Establish a realistic estimated date of discharge (EDD) for each patient at the time of their admission;
- Make sure that the EDD is updated progressively during the course of the admission as the patient's likely clinical course becomes clearer;
- Commence patient discharge planning within 24 hours of their admission;
- Make sure that each patient is seen by a senior clinician (i.e. an individual able to make clinical decisions about a patient's care and discharge) on each day of the patient's hospital stay;
- For complicated discharges, confirm the discharge date two or three days in advance to allow for coordination and planning of services;
- Effectively communicate the planned time and date of discharge to all who are involved in a patient's discharge (e.g. allied health, pharmacy, community services, patient, family and carers); and
- Provide support for patients who are being discharged to leave the ward as early in the day as possible (e.g. preferably by midday).

Showell, C., Ellis, L., Keen, E., Cummings, E., Georgiou, A., Turner, P. (2012) An Evidence-based Review and Training Resource on Smooth Patient Flow, *eHealth Services Research Group*, University of Tasmania, Australia (on behalf of the Ministry of Health, New South Wales Government).

Figure 2. Focus Group Stimulus 2

Could any of these strategies be utilised on this ward? How would these be put into place?
What are the barriers to achieving this?

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