Secure Extended Care Unit: An exploration of social demographics and clinical characteristics of referred adult mental health patients in Australia.

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Abstract

Background and Aims: Secure Extended Care Units (SECU) are low-secure, long-term inpatient rehabilitation for patients with severe mental illnesses. Limited research is available. This study explored the sociodemographic, clinical characteristics and predictors of acceptance in an Australian SECU program over a 5-year period.

Methods: A retrospective study design was used to investigate 121 consecutive referrals**.** The 98 first-time patient referrals were included in the main analysis. Descriptive statistics was used with non-parametric comparisons (Chi-square and Fisher exact test where appropriate). Logistic regression was done to assess the influence of covariates.

Results: Most of the Total sample were single males of European ancestry between 25-34 years old with ten years or less of education and receiving disability benefits. Schizophrenia was the predominant diagnosis, with 50% having a personality trait/disorder; substance use was high (82.6 %). More than three-fourths had a history of trauma. Forty-four per cent had a previous forensic admission, with seventy per cent convicted in the past for violence. Physical comorbidity was high (80%), with hepatitis C positivity at 20 per cent. Low service utilisation, like the National Disability Insurance Scheme (NDIS) was noted. Clozapine and Electroconvulsive therapy (ECT) were underutilised. The Median Health of Nations Outcome Scale (HoNOS) was 20 (IQR 14, 23) and the Life Skills Profile (LSP) was 22.5 (IQR 16.25,27). Inpatient setting was the only predictor that influenced acceptance into the program (OR 3.168, 95% CI: 1.129-8.913, p=0.029).

Conclusions: Referrals showed a high level of psychosocial-physical complexity, with a range of patient needs, service goals, and high forensic involvement prior to the referral. The study discusses the need for medium and high-secure beds and a new model of care that

integrates NDIS and Community Care Units (CCU). A trauma-informed approach that creates holistic treatment plans that include patients and families is indicated.

Lay Summary

Secure Extended Care Units (SECU) are low-secure, long-term inpatient mental health units that focus on the mental rehabilitation of patients with severe and complex mental illnesses. At present, there is limited literature available about the patient profile, and clinical and set up of these units in an Australian context. The recent Royal Commission into Victoria's mental health noted a paucity of available SECU beds to service a growing complex patient cohort who need to access care in more restrictive environments. Therefore, relevant research is paramount to guide and inform such significant shifts in the Victorian public mental health system.

This study investigated the social and clinical characteristics of patients referred to the Austin SECU, in Victoria, Australia. This was achieved through a retrospective file review of 121 referrals between 1 January 2019 and 31 December 2023. Among the 98 first-time patient referrals studied, 56 per cent were accepted. Twenty-three re-referrals were received in the study period.

The SECU program received referrals of patients with significant personality disorder, substance use and risk behaviours. Most patients had repeated hospitalisation, and a subset had been in prison. There was low utilisation of services like NDIS, Community care units and Allied health (Psychologist and occupational therapist) prior to referral. There were no clear determinants of acceptance into the program except for those who were inpatient at the time of referral.

The study discusses the need for medium and high secure beds and a new model of care that integrates NDIS, and Community care units. A trauma-informed approach that creates holistic treatment plans, including patients and family is indicated. Future studies should

focus on patients' attitudes regarding inpatient rehabilitation and the determinants of successful rehabilitation.

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Glossary of Abbreviations and Terms

Abbreviation	Description
ABI	Acquired Brain Injury
ABS	Australian Bureau of statistics
ACT	Assertive Community Treatment
ADHD	Attention Deficit Hyperactivity Disorder
ASP	Advance Statement of Preferences under mental health act Victoria. It sets out a person's treatment, care and support preferences. There is obligation under MHWA 2022 to provide preferred treatment
ADL	Activities of Daily Living
AMHS	Area Mental Health Services (Victoria is divided into catchment areas which are services by each area mental health services)
AMHS-SECU	AMHS-SECU liaison coordinators act as intermediary between SECU and AMHS
ANZSOC	Australian and New Zealand Standard Offence Classification, 2023 A national statistical framework for classifying criminal behaviour in the production and analysis of crime and justice statistics
AOD	Alcohol and Other Drugs
ASD	Autism Spectrum Disorder
AVO	Apprehended Violence Order. Designed to protect one person from another person's aggressive or harassing behaviour (Family violence and Personal safety orders)
AWOL	Absent Without Leave
CALD	Culturally and Linguistically Diverse (CALD meaning has replaced the old terminology of NESB (Non-English Speaking Background) and is reflective of the diversity of the entire population)
CCU	Community Care Unit. Community care units provide medium to long-term accommodation, clinical care and rehabilitation services for people with serious mental illness and associated psychosocial disability. Located in residential areas, CCUs provide a 'home like' environment where people can learn or re-learn everyday skills necessary for successful community living

Cluster A	Personality traits or disorders characterized by distrustful, suspicious attitude, eccentric, atypical ideas and perceptions and detached presentation
Cluster B	Personality traits or disorders characterized by significant emotional dysregulation, unstable sense of self, impulsivity or unpredictable thinking or behaviour which may be aggressive and deceitful
Cluster C	Personality traits or disorder characterized by fear, anxiety, self-doubt, perfectionism, inflexiblity and avoidance
CMI	Client Management Interface (All Victorian public health patients are registered through the allocation of a unique state-wide identifier which allow tracking of Key outcomes)
CMIA	Crimes Mental Impairment and Unfitness to be tried Act 1997
CSA	Child Sexual Abuse
DSM-5	Diagnostic Statistical Manual of Mental Disorders-Fifth Edition
ECT	Electroconvulsive Therapy
ED	Emergency Department
EMR	Electronic Medical Records
First Nations	First Nations Australians acknowledges the diversity of Australia's First People. There are other terms like Aboriginal and Torres Strait Islander people. First Nations is a more encompassing term that recognizes the different nations each with different culture, language and practices
Forensic	Means related to, or associated with, legal issues. Forensic mental health services provide assessment and treatment of people with a mental illness who have offended or are at risk of offending
FV	Family Violence
GP	General Practitioner
HCV	Hepatitis C Virus infection
HoNOS	Health of the Nation Outcome Scale. It is a clinician rated 12 item scale, each measuring groups of problems commonly presented by people with mental health problems

ICD-10, 11	International Classification of Diseases - 10 and 11 revision
ID	Intellectual Disability
IT	Information technology
LSP	Life Skills Profile – objective assessment tool used to assess a consumer's abilities with respect to basic life skills. It is a clinician-rated assessment that contains 16 items which provide a key measure of function and disability for people with mental illness
LGBTIQ	Lesbian, Gay, Bisexual, Trans and gender diverse, Intersex, Queer, and Asexual. This is an inclusive umbrella abbreviation of diverse sexualities, genders and sex characteristics
MHA	Mental health Act, Victoria, 2014
MHWA	Mental Health and Wellbeing Act 2022
MACNI	Multiple and Complex Needs Initiative
NICE	National Institute for Health and Care Excellence
NDIS	National Disability Insurance Scheme. It is funding body under Commonwealth of Australia legislation. NDIS connects and supports individuals with disability to services in their community
NGO	Non-Government Organizations
NHS	National Health Service, United Kingdom
NP	A Nominated support Person under MHA and MHWA assist a person to express their views and preferences and exercise their rights if the person becomes unwell and needs compulsory mental health assessment or treatment
PTSD	Post Traumatic Stress Disorder
RANZCP	Royal Australian and New Zealand College of Psychiatrists
SECU	Secure Extended Care Unit
SMR	Scanned Medical Records for electronic medical record
SMI or SPMI	Severe Mental Illness or Severe Persistent Mental Illness
TEH	The Thomas Embling hospital. High Secure Forensic hospital in Victoria. This is the only statewide service for forensic and security patients

1. Introduction and background

Secure Extended Care Units (SECU) are medium to long-term, low-secure mental health units that focus on the psychosocial rehabilitation of patients with severe and complex mental

illnesses. SECUs were created in the post-deinstitutionalisation era (1995-1999) to manage complex and severely mentally ill (SMI) patients within mainstream hospitals (Department of Human Services, 2007). There are six SECUs in Victoria (Australia) with varying bed capacities. In the Australian context, little information is available about such units and the profile of referred or waitlisted patients. The majority of previous studies have involved patients who are currently admitted to forensic rehabilitation units in the United Kingdom (low, medium, and high secure) (Harty et al., 2004; Killaspy, Marston, et al., 2016). Only a few studies were with waitlisted patients (Lavelle, 2007), or in an Australian low secure forensic unit (Huang et al., 2023).

1.1 SECU model of care

SECUs provide slow-stream inpatient rehabilitation, an extended rehabilitation model of care within the principles of recovery (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021). The expectation is that patients will progress to less restrictive environments with a graduated return to community-based care (Department of Human Services, 2007). The multidisciplinary model of care integrates a biopsychosocial approach to treatment in these units (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021). Mental health services have moved from a paternalistic model of care in the era of asylums to strength-based models with recognition of the lived experience of patients and carers in treatment planning and delivery (Chopra et al., 2009).

SECUs are structurally locked in inpatient units. It is often thought of as the last resort and most restrictive intervention within the continuum of mental health rehabilitation programs for a subset of patients within non-forensic public mental health services (Boston Consulting Group, 2006; Department of Human Services, 2007).

SECUs are specialist tertiary care within public hospitals. They receive patients from multiple geographic areas and differing mental health service providers. For rural Area Mental Health Service (AMHS), that means SECU may be located at a significant distance from the patient's local communities and family or cultural connections (Department of Human Services, 2007).

SECUs provide treatment to patients with complex psychiatric and risk profiles. Patient-centred and recovery-oriented principles underpin SECU's ethos and service delivery (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021). Historically, managing bed access has been a significant challenge (Department of Human Services, 2007; State of Victoria. Royal Commission into Victoria's Mental Health System, 2021). Furthermore, concerns have been raised about the adequate skill set, design, and architecture of such units and whether they meet the needs of patients and families (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021).

1.2 *Demand for inpatient rehabilitation beds*

Allison et al. (2018) and Edwards et al. (2016) noted that the number of psychiatric beds has fallen in Australia and Europe. In contrast, there has been an increase in the number of psychiatric patients in forensic inpatient services, supported accommodations, and prisons. The shortage of adult psychiatric beds, along with high population growth and low and declining inpatient average length of stays (12 days on average in general adults), has contributed to longer Emergency Department (ED) wait times and increased 28-day readmission to acute beds (Carroll et al., 2021). Poor access to inpatient rehabilitation has led to inappropriate use of acute inpatient beds and lengthy delays in finding placements (Allison et al., 2018; Sisti et al., 2015).

The incarceration rates in Australia have increased significantly over the past decade, and many prisoners have psychiatric conditions (Carroll et al., 2021). Prisoners are two to three times more likely than those in the general community to have a mental illness and are 10 to 15 times more likely to have a psychotic disorder, with significant numbers reporting lifetime suicidal ideation and attempting suicide (Carroll et al., 2021; Mullen & Ogloff, 2009). Prior to imprisonment, those with comorbidity with substance use had a significantly low level of contact with mental health and Drug and Alcohol treatment services (Carroll et al., 2021).

To compound matters, the Victorian mental health system has felt the drastic effects of the methamphetamine epidemic in the last decade (McKetin et al., 2018). AMHS are often required to manage complex psychiatric presentations, as well as challenging behaviours related to substance use and homelessness in environments that are not purpose-built or safe for managing consumers who present a high risk of harm to themselves and others (Allison et al., 2018; McKetin et al., 2018). This leads to premature discharge and, consequently, repeated cycles of hospitalisation, homelessness, and transfers between prison and hospitals or disinclination to accept transfers or assertively manage such presentations (Allison et al., 2018; Carroll et al., 2021; Sisti et al., 2015).

An internal audit of the patient cohort at Austin SECU in August 2021 demonstrated that 23 of 25 patients admitted at the time had forensic histories, with a further patient having engaged in significantly violent conduct, which did not result in formal sanctions (E Robertson, Personal communication, August 19, 2021). This is understandable in the context that the Thomas Embling Hospital (high secure unit) in Victoria can no longer provide rehabilitation for non-forensic patients with complex needs who cannot be safely or suitably managed by the AMHS (Forensicare, 2019). The Thomas Embling Hospital (TEH) is under-resourced, leading to considerable delays in bed and access flow, resulting in patients already

in the forensic system being unable to access care in a timely fashion. There are no medium secure units in Victoria (Carroll et al., 2021; Forensicare, 2019).

The shortage of long-term secure beds means patients are not progressing through the system when they achieve rehabilitation goals. In some cases, mentally ill patients are being discharged from prison without treatment (Forensicare, 2019). It is, therefore, important to study the needs of such a complex cohort of SMI patients so that the right bed can be offered at the right time.

1.3 The Complex cohort

Early studies indicate that the majority of patients did well after deinstitutionalisation when followed up for a period of time (Killaspy, Marston, et al., 2016). However, a subset became episodic high-service users attending emergency departments for both care and housing needs, with prisons becoming surrogate mental health providers (Sisti et al., 2015). There are increasing concerns that the picture is starting to look similar in Australia (Copolov & Bastiampillai, 2019).

Literature has attempted to characterise this complex cohort in different ways:

- Killaspy et al. (2016) identified in terms of prevalence and service use as “low-volume but high-need groups”. They comprise only 10-20% of patients with psychosis, but this cohort utilises 25-50% of the total mental health budget in the National Health Service (NHS). Sisti et al. (2015) felt a return to traditional asylum style care provision was required, but acknowledged this would not solve complex systemic challenges of the mental health system.
- Kulhara (1998) and Coid (1991) respectively used the terms ‘difficult to treat’ and ‘difficult to place’ psychiatric patients in the context of clinical recovery and the

closure of asylums in the 90s. Issues they grappled with post-closure of asylums are issues that remain in the 21st century. Kulhara (1998) reported on factors that make patients difficult to treat, including inadequate response to conventional antipsychotic treatments, adverse drug effects, compliance, problems of comorbid conditions and treatment failure. Coid (1991) reported that since deinstitutionalisation, a subgroup of difficult-to-place patients who are severely disabled remain without viable alternatives. They are reported as having severe, treatment-resistant conditions and require semi-secure facilities. Aspersions were raised that a generation of 'new long stay' patients are blocking acute beds and are increasingly visible on the streets. Some of these patients need long-term hospitalisation (Coid, 1991; Leff, 2001).

Terms like 'difficult to place' or 'difficult to treat' are rarely used in the literature now due to the recognition that recovery is profoundly personal and goes beyond symptoms and disabilities (Chopra et al., 2009). However, issues raised over three decades ago are still relevant today.

The Psychiatry research community has developed terms like Severe and Persistent mental illness or Complex Psychosis based on co-morbidities, disability and treatment resistance. This has then been used to define a unique cohort of patients with high needs and have developed treatment parameters and rehabilitation goals (Campana et al., 2021; Killaspy et al., 2021; Killaspy, Marston, et al., 2016; Zumstein & Riese, 2020). People in this group require longer-term specialist rehabilitation services to gain skills and live independently (Killaspy et al., 2021).

- Severe and Persistent Mental illness (SPMI) or Severe Mental Illness (SMI) is based on 3 Ds (Diagnosis, Duration and Disability) and refers to patient population rather than any disease entity. The original NIMH 1987 diagnosis has been refined further.

Definitions currently include, any mental illness diagnosed for at least 2 years resulting in significant functional impairment with treatment history more intensive than outpatient treatment and required residential care which disrupted normal living situations. (United States Alcohol & Mental Health, 1987; Zumstein & Riese, 2020).

- Complex Psychosis is defined as per NICE (National Institute for Health and Care Excellence) guidelines (Killaspy et al., 2021) as having a primary diagnosis of a psychotic illness (Schizophrenia, bipolar affective disorder, psychotic depression or delusional disorder) with severe treatment resistant symptoms lasting more than 2 years, with cognitive, physical and functional impairment.
- Severe Treatment resistance affects 20-60 % of patients with psychiatric disorders and increases healthcare costs by 10-fold compared to patients in general (Howes et al., 2022). Ultra-treatment-resistant or clozapine-resistant Schizophrenia refers to a subset of patients whose response to treatment has been suboptimal – failing to respond to clozapine treatment for 8-12 weeks after reaching therapeutic plasma levels (Campana et al., 2021). There is controversy around the use of such terms and relevance to recovery literature, but nevertheless useful when treatment options are being considered for a subset of complex patients (Howes et al., 2022).
- Co-morbidity is an important feature of Complex Psychosis or SPMI. This includes co-morbid mental health conditions like personality disorder or neurodevelopmental conditions like Autism Spectrum Disorder (ASD), Intellectual disability (ID), Attention Deficit Hyperactivity Disorder (ADHD) (Killaspy et al., 2021). Personality disorder comorbidity in Schizophrenia has been controversial due to boundaries set by diagnostic criteria (ICD-10,11 and DSM-5), but clinicians have been diagnosing in their routine work (Jarema, 2022). Moore et al. (2012) observed that personality disorders occur in more than 50% of individuals with Schizophrenia recruited from

the community compared to health controls is a significant finding. This comorbidity is associated with a lower age of onset, reduced cognitive functioning, and increased suicidal behaviours. This is pronounced in Cluster B-Schizophrenia comorbidity, which had increased suicidal behaviours and childhood adversity (Moore et al., 2012). This was replicated by Wei Y et al. (2016), a study that found personality disorder was present in 24% of schizophrenia patients with a higher prevalence of Cluster A and Cluster C compared to Cluster B. Other co-morbidities like Intellectual disability (ID) occur between 3.7-5.2 %, with Schizophrenia (Morgan et al., 2008) and ADHD is present in the schizophrenia population varies between 10% to 47% (Arican et al., 2019). High secure units overseas tend to receive referrals with higher comorbidity with personality disorders (45-59 %), and neuro-developmental conditions (10%) compared to Low secure units (Berry et al., 2003; Harty et al., 2004; Huang et al., 2023). There is a significant gap in understanding co-morbidities in this complex cohort, which then means there is little guidance to evidence-based interventions for such populations (Jarema, 2022).

Victoria doesn't have medium secure units, and there is no access to high secure unit for non-forensic patients (Carroll et al., 2021). Therefore, a study on the complexity of the referral cohort to Austin SECU makes sense.

1.4 The Hidden disability

Harvey et al. (2016) found that about 20% of patients receiving treatment at community mental health services experienced severe psychosocial dysfunction, and 50% of patients had experienced childhood trauma. They identified that rehabilitation and recovery needs were only partially addressed in the community. This cohort was also less likely to access disability support services (Harvey et al., 2016). This is an important factor to consider in treatment planning as often, such patients referred to community mental health programs will not have engaged in psychosocial recovery programs or have low service utilisation despite being eligible. The provision of episodic care and the fractured nature of public mental health service means there is often limited continuity of care between different parts of public service, between services and with primary health care networks, leading to revolving door admissions, increased criminalisation of mentally ill and homelessness (Carroll et al., 2021; Copolov & Bastiampillai, 2019; Forensicare, 2019).

Lavelle et al.'s (2007) multi-centre study of the characteristics of service users and outcomes for those with and without access to rehabilitation and recovery services found that a cohort of patients awaiting rehabilitation in the community had less contact with psychiatrists, general practitioners (GPs), psychologists, social workers, counsellors and nurses compared to those receiving rehabilitation. An important finding was the higher use of acute inpatient units by waitlisted patients compared to accepted patients. The cost was slightly greater for the waitlisted group, but this was not statistically significant.

1.5 The characterisation of the complex cohort in the community: Current evidence

Survey of High Impact Psychosis (SHIP) studied the experience of Australians with psychotic illness in the community (Carr et al., 2012). The study estimated that 50,000 people with psychotic disorder are in contact with public mental health services and Non-Governmental Organisations (NGOs). Most of the patients had a diagnosis of non-affective Psychosis (69%) and had multiple episodes. They had a duration of illness of less than 13 years, and one-third had a chronic continuous course. About 30 % reported history of childhood abuse which is double the population rate. The cohort had 50 % lifetime time abuse or dependence of alcohol and 56% lifetime abuse of cannabis or other substances. Polypharmacy was common (63.4%) but only 24.5 % were on clozapine indicating underutilisation of clozapine and low utilization of psychosocial therapies (Carr et al., 2012; Morgan et al., 2017).

The community management of serious mental illness or complex psychosis follows the model of assertive community treatment (ACT) and the step-down model of the community mental health team in Victoria. Harvey et al.'s (2012) study of patients receiving ACT found the majority were single (72.2%), male (63%), and of Australian origin (62.2%). Their mean age was 37.4 years (SD 11.4). Most had a diagnosis of Schizophrenia. They had a median of 7.5 admissions in total. They had two inpatient admissions of a median duration of 40 days (considered longer than usual) within two previous years. Over one-third had a history of violence in the previous two years, with most episodes requiring police intervention. One in ten had a history of homelessness in the previous two years.

Davies et al. (2023) studied community patients referred to statewide tertiary referral service for Psychosis in New South Wales (Australia). They found patients had a mean age of 39.7 (SD 13.9), were mostly male (61%) with only 6.1% First Nations. The average duration of illness was 16 years (SD 12.6). Two-thirds had physical health comorbidities, and a quarter had substance use comorbidity. Almost two-thirds have been prescribed clozapine at some

point and one quarter were currently on clozapine like SHIP study finding (Morgan et al., 2017). Polypharmacy was high at 37.8%. A fifth had received ECT in the past. Only a third had received psychological therapy. None had cognitive remediation therapy. This finding is similar to SHIP study (Morgan et al., 2017).

Gallagher et al. (2000) found that the HoNOS rating for ACT patients was 15.3 (SD 6.3)compared to case management patients of community mental health teams, 8.9 (SD 5.7), which indicates a higher level of disability in the ACT patients. Davies et al. (2023) found HoNOS rating for patients was 27.9 (SD 6.2) and LSP 28 (SD 8.7). Although the studies are not comparable, the study populations are similar and therefore, high HoNOS scores in both studies are an important finding that helps characterise this complex cohort in the community.

Harvey et al. (2012) reported that patients living with psychosis continue to experience homelessness, with a mean of 155 days and 99 days of homelessness over the past year. There was a mismatch between current and preferred accommodation e.g., one-tenth of patients (11%) were living in supported accommodation, but it was preferred by only 2.8 % (Harvey, Killackey, et al., 2012).

1.6 The characterisation of complex cohort in inpatient rehabilitation programs: Current evidence

Studies conducted to understand accepted patients' clinical needs and demographic status in secure rehabilitation facilities provide some clinical directions to the referrals received by such secure units (Killaspy, Cardoso, et al., 2016; Melzer et al., 2004a). It is interesting to note the similarities and differences in the profiles of patients from low secure to high secure units.

Most studies (Berry et al., 2003; Harty et al., 2004; Huang et al., 2023; Neillie et al., 2007) in low, medium and high-secure units found that patients had similar socio-demographics but differed in clinical presentation in terms of comorbidity and forensic history. The patients across these units were usually male, aged between 18 and 69 years, with long-standing psychiatric histories, and predominantly had a lived experience of schizophrenia with comorbid substance use. Killaspy et al. (2016) study of fifty NHS mental health rehabilitation units including six inpatient rehabilitation units, found a median length of contact with services of 12 years and a median of four previous admissions. Two-thirds of patients were involuntary. Twenty per cent had previously been admitted to secure extended care units. The most prevailing risk profile was the risk of self-neglect and self-harm.

Co-morbidity, contact with mental health services, and forensic history vary depending on the receiving unit.

Huang et al.'s (2023) study at a low secure forensic rehabilitation unit in Australia showed low previous hospitalisation and prior forensic history. Prior to the index offence, over half of the patients did not have a previous psychiatric admission. Most patients committed a violent act. There was high comorbidity with substance use in 65% of patients. Alcohol, cannabis and methamphetamines were the predominant substances of use. Multiple substance use was prevalent in this cohort. Approximately half of the patients were on clozapine and half on depot medications (Huang et al., 2023).

Neillie et al.’s (2007) study into referrals and acceptance into low secure forensic unit in the United Kingdom found a low proportion with primary or comorbid diagnosis of personality disorder like Huang et al (2022). The Neillie et al.’s (2007) study could not find any significant predictors of acceptance into the program except for the mean number of convictions and legal status under the Mental Health Act 1983 criminal section Part III.

Melzer et al. (2004a, 2004b) explored the clinical and social needs of both admitted and waitlisted patients in medium secure hospitals in the UK. Over three-quarters had personality disorder features. Over 74% had previous or current criminal convictions, and 68% had committed violent acts. About 84% had been in contact with psychiatric services before referral. The most frequent reasons for referral were medication, the need for a secure environment, structured care and risk monitoring. The assessors reviewing the referral needs felt that 92 % of these patients could not be managed by local mental health services. The study highlighted that substance use treatment and psychological treatments were seldom identified as treatment needs. The factors predicting acceptance into the program were primary diagnosis of psychosis or acute schizophrenia, deterioration of mental state, being in prison, referred for diagnostic assessment. Patients who committed extreme self-harm were more likely to be accepted compared to verbally abusive or offensive patients. About 58% were rejected for admission based on dangerousness and the presence of personality disorder.

Berry et al. (2003) studied referrals to high secure hospital in the United Kingdom found majority of the cohort had a personality disorder (59%). Sixty-nine per cent had previous contact with mental health services. The majority had multiple acts of violence, including life-endangering violence (67%). Acceptance into the program was predicted by low global assessment scale of functioning scores, and offence of serious violence (Homicide, serious wounding). A diagnosis of mental illness was likely to lead to an offer of admission compared to the personality disorder group. Likewise, Harty et al.'s (2004) study into security and clinical needs of inpatients in high secure hospital in the United Kingdom found personality disorder was present in 45 % of the total sample, and intellectual disability (ID) in 10%. Over 70 % had previous admission with mental health services. A quarter of the patients had an index conviction of homicide, and 44% had previous violent offences. The

study concluded that 60 % require ongoing treatment in high secure psychiatric hospitals, and 21 % require medium secure units.

1.7 Existing models of care for complex patients

Current models of care for mental rehabilitation include partnerships with private sector or non-government organizations (NGO) and integrating peer-led services. NGOs in Australia have transitioned from stand-alone psychiatric disability services to a funding model under NDIS which is regulated by federal government legislation. This has been in place since 2013 in Australia. They work collaboratively alongside public mental health services (Smith-Merry et al., 2018; State of Victoria. Royal Commission into Victoria's Mental Health System, 2021). Mind the Gap report (2018) indicated that NDIS funded services can provide support to a small minority of patients needing care, and 91 % of patients with severe mental illness will continue to be provided by the AMHS. Further, NDIS support services are limited in service provision to assist with discharge from the facility. It is not able to ordinarily provide rehabilitation support whilst inpatient for an extended period as it considers that it is the hospital's responsibility to provide under universal service obligation (Office of Parliamentary counsel, 2024). Harvey et al.'s (2016) study of SHIP study participants found people living with psychosis who are homeless or living in marginalised accommodation and have significant difficulties in social functioning are less likely to take up services of rehabilitation and community linkage services of the NGOs. They may be excluded as they struggle to come up with the 'right goal' required by these NGO services.

Integration of NGO services within CCU is an example of partnership. Qualitative research has shown favourable experiences of care. However, long-term follow-up data is unavailable, and models remain untested (Parker et al., 2019). This kind of partnership has not been incorporated into SECUs. SECUs have essentially remained under the clinical governance of

the hospital system. Recovery approaches like peer support program and Safe wards initiative have been incorporated into programs, but availability and breadth of service provision are variable (Fletcher et al., 2019; State of Victoria. Royal Commission into Victoria's Mental Health System, 2021).

No current information is available about NDIS engagement by the cohort of complex psychosis who are referred to SECU as to their engagement and utilisation of NDIS services. It has long been identified that there exists a gap in service provision between forensic services and mental health services. This leads to vulnerable and high-risk patients not getting the necessary treatment (Carroll et al., 2021; Mullen & Ogloff, 2009). In this regard, Multiple and complex Needs initiative (MACNI) services were instituted in the early 2000s. This is under the Victorian Department of Health and Human Services and the Department of Justice and Regulation. They provide targeted, time-limited service to a small number of complex patients aged 16 years or over with severe mental illness and or Acquired Brain Injury (ABI) or intellectual impairment, severe substance dependence and violent or dangerous behaviours requiring intensive supervision and support. MACNI provides coordinated support using a care plan coordination model to develop individualised plans and case management across various agencies, and area mental health services The main aim is to improve quality of life, housing, social connectedness and safety. Focusing on this interface is important through developing relationships between participating agencies, sharing risks, mentoring and supervision and containment. Engagement with the person, agreement of goals, sequencing of goals, and evaluation of the success of each goal are critical. Further, consistency and specificity of each service role were key factors in the successful implementation of plans. Despite the program's success, no current cost/benefit analysis of this program is available (McDermott et al., 2024).

The Royal Commission into Victoria's Mental Health recognised the need for supported housing. It is envisaged that not all with SMI or Complex Psychosis can achieve complete freedom from disability in the long term. A model of care inclusive of the carer support has trauma recognition, with a strength-based approach through peer support, psychosocial (vocational and educational intervention with integration with clinical component (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021)

SECU has a significant role in the continuum of rehabilitation support available within public mental health services for a cohort of complex patients. Limited information is available about such units outside the forensic services. Therefore, a study was conducted to investigate the clinical, social, and risk complexity of patients referred and accepted to the Austin Health SECU over a 5-year period in Australia. Developing an in-depth understanding of the referral cohort will help ascertain the patient profile and guide best practices for services, a model of care, and the needs of these patients. This is the first study in Australia to investigate this complex cohort of patients.

2. Research Question

What are the social and clinical characteristics of patients referred to Austin SECU, and are any of these characteristics predictive of acceptance into the SECU program?

Primary aim: To explore and investigate the complexity of patients referred and accepted to the Austin Health SECU (Australia) over a 5-year period.

Secondary aim: To investigate the cohort of re-referred patients within the study period and examine their socio-demographic and clinical features.

Objectives:

1. To investigate the social demographic and clinical characteristics of adult mental health consumers referred to the SECU at Austin Health.
2. To explore diagnostic, risk and social predictors of acceptance into SECU.

Hypotheses:

1. It is expected that patients referred to SECU are of high psychosocial complexity and present with a level of risk not able to be appropriately managed in the community.
2. SECUs are considered later in an individual's treatment trajectory rather than for early intervention due to their inpatient rehabilitation model.
3. It is expected that a significant proportion of patients experience untreated or undertreated substance use disorder, which negatively impacts their mental health outcomes.

3. Methods

3.1 Study design

A retrospective study design was used. It is cost-effective as it is based on existing data and allows for historical insights into outcomes (Hess, 2004). A prospective study with the need for consent in this population is likely to be difficult. Retrospective study designs can look back at outcomes that have already happened, allowing for comparisons. Unfortunately, it cannot predict causality and suffers from non-random sampling, changes in practices, diagnostic criteria and treatment approaches over time, with limited control over confounders and accuracy of records (Hess, 2004).

3.2 Setting

The study was conducted at Austin SECU, a 25-bed inpatient rehabilitation facility in northeast Melbourne. It receives referrals from four AMHS serving the Northwest, Northern, Inner East, and Northeast metropolitan regions of Melbourne. Northeast Area Mental Health Service (NEAMHS) is responsible for the clinical and operational governance of Austin SECU. Together, they serve a catchment with a population of more than 1.3 million residents (Australian Bureau of Statistics, 2021b).

The SECU program comprises a multidisciplinary team of Consultant Psychiatrists, Registrar, Nurses, Clinical psychologists, Forensic Clinical Specialists, Occupational Therapists, Social workers, and Consumer consultants.

Rehabilitation is delivered through a multidisciplinary approach to psychoeducation, medication treatment, psychological treatment, family therapy, social work support for housing, independent living skills development, and group programs like memory skills and mutual help meetings. The Safewards initiative is part of the Austin SECU program (Fletcher

et al., 2019). The rehabilitation program is delivered alongside structured activity with external organisations under NDIS.

SECU allows for different treatments, including substance use treatment (opioid substitution), complex medication management, specialist assessments (Neuropsychological) and the development of behavioural management plans.

Referrers are required to complete a comprehensive SECU referral document and provide collateral supporting documentation like a risk assessment, mental health tribunal report, and specialist assessment reports. AMHS nominates patients for upcoming available beds in SECU. Regular meetings between AMHS liaison coordinators and SECU allow for discussion about potential referrals.

Once the referral is received, it is entered into the central referral database on shared drives of the Hospital Information Technology (IT) system. Each referral is discussed with the multidisciplinary team. Clarification of any information is done by the case conference with the referring team. Depending on the patient's situation, which includes mental state and accessibility to the patient (lost to follow-up or Absent Without Leave, prison, etc.), an assessment is offered. Once accepted, the patient is transferred to SECU. In some cases, mental health tribunal approval is required where involuntary patients object to such a transfer.

The patient is assessed for suitability for SECU admission based on a multitude of factors, which include severe prolonged illness, extensive psychosocial deficits, patient goals, repeated or protracted admissions to acute inpatient units, poor treatment response, concurrent medical and substance use, service goals, risk profile suitable for management in SECU environment, risk mitigation plans and supports available to manage within locked inpatient unit. Factors such as primary personality disorder, moderate to severe ABI injury or

intellectual disability, organic brain disorders, primary substance use disorder and a significant risk to staff are considered as exclusion reasons. The Office of the Victorian Chief Psychiatrist is an important stakeholder in some of the referrals from the Forensic system.

3.3 Study period

The study period was between 1 January 2019 and 31 December 2023. The period selection was based on the availability of a database of SECU referrals.

3.4 Study population (see Figure 1)

The study considered the 121 consecutive referrals to the SECU during the study period for 98 patients. Some patients had multiple referrals during the study period, and some had been referred to SECU before the study period (2019-2023).

All the first referrals during the study period were categorised as the Total sample (N=98). A re-referral during the study period was categorised as Re-referred. The unit of analysis was patients.

The Total sample was further categorised into Accepted (n=55) and Non-accepted groups (n=43). Data analysis was conducted for the Total sample and the subgroups (Accepted and Non-accepted patients). A separate analysis was done for the Re-referred group (n=20).

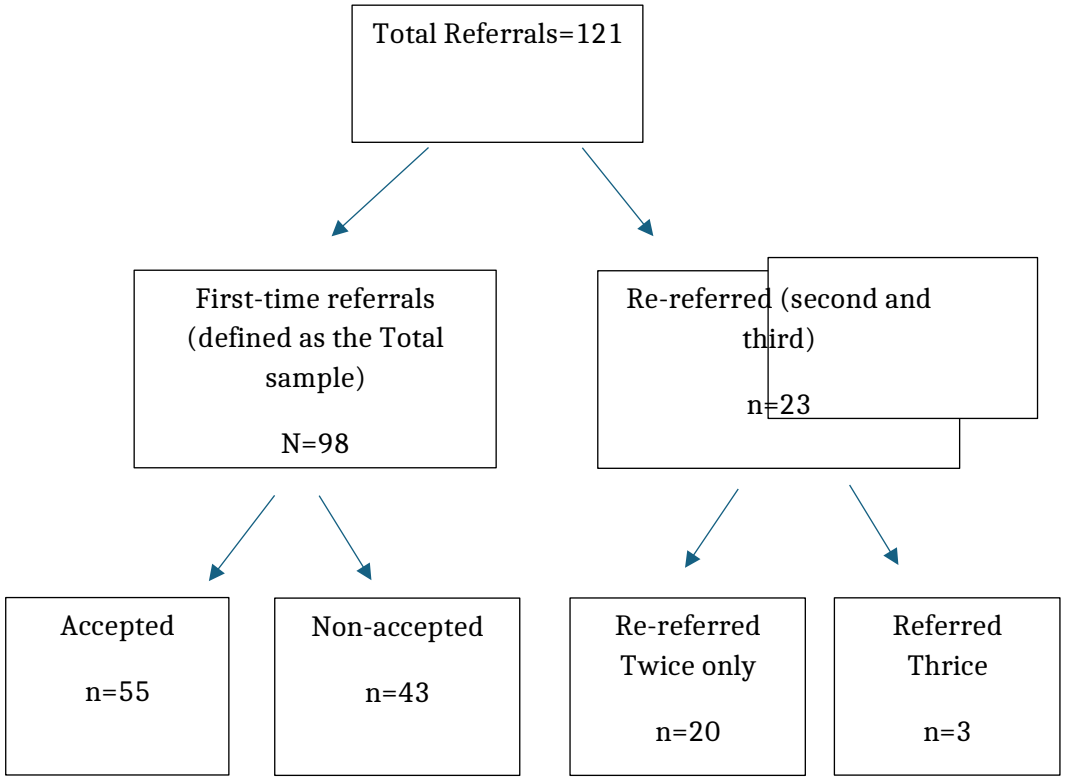

Figure 1. Distribution of patients to Total sample group, Re-referral and Accepted/Non-accepted patient groups.

3.5 Operationalising variables included in the analysis

Forensic admission is referred to as inpatient care in specific units within the Prison system in Victoria. Forensic orders refer to Secure Treatment orders and Custodial Supervision orders. Once the patient has been granted a Non-custodial Supervision order, they can step down to SECU from the Thomas Embling Hospital or other inpatient units within the Forensic system. Forensic history of patients was categorised using Australian and New Zealand Standard Offence Classification (ANZSOC, 2023) (Australian Bureau of Statistics, 2023). The age of index offence for patients was defined in the study as the age of first conviction. Setting at referral refers to the setting of the patient at the time of referral as documented in the SECU referral document (Community, inpatient, prison or Thomas Embling Hospital). AMHS often sends referrals whilst patients are in Prison to help with discharge planning. For admission to SECU, it is a requirement for patients to come through the inpatient unit to stabilise their mental state and complete any detoxification from substances.

The diagnoses in the patient file were derived from the 10th edition of the International Classification of Disease (ICD-10)(World Health Organization, 2004) . The years of contact with AMHS were calculated from the first contact. The total number of admissions was manually calculated using the Client Management Interface (CMI).

Homelessness was categorised using the Australian Bureau of Statistics (ABS) Homelessness operational group criteria 2021 (Australian Bureau of Statistics, 2021a).

Outcome measures of the Health of Nations Outcome Scale (HoNOS) (Wing et al., 1996) and Life Skills Profile (LSP) data (Rosen et al., 1989) were used to characterise a typical referred patient to SECU and accepted patient. The HoNOS and LSP were gathered from patient files on admission and CMI.

The investigators categorised the complexity of the presentation and interventions into three levels. The three levels grouped different social, clinical, and treatment factors. The groups are ordinal, with higher complexity in level III. Level I take into consideration definitions of Complex Psychosis and SPMI (Killaspy et al., 2021; Zumstein & Riese, 2020).

- Level I: Diagnosis of severe mental illness, severe functional impairment, cognitive dysfunction, length of illness > 2 years, multiple hospitalisations.
- Level II: Incarceration, 6 months hospital admission, significant risk behaviours, homicide and suicide attempts, unremitting illness, homelessness.
- Level III: Failed clozapine attempts, Electroconvulsive therapy (ECT), repeat admissions to SECUs, multiple imprisonments, or a combination of level I and level II.

Similarly, levels of interventions before referral to SECU were grouped, with level 3 indicating more intensive intervention. Assertive community treatment is considered as first level due to the complexity of patients compared to community case management (Harvey, Killaspy, et al., 2012)

- Level 1: Assertive community treatment.
- Level 2: Assertive community treatment plus one treatment episode of ECT and or clozapine, forensic, and or family intervention.
- Level 3: Assertive intervention and more than one episode of ECT, clozapine, and or forensic, family intervention, MACNI and or Office of the Chief Psychiatrist.

Patient and service goals were gathered from the free text responses in the referral form, where patients and service providers could express their goals. To bring meaning to these entries, the investigator read all 98 entries once and developed a series of codes that broadly covered the topics raised. The investigator went back to referrals to ensure that the codes

created covered all the issues mentioned for each patient and service entry. This resulted in 10 broad patient goals and 13 broad service goals. The investigator added up the total number for each broad goal. This was done by considering how many patients and service provider entries were related to each broad goal. This allowed the investigator to present and examine how common the broad goals were across the patient referrals and associated service provider entries on goals for each patient.

Patient broad goals domains included: Living independently/choice of accommodations, finding work, lifestyle choices/license/activities of daily living (ADLs)/finance, building and reconnecting with family including children, community re-engagement, substance use management, finding a partner, choice of treatment and provider, physical health, education. Service broad goals domains included: Containment or stabilisation or break cycle of admission or offending, review or optimisation or retrial of medication, abstinence or Drug and Alcohol and Other Drug intervention (AOD) intervention, develop skills/Activities of Daily Living (ADLs)/provide structure to develop routines, linkage with community supports/enhance or relink with NDIS, assessment (Neuropsychology, Occupational therapy, Psychology), reduction of risks like offending/self-harm, linkage with family/respite to family, physical health intervention, housing support, financial support, clarifying diagnosis, developing enhanced treatment plan.

Service utilisation prior to referral was presented by the categorical variable of GP and allied health engagement (psychologist, occupational therapist, social worker, etc.).

3.6 Data collection

The investigators reviewed the SECU referral database and coordinated with the electronic medical records analytics team (EMR) and AMHS-SECU liaison coordinators to ensure its completeness. A further search was conducted on the Victorian client management interface database. Data were manually extracted from the referral documentation and collated into a purpose-designed datasheet form. The information on the datasheet was then entered into SPSS (Appendix IV).

Incomplete referral data for items like HoNOS and LSP was accessed from Consumer Medical Information (statewide data service) and AMHS SECU liaison coordinators, who had access to patient files. Significant data were missing for these outcome measures for Non-accepted patients. Respective AMHS were approached to collect this information. Of the four AMHS from which patients were referred, information was accessible for patients referred from NEAMHS and Northern AMHS. The other two AMHS were contacted but were not able to provide information within the study time frame.

3.7 Statistical analysis

Data analysis was conducted using IBM SPSS for Macintosh Version 28 (IBM Corp, 2021). Descriptive statistics were used for categorical variables regarding frequency distribution and percentage, like gender and diagnosis. The median and interquartile range were used to represent continuous variables like age, number of hospital admissions, and age of index offence, as the Histograms indicated skewed data. The median and mode statistic was used for the Total sample and Accepted group HoNOS and LSP.

A complete case analysis was conducted. Data was complete for all the variables except for HoNOS and LSP, AOD intervention and motivation, Level of intervention and trauma. Data

were missing for HoNOS (26.5%) and LSP (34.6%) in the Total sample – mostly from the Non-accepted group. Due to this, no statistical comparison was conducted on these outcome measures between the Accepted and Non-accepted groups, and the data are presented as descriptive data. Trauma history was not recorded for 6 patients in the Total sample. This was excluded from the comparison between Accepted and Non-accepted groups. Due to the low sample size of Re-referrals, only descriptive data are provided.

Nonparametric tests were used due to data not being normally distributed. The Mann-Whitney test was used to compare various continuous variables across the groups of Accepted and Non-accepted into the program, e.g., socio-demographic and clinical profiles across two groups. P value significance was set at < 0.05. Chi-square tests for independence were used to compare categorical variables like diagnosis and forensic admissions. Where variables like diagnosis and relationship fell short of the expected cell count of 5 or more, the Fisher exact test was conducted. Chi-squared trend test was conducted for complexity levels (I, II, and III) and intervention levels (1,2,3) for Accepted and Non-accepted groups. Spearman's correlation coefficient was estimated to measure the strength of the association between socio-demographic and clinical factors with acceptance into SECU.

For creating a model of acceptance into the SECU program, the primary outcome variable was SECU acceptance (yes/no). A multivariate logistic regression analysis was employed to develop a predictive model for admission to SECU using enter method. All the independent variables whose p-value < 0.25 in the Chi-squared test or Mann-Whitney test were considered for inclusion (Bowers, 2008). These were age groups, substance use disorder diagnosis, personality disorder diagnosis, patient informed of referral, previous forensic admission, setting of the referral, legal status, AOD intervention and motivation, engagement with AOD, complexity of presentation, guardianship, length of involuntary order, perpetrator of family violence (FV), double depot treatment, level of intervention prior to referral. Collinearity was

assessed using Variance inflation factor (VIF) values less than 5 deemed acceptable. Ten events per outcome variable rule were considered for inclusion in the final model (Ranganathan et al., 2017). The Accepted group had nine ‘community patients’ in the variable setting of the referral and nine patients in the complexity variable (Level III), which didn’t meet the criteria for inclusion. These variables were retained due to clinical relevance and significant chi-squared results with low multi-collinearity. This considers the suggestion by Vittinghof & McCulloch Field (2007) about relaxation of the rule of ten events per variable in logistic regression.

The final model included previous forensic admission, setting of the referral, and complexity of presentation. The other variables failed to predict model of acceptance. The analysis estimated adjusted odds ratios (ORs) with 95% confidence intervals (CIs) for each covariate, allowing for the quantification of associations between predictor variables and SECU admission outcomes. Significance testing was conducted at the 0.05 alpha level, with variables yielding a p-value < 0.05 considered statistically significant.

3.8 Ethics

The study protocol and the data sheet form were approved by Austin Hospital and Oxford Tropical Research ethics committee (HREC/84769/Austin-2022; OxTREC HREC 577-23)

3.9 Role of the funding source

Austin Foundation provided a seed grant. The funder had no role in the design, data collection, data analysis, data interpretation, or writing of the report.

Non -accepted

n=8

4. Results

Austin SECU received 121 referrals for 98 patients between 1 January 2019 and 31 December 2023.

4.1 Total sample and group comparison (Accepted/Non-accepted)

Ninety-eight first referrals to the program during the study period made up the Total sample. The results below are presented separately for the Total sample (n=98) and, of this group, those that were Accepted (n=55) and Non-accepted (n=43).

Demographic characteristics

The median age of the referred Total sample was 34 years (IQR 28.5 to 39.5). Most referrals came for patients in a younger age group (51%,18-34 years of age). Most were single (82.7%), males (66.3%), of European ethnicity (39.8%), with English speaking background (80.6%). Most were educated to secondary school year level, having completed at least 10 years of school education (71.4%). Most of them had family (69.4%) who supported referral to SECU. Only 15 % had children. NDIS support was lacking for most (62.2%) of the sample. Most received disability benefits (80.4%), with homelessness reported in 40% (Table 1a). Details of Homelessness categories in Appendix (Table SI). The Accepted and Non-accepted groups were not statistically different for socio-demographic variables (Table 1b).

Table 1a: Socio-demographic for the Total sample

Socio-demographics	N=98 n or Median	% or [IQR]
Age in years*	34	[28.5, 39.5]
Age groups in years 18-24 25-34 35-44 45-64 55-64	 8 42 31 13 4	 8.2 42.9 31.6 13.3 4.1
Gender Male Female Transgender	 65 32 1	 66.3 32.7 1
Education in years*	11	[10,12]
Secondary Education Year 10 and above	70	71.4
Single	81	82.7
Children	15	15.3
Disability benefits	78	80.4
English Speaking background	79	80.6
Aboriginal/First Nation	7	7.1
Ethnicity European Oceania Middle Eastern	 39 33 12	 39.8 33.7 12.2
Homelessness	39	39.8
Family involved	68	69.4
Family supportive of admission	60	61.2
NDIS Support present	37	37.8
Engagement with NDIS disengaged (n=37)	22	59.4

* Median and Interquartile range was considered as data is Skewed

Table 1b: Socio-demographic profile of the Accepted and Non-accepted groups

Variables	Accepted (N=55)		Non-accepted (N=43)		p value
	n/Median	% or [IQR]	n/Median	% or [IQR]	
Age*	34	[28, 41]	35	[29,38]	0.989
Age groups[&]					
18-24	7	12.7	1	2.3	0.199
25-34	22	40	20	46.5	
35-44	16	29.1	15	34.9	
45-54	9	16.4	4	9.3	
55-64	1	1.8	3	7	
Gender					
Male	34	61.8	31	73.8	0.277[#]
Female	21	38.2	11	26.2	
Education in years*	11	[10,12]	11	[10,12]	0.646
English Speaking Background	43	78.2	36	83.7	0.609
First Nation /Aboriginal[&]					
yes	4	7.3	3	7	1.0
No	51	92.7	40	93	
Cultural Background[&]					
European	24	43.6	15	34.9	0.611
Oceania	17	30.9	16	37.2	
Relationship[&]					
(Single)	43	78.2	38	88.4	0.596
Rest (separated, divorced, partner)	12	22.8	5	11.6	
Children	10	18.2	5	11.6	0.377
DSP	44	80	35	81.4	0.862
Homelessness	21	38.2	18	41.9	0.712
Guardianship (full and Any)	19	34.5	18	41.8	0.459
Family involved	40	72.7	28	65.1	0.417
Family supportive	35	63.6	25	58.1	0.383
Has NDIS supports	18	32.7	19	44.2	0.370
NDIS engagement[&] (Poor/ disengaged)	9 (n=18)	50	13 (n=19)	68.4	0.281

* Mann-Whitney U test, [&] Fisher Exact test,[#] Transgender excluded from analysis

Clinical characteristics

Of the 98 patients constituting the Total sample, most had an ICD-10 diagnosis of Schizophrenia (65.3%), followed by schizoaffective disorder (32.7%). Personality traits or disorders were present in 50 per cent of these referrals among other comorbidities. Fifty-three per cent of patients with schizophrenia had personality traits/disorders. Cluster B traits predominated in the schizophrenia patients (34.3%).

A neurodevelopmental condition (ASD, ADHD, ID) was present in 18.2 per cent of the Total sample (Table 2a). ABI was present in 13 patients (13.2%) as a comorbid condition. Cognitive impairment was present in one-third of the Total sample, and a further one-third were suspected to have the same. Accepted and Non-accepted groups did not differ statistically in terms of clinical characteristics like personality disorder/traits (Table 2b).

Table 2a: Clinical characteristics of the Total sample (N=98)

Primary Diagnosis*	N=98 n	%
Schizophrenia	64	65.3
Schizoaffective disorder	32	32.7
Bipolar Disorder	1	1
Eating disorder	1	1
Other Comorbid Diagnosis*		
Any personality traits/Disorders	49	50
Dissocial personality disorder	25	25.5
Borderline personality	6	6.1
Narcissistic personality	4	4.0
ABI and personality disorder	6	6.1
ADHD	9	9.1
Intellectual disability	7	7.1
ASD	2	2.0
Cognitive impairment: Suspected	32	32.7
Cognitive impairment: present	26	26.5
ABI (Mild/Mod/severe)	13	13.2

*ICD-10 diagnostic group.

Tables 2b: Clinical Characteristics of Accepted and Non-accepted groups

Variables	Accepted (N=55)		Non-accepted (N=43)		p value significance
	n	%	n	%	
Primary Diagnosis*[&]					
Schizophrenia	35	63.6	29	67.4	1.0
Schizoaffective	18	32.7	14	32.6	
disorder	1	1.8	0	0	
Bipolar Disorder	1	1.8	0	0	
Eating disorder					
Comorbid Diagnosis*					
Substance use	43	78.1	38	88.3	0.186
disorder					0.154
Any Personality	24	45.2	25	58.1	
Disorder					
ABI[#]	5	9.0	8	18.6	
Intellectual disability[#]	3	5.4	4	9.3	
ADHD[#]	8	14.5	1	2.3	
Cognitive impairment:					
Suspected	21	38.2	11	25.6	0.423
present	13	23.6	13	30.2	

*ICD-10 diagnostic groups.

[&] Fisher Exact test

Descriptive only

Clinical history

For the Total sample, median contact with mental health services was 14 years (IQR, 8,20 years), median number of public hospital admissions was 12 (IQR 7,20.5), and the median time since first involuntary treatment was 8.5 years (IQR 5,15). The median HoNOS score was 20 (IQR 14,23), and LSP was 22.5 (IQR 16. 5,27). Most patients were informed of the referral, but only 37.6 %were accepting of their referral to SECU. A small proportion of patients had been previously referred before the study period (26.5%) and admitted (20.4%) to SECU (before 2019). Less than half of the patients had a forensic admission (44.5%). Most of the referrals came in when a patient was in an acute inpatient unit (66%), where more than half of them had a length of stay of less than 3 months prior to their referral (56.1%). The median number of acute psychiatric unit admissions was 2 (IQR 1,5) (Table 3a).

The Non-accepted group had 2 median years more contact with mental health services than the Accepted group. The total number of public admissions also differed by 2. The HoNOS and LSP scores in the Accepted group were not different from the Total sample scores due to missing data for the Non-accepted group.

More patients were informed about their referral to SECU in the Accepted group. Both groups were not different in terms of patients' acceptance of referral. A higher proportion of the Accepted group had length of admission up to 3 months in an acute inpatient unit before being transferred to SECU (69%) compared to Non-accepted patients. More patients from the Accepted group had a CCU and or SECU admission in the past. Non-accepted patients had more Forensic admissions compared to the Accepted group (62.8 % vs. 30.9%). This was significantly different ($x2= 9.9$, $df=1$, $p=.002$). A previous forensic admission was negatively correlated with acceptance to SECU ($rho=-.318$, $p=0.001$). The Odds ratio for acceptance was 0.265 (95% CI 0.114-0.615) $p=0.002$.

More Accepted patients were inpatient (81.8 vs 48.8%) at the time of referral compared to the Non-accepted group (Table 3b). Excluding the patients in Thomas Embling hospital and prison (n=10), the odds being accepted from inpatient units was 2.14 and odds of being accepted from community was 0.69. The Odds Ratio (OR) was 3.095 (95% CI 1.14-8.37) p =0.026, indicating a statistically significant difference.

Table 3a: Clinical history for the Total sample (N=98)

Clinical variables	N=98 n/Median	% or [IQR]
Median number of years of* contact with MHS	14	[8, 20]
Median time since first involuntary contact	8.5	[5, 15]
Median number of admissions prior to SECU *	12	[7, 20.5]
Median HoNOS scores (n=64) Max score possible 48	20	[14,23]
Median LSP scores (n=64) Max score possible 48	22.5	[16.25,27]
Patient informed of referral	77	78.6
Patient accepting of referral	29	37.6
Previous SECU referral	26	26.5
Previous SECU admission	20	20.4
Previous CCU referral	30	30.6
Previous Forensic or Prison Hospital admission	44	44.9
Setting of Patient at referral Inpatient Community Prison/Hospital Thomas Embling Hospital	 66 22 8 2	 67.3 22.4 8.2 2.0
Length of inpatient hospitalization before SECU referral (n=69) <1 month 1-3 month 3-6 month >6 months	 31 24 6 8	 31.6 24.5 6.1 8.2 29.6
Median admission to inpatient in last 12 months	2	[1,5]

*Median is used as data is Skewed

Table 3b: Comparison of clinical history between the Accepted and Non-accepted groups

Clinical variables	Accepted (N=55) n/Median	% or IQR	Non-accepted (N=43) n/Median	% or IQR	p value Significance
Total number of years of contact with MHS*	13	[8,20]	15	[9,20]	0.576
Median time since first involuntary contact*	8	[5,12]	9	[5,16]	0.839
Total number of admissions prior to SECU*	12	[7, 17]	14.5	[6,24]	0.335
HoNOS scores#	20 (n=55)	[14,23]	24 (n=10)	[21,25]	
LSP scores#	21 (n=54)	[15.75,26]	28.5 (n=10)	[24,35]	
Patient informed of referral	46	83.6	31	72.1	0.167
Patient accepting of referral	17	36.9	12	38.7	0.667
Previous SECU referral (past 5 years)	15	28.3	11	25	0.851
Previous SECU admission	11	20.0	9	20.9	0.910
Previous CCU referral	19	34.5	11	25.6	0.339
Previous Forensic or Prison Hospital	17	30.9	27	62.8	Significant χ^2=9.9, df=1, p=.002
Setting of Patient at referral&					
Inpatient	45	81.8	21	48.8	Significant, χ^2=16.2, df=3, p=0.001
Community	9	16.4	13	30.2	
Prison	0	0	8	18.6	
Thomas Embling hospital	1	1.8	1	2.3	
Length of stay in inpatient unit prior to referral to SECU&					
<1 month	19	34.5	12	27.9	0.377
1-3 month	19	34.5	5	11.6	
3-6 month	4	7.3	2	4.7	
>6 month	4	7.3	4	9.3	
Previous admission to APU in 12 months*	2.5	1,5	2	1,4	0.254

*Mann-Whitney U test

[&] Fisher Exact test
[#] Descriptive only

Most of the Total sample had a comorbid substance use diagnosis (82%). Among substances, cannabis (77.7%) was the single most common substance, followed by amphetamines (69.1%) and alcohol (45.6%). Median number of substances was 3 over their lifetime. Most had a current diagnosis of multiple substance use (58%) (Table 4a, 4b).

Most were pre-contemplative about harm minimisation (67.9 %), and 27% engaged with AOD services. Opioid substitution therapy (current and past) was taken up by 65 % of opioid users (Table 4b).

Lifetime use or type of substance was not significantly different between Accepted and Non-accepted groups. The Non-accepted group had slightly more substance users (n=38, 88.4%) compared to the Accepted group (n=43, 78.2%). Accepted patients were twice as likely to be pre-contemplative but also engaged with AOD services, but this was not statistically different from the Non-accepted group (Table 4c).

Table 4a: Substance use characteristics of the Total sample

Comorbid Substance use*	N=98 n/Median	 % or [IQR]
Any Current Substance use	81	82.6
No substance use	17	17.3
Median number of substances used (lifetime) Excluding nicotine	3	[1,4]

*ICD-10 diagnosis

Table 4b: Characteristics of Substance use and AOD intervention for the Total sample.

Nature of Substance	n=81	%
Multiple Substance use (>2)	47	58
Cannabis	63	77.7
Amphetamines	56	69.1
Alcohol	37	45.6
AOD intervention and motivation Pre-contemplative Engaged with AOD services	 55 22	 67.9 27.1

AOD: Alcohol and Other Drug

Table 4c: Substitution therapy (Opioid users in the Total sample)

Opioid user	n=26	%
Substitution therapy Both current and past (yes)	17	65.3
Methadone	5	19.2
Buprenorphine Sub lingual	4	15.3
Buprenorphine injection	1	0.04
Both methadone and suboxone	1	0.04

Table 4d: Substance use characteristics of the Accepted and Non-accepted groups

Substance use disorder*	Accepted (n=43)		Non-accepted (n=38)		p value
	n/Median	% or [IQR]	n/Median	% or [IQR]	
Lifetime median substance use[&]	2	[1,4]	3	[2,4]	0.5
Multiple Substance use[@]					
Stimulant	25	58.1	24	63.1	
Alcohol	5	11.6	4	10.5	
Cannabis and	7	16.2	3	7.8	
stimulant	3	6.9	3	7.8	
Opioid	0	0	1	2.6	
AOD intervention and motivation					
Pre-contemplative	14 (n=41)	34.1	7 (n=39)	17.9	0.130
Engaged with AOD services - yes	15	36.5	7	17.9	0.158
Substitution therapy Both current and past (yes)	8	19.5	9	23	

*ICD-10 diagnosis

[&]Mann-Whitney U test

[@] Descriptive only

Complexity, trauma, and child sexual abuse (CSA)

Most patients in the Total sample had a history of trauma (84.6%), and a smaller proportion had a history of CSA (32.7%). Trauma experience was comparable across the Accepted and Non-accepted groups (80.4% vs. 87.8%).

The Total sample had a majority with the complexity of level II (38.8%), followed by level I (36.7%) and Level III (24.5%). The complexity levels are compositive variables that combine several clinical variables (See Methods).

The Accepted group had lower complexity levels I (45%) and II (38%), while the Non-accepted group had higher complexity levels II (39.5%) and Level III (34.5%) (Table 5). There was a trend towards statistical significance between acceptance and lower levels of complexity (p=0.05). (Table 5a).

The odds ratio for Level I complexity to get admitted compared to Level III was 3.788 (95% CI 1.275-11.254) p=0.017. Level II was not statistically different to level III.

Table 5: Complexity, trauma, and child sexual abuse (CSA) for the Accepted and Non-accepted groups

Variables	Accepted	Non-Accepted	Significance

	(N=55)		(N=43)		between groups
	n	%	n	%	
History of trauma	41	80.4	36	87.8	0.344
Child Sexual Abuse (CSA)	17	37	15	38.5	0.888
Complexity of presentation*					
Level I	25	45.5	11	25.6	χ^2=5.98, df=2
Level II	21	38.2	17	39.5	p=0.05
Level III	9	16.4	15	34.9	

*Level I Dx severe mental illness, Severe functional impairment, cognitive dysfunction, length of illness > 2 years, multiple hospitalisations)
Level II (incarceration, 6m hospital admission, significant risk behaviours, homicide and suicide attempts, unremitting illness, homelessness)
Level III (Failed clozapine attempts, ECT, repeat admissions to SECUs, multiple imprisonments, combination of LI and LII factors)

Physical Health

In the Total sample, most patients had a medical comorbidity (80%). This was up to 3 medical illnesses (51%).A smaller proportion (13.3%) had more than 5 illnesses. Hepatic issues predominated (20.4%), followed by metabolic issues (17.3%). More than twenty per cent of the total sample tested positive for Hepatitis C, and a small proportion tested positive for Hepatitis B (2%). The rest of the cohort was untested or had unknown hepatitis status (75%). Most referred patients from the Total sample did not have a GP or did not engage with a GP (56.7%) (Table 6a).

Controlling for age and gender, number of medical illnesses was not significantly different across Accepted and Non-accepted groups. Non-accepted patients had more Hepatic issues compared to the metabolic and cardiac risks in the Accepted group. More patients had Hepatitis C in the Non-accepted group. Due to the small numbers in each group, statistical analysis was not conducted. More patients from the Accepted group engaged with a GP, but this was not statistically significant (Table 6b).

Table 6a: Physical Health for the Total Sample

Physical Health variables	N=98	%

	n	
Number of Medical illnesses		
0	18	18.4
1	29	29.6
2-3	21	21.4
3-5	17	17.3
5+	13	13.3
Medical categories		
Liver	20	20.4
Metabolic syndrome	17	17.3
Other	15	15.3
Endocrine	9	9.2
Neurological	8	8.2
Cardiac	6	6.1
Respiratory	3	3.1
Hepatitis C	21	21.4
Hepatitis B	2	2.0
Both Hepatitis B and C	1	1.0
Not tested or unknown	74	75.5
Engaged with GP	43	43.3

Table 6b: Physical health for the Accepted and Non-accepted groups

Physical Health	Accepted	Non-accepted	p value

variables	(N=55)		(N=43)		significance
	n	%	n	%	
Number of Medical illnesses*					
0	12	21.8	6	14	0.621
1	14	25.5	15	34.9	
2-3	11	20	10	23.3	
3-5	9	16.4	8	18.6	
>5	9	16.4	4	9.3	
Engaged with GP	26	47.3	17	39.5	0.444
Medical categories[&]					
Liver	6	10.6	14	32.6	
Metabolic syndrome	11	20	6	14	
Endocrine	7	12.7	2	4.7	
Cardiac	5	9.1	1	2.3	
Hepatitis C	7	12.7	14	32.6	
Hepatitis B	1	1.8	1	2.3	
Both Hepatitis B and C	1	1.8	0	0	
Not tested or unknown	46	83.6	28	65.1	

* Mann-Whitney U test
# Fisher Exact test
&Descriptive only

Legal status

Most of the Total sample were involuntary under the Mental Health Act (90%), with the length of orders of up to 6 months (74.5%). Around a third of patients were under guardianship orders. Ninety per cent of patients did not have a nominated person and advance statement under the Mental Health Act. A small proportion was under forensic order (the Crimes Mental Impairment and Unfitness (CMIA) Act 1997 (7%) (Table 7a).

The involuntary legal status and length of orders were comparable between Accepted and Non-accepted groups (Table 7b, 7c). There was a statistically significant association between mental health legal status (involuntary) and acceptance into SECU when examining the subgroup of patients who were voluntary and involuntary (rho=-0.357, $p<0.001$). There were no voluntary patients in the Accepted group. Most voluntary patients in Non-accepted group were in Prison. Logistic regression was not run due to the small number of voluntary patients in the study.

Table 7a: Mental Health Act status, Guardianship Act, and Forensic order for the Total sample

Legal variables	N=98 n	%
Involuntary order*	89	90.8
Forensic order#	4	4.1
Voluntary*	5	5.1
Mental health order Length of order (6-12 month) Length of order (3-6 month) <3 month	 33 36 20	 33.7 36.7 20.4
Guardianship and Administrators (Any)	37	37.7
Advanced statement (No)	89	90.8
Nominated person (No)	89	90.8

*MHA 2014 and MHWA 2022

#CMIA

Table 7b: Mental Health Act status, Guardianship Act, and Forensic order for the Accepted and Non-accepted groups

Variables	Accepted (N=55) n	%	Non-accepted (N=43) n	%	p value Significance
Involuntary order*	54	98.2	35	81.4	
Forensic order#	1	1.8	3	7.0	
Voluntary*	0	0	5	11.6	
Guardianship (Any)&	19	34.5	18	41.8	0.182
Advanced statement (No)&	48	87.3	41	95.3	0.291
Nominated person (No)&	51	92.7	38	88.4	0.5

* MHA 2014 and MHWA 2022

CMIA

& Fisher Exact test

Table 7c: Length of Mental Health order (MHA 2014 and MHWA 2022) in the 12 months before referral for the Accepted and Non-accepted groups (n=89)

MHA order	Accepted (n=54)	Non-accepted (n=35)	p value

					significance
Length of the order (6-12 month)	18	33.3	15	42.9	0.175
Length of order (3-6 month)	26	48.1	10	28.6	
Length of order <3 months	10	18.5	10	28.6	

Forensic history

More than four-fifths of the Total sample had a current or past forensic history, with a median index (first) offence of 20.5 years (IQR 16, 27.5). Only 14 % had a history of youth offending, and 73% had a past conviction. About a median of 9 years (IQR 3.5,19) elapsed between Index offence and referral to SECU (excluding patients who were previously referred and admitted to SECU).

The most common antisocial behaviour (59.2%) was a combination of different acts (Appendix Table SII, Table 8a); violence was the single most common act, with seventy per cent convicted of violence in the past. Sixty per cent of the total sample had a history of Family Violence (FV) and had an Apprehended Violence Order (AVO) at some point in time. The study found 3 cases were FV was documented in the file but not reported to the Police. Ten per cent had been victims of violence or family violence and had AVO. One-third of referrals had up to 3 pending charges up in front of courts. Almost two-thirds were on bail. The gravest offences noted were assault, harm or endangering a person (Tables 8a, 8b).

There were no differences in index age, past conviction, pending charges, or nature of offences between Accepted and Non-accepted groups. More patients were bailed in the accepted group (21.8 vs. 18.6 %) and had a family violence perpetrator history (67 % vs. 60%) compared to the non-accepted group. The Accepted group had patients who had committed homicide, and the Non-accepted group had more patients with sexual offences. Assault, harm or endangering a person and homicide groups had higher representation in the accepted group. However, these were not statistically significant (Table 8c,8d).

Table 8a: Forensic history for the Total sample

Forensic variables	N=98 n/Median	% or [IQR]
Forensic History	87	88.8
Age of index offence in years (n=65) *	20.5	[16,27.5]
Difference of Age (Index offence -SECU referral Age)	9	[3.5,19]
History of youth offending	14	14.3
Nature of antisocial behaviours (Combination of acts Violence/acquisitional/breaching)	58	59.2
Convicted of Any Act in the past	72	73.5
Type of conviction (n=72) Combination Violence Others (Driving/Drug related/Acquisitional)	 50 18 4	 69.4 25 5.5
Pending charges awaiting court	42	42.9
Number of pending charges No charges 1-3 4-6 7+	 55 33 8 2	 56.1 33.7 8.2 2
Nature of pending charges Assault Breaching AVO, Correction order, Bail Criminal damage/theft/robbery/sexual assault/stalking/threats to kills	 I II III	
Criminal law status (n=54) Bail Community corrections orders Remand Custodial supervision order (community or inpatient) Good behaviour Bond Registered Sex offender	 33 5 5 3 2 1	 61.1 9.2 9.2 5.5 3.7 1.8
Perpetrator of FV and AVO*	61	62.2
Victim in AVO	9	9.2

*Family violence and Apprehended violence order

Table 8b: Gravest Offences (ANZSOC Criteria 2023) for the Total sample

Gravest offence historically	N=88 n	%
Assault	41	41.8
Harm or endanger a person	15	15.3
Homicide	5	5.1
Sexual offence	5	5.1
Weapons and explosive offence	3	3.1
Drug offences	3	3.1
Public order health and safety	3	3.1
Traffic and vehicle offence	3	3.1

Table 8c: Forensic History for the Accepted and Non-accepted groups

Forensic variables	Accepted (N=55) n or IQR	%	Non-accepted (N=43) N. or IQR	%	p value Significance
Forensic History	50	90.9	37	86	0.449
Age of index offence in years (n=65)*	21	[15.5,30.5]	20	[17,24]	0.729
History of past conviction	39	54.2	33	45.8	0.516
History of Antisocial behaviours Combination of acts violence	 33 9	 60 16.3	 25 5	 58.1 11.6	 0.885
Pending charges awaiting court	25	59.5	17	40.5	0.624
Number of charges Nothing outstanding 1-3 4-6 7+	 30 18 6 1	 54.5 32.7 10.9 1.8	 25 15 2 1	 58.1 34.9 4.7 2.3	 0.735
Criminal law status[&] Bail Community corrections orders Remand Good behaviour Bond	 23 4 0 2	 21.8 7.3 0 3.6	 10 1 5 0	 18.6 2.3 11.6 0	 χ^2=16.3, df=9, p=0.59 trend
Previous youth imprisonment[&]	6	10.9	8	18.6	0.540
Perpetrator of FV and AVO	37	67.2	26	60.4	Trend p=0.052
Victim in AVO[&]	5	9.1	4	9.3	0.754

* Mann-Whitney U test,
[&]Fisher Exact test

Table 8d: Gravest offence (ANZSOC classification, 2023) for the Accepted and Non-accepted groups

Gravest offence historically*	Accepted (N=55)		Non-accepted (N=43)		p value Significance
	n	% or IQR	n	% or IQR	
Assault	24	43.6	17	39.5	0.253
Harm or endanger a person	9	16.4	6	14	
Homicide	4	7.2	1	2.3	
Sexual offence	0	0	5	11.6	
Weapons and explosive offence	1	1.8	2	4.7	
Drug offences	2	3.6	1	2.3	
Public order health and safety	3	5.5	0	0	
Traffic and vehicle offence	2	3.6	1	2.3	

* Fisher Exact test

Treatment history

More than eighty per cent of the Total sample was on single depot and oral medication treatment. A small proportion (6.1%) was on double depot treatment and on clozapine (7%) at the point of referral. Polypharmacy was the norm rather than an exception with forty-seven per cent being on 3-5 psychotropic medications. One-third of all patients had discontinued clozapine by the time they were referred to the SECU. The main reason for discontinuation was nonadherence. More than two-thirds had never tried clozapine (Table 9a). Zuclopenthixol (oral or depot) and haloperidol (oral or depot) were preferred typical antipsychotics, and olanzapine (oral or depot) with paliperidone (oral or depot) was the preferred atypical antipsychotic. A small minority of patients (20%) had ever received ECT in the past, and 38 % of them had a good response (Table 9a).

None of the Non-accepted patients were on clozapine at the point of referral, and they were more likely to be on double-depot treatment. The preferred typical and atypical antipsychotics (first and second) did not differ between Accepted and Non-accepted groups (Table 9b). Level 2 intervention predominated in the Total sample (Table 9c). Level 1 intervention patients were twice as likely to be accepted into the program, but this was not significant. Non-accepted patients received Level 2 and 3 interventions (Table 9c, 9d). Linear by linear association (Chi-square trend) indicates that the level of intervention provided is linearly related to the likelihood of acceptance to SECU (Level 1=70%, Level 2=50%, Level 3=47.8%) (Table 9e); there was a trend towards significance (p=0.069).

Table 9a: Treatment history for the Total sample

Different treatment at referral	N=98 n	%
Double Depot treatment	6	6.1
Single Depot treatment	82	83.7
Current Clozapine	7	7.1
Number of psychotropic medications		
<3	46	46.9
3-5	46	46.9
>5	6	6.1
Clozapine Discontinued	29	29.6
Never Been Clozapine	65	66.3
ECT	21	21.4
Response to ECT -good	8	38

Table 9b: Treatment history for the Accepted and Non-accepted groups

Different treatment at referral	Accepted (N=55) n	%	Non-accepted (N=43) n	%	p value Significance
Double Depot treatment[&]	1	1.8	5	11.6	0.084
Single Depot treatment	49	89.1	33	76.7	0.101
Current Clozapine	7	12.7	0	0	χ^2=5.8, df=1, p=0.015
Number of psychotropic medications					
<3	25	45.5	21	48.8	0.949
3-5	26	47.3	20	46.5	
>5	4	7.3	2	4.7	
Clozapine Discontinued[&]	12	21.8	17	39.5	χ^2=7.3,df=2, p=0.25
Never Been Clozapine&	42	64.6	23	35.4	χ^2=5.6,df=2 p=0.59
ECT	11	20	10	23.3	0.805
Response to ECT - good*	6	60	2	20	

[&]Fisher Exact test, [*] Descriptive

Table 9c: Level of interventions provided before referral to SECU for the Total sample

Interventions	N=97* n	%
Level 1	34	35.1
Level 2	40	41.2
Level 3	23	23.7

Level 1: Assertive community treatment like community case management, mobile support team
Level 2: Assertive community treatment + one of ECT, Clozapine, forensic, family intervention
Level 3: Assertive intervention + more than one of ECT, Clozapine, forensic, family intervention + Multiple and complex needs, Office of the chief Psychiatrist, High risk panel)
*Missing 1 patient data.

Table 9d: Level of interventions and acceptance into SECU program.

Acceptance into program	Level of interventions			p value Significance/ χ^2 test for trend
	Level 1 n (%)	Level 2 n (%)	Level 3 n (%)	
Accepted	24 (43.6)	20 (36.4)	11 (20)	p=0.126
Non accepted*	10 (23.8)	20 (47.6)	12 (28.6)	Linear-by-linear association Possible trend[&] p=0.069

*Missing 1 patient data in Non-accepted group
[&]Chi-square trend (Linear by linear association)

Risk profile

Sixty per cent of patients in the Total sample had a combination of risk to self and others, followed by harm to others (31.6%) and risk to self (7.1%).

Among risk to self, self-neglect and sexual vulnerability ranked highest, followed by severe self-harm and suicidal attempts.

In terms of harm to others, physical threats and violence with sexual harassment and violence ranked high FV and weapons-related violence ranked next (Table 10a).

Controlling for age group and gender, there were no significant differences on risk profile across Accepted and Non-accepted patients (Tables 10a).

Table 10a: Risk profile of the Accepted and Non-accepted groups

Highest risk at Referral	Accepted (N=55)		Non-accepted (N=43)		p value Significance
	n	%	n	%	
Combined Harm to Self and others	33	60	27	62.8	0.699
Harm to Others	17	30.9	14	32.6	
Harm to Self	5	9.1	2	4.7	

Patient goals

For the Total sample, the top three goals were living independently and/or having a choice of accommodation, finding work, and having lifestyle choices. (Table 11a).

Accepted patients requested developing skills, finding work, and living independently compared to Non-accepted patients, whose focus was on making independent living choices, community re-engagement, and substance use management (Table 11b).

A lower proportion of the Accepted patients had expressed no goals on referral (43.6%) compared to 62.7% of Non-accepted patients.

Table 11a: Broad patient goals of the Total sample (N=98) (I being the most sought after goal)

Top Patient goal	Most common to least common
Live independently/choice of accommodations	I (Most common)
Finding work	II
Lifestyle choices/license/ADLs/finance	III
Building and reconnecting with family including children	IV
Community reengagement	V
Substance use management	VI
Finding a partner	VII
Choice of treatment and Provider	VIII
Physical health	IX
Education (complete)	X (Least common)

Table 11b: Broad patient goals of Accepted and Non-accepted groups (I being the most sought-after goal)

Top	Accepted	Non-accepted	Most

consumers goal	(N=55)	(N=43)	common to least common
	Develop routine, skills/license*/ ADLs/manage finances	Live independently/choice of accommodations	I
	Finding work	Develop routine, skills/license*/ADLs/manage finance	II
	Live independently/choice of accommodations	Community reengagement	III
	Building and reconnecting with family including children	Substance use management	IV
	Community reengagement[#]	Building and reconnecting with family including children	V
	Substance use management	Finding work	VI
	Finding a girlfriend/partner	Finding a girlfriend/partner	VII
	Choice of treatment and Provider	Choice of treatment and Provider	VIII
	Education (complete)	Physical health	IX
	Medication review		X
	None (43.6%)	None (62.7%)	

*Getting back Driving license

#discharge from prison, NDIS support, and attending community group programs

Service goals

The AMHS's primary aim for the patients appeared to be to containment and stabilisation and break the revolving door admission. This was followed by a review of medication and AOD intervention for the Total sample (Table 12a). Among the top four goals, containment and review of medications were important in both Accepted and Non-accepted groups. AOD intervention was higher on the AMHS list for Accepted patients and linkage with community and NDIS services for Non-accepted patients (Table 12b).

Table 12a: Broad service goals of the Total sample (from I as the most sought after goal)

Service (AMHS) Goals	Most common to least common
Containment or Stabilization or Break cycle of admission or offending	I
Review or optimization or retrial of medication	II
Abstinence or AOD intervention	III
Develop skills, ADLs, provide structure to develop routines	IV
Linkage with community supports, enhance or relink with NDIS	V
Assessment (Neuropsychology, Occupational therapy, Psychology)	VI
Reduction of Risks like offending, self-harm	VII
Linkage with family, respite to family	VIII
Physical health intervention	IX
Housing support	X
Financial support	XI
Clarifying diagnosis	XII
Developing enhanced treatment plan	XIII

Table 12b: Broad Service Goals of Accepted and Non-accepted groups (from I most sought after goal)

Top	Accepted	Non-accepted	Most

Service goal	(N=55)	(N=43)	common to least common
	Containment or Stabilisation or Break cycle of admission or offending	Review or optimisation or retrial of clozapine or other medication	I
	Abstinence or AOD intervention	Containment or Stabilisation or Break cycle of admission or offending	II
	Assessment (Neuropsychology, Occupational therapy, Psychology)	Develop skills, ADLs, provide structure to develop routines	III
	Review or optimisation or retrial of clozapine or other medication	Linkage with community supports, enhance or relink with NDIS	IV
	Develop skills, ADLs, provide structure to develop routines	Abstinence or AOD intervention	V
	Linkage with community supports, enhance or relink with NDIS	Assessment (Neuropsychology, Occupational therapy, Psychology)	VI
	Reduction of Risks like offending, self-harm	Reduction of Risks like offending, self-harm	VII
	Housing support	Linkage with family, respite to family	VIII
	Physical health intervention	Physical health intervention	IX
	Linkage with family, respite to family	Work/Financial support	X
	Work/Financial support	Clarifying diagnosis	XI
	Clarifying diagnosis	Housing support	XII
	Developing enhanced treatment plan	Developing enhanced treatment plan	XIII

Engagement with allied health and general practitioners

Of all the allied health professionals, the Social work discipline had the most contact with the total sample, followed by Occupational therapists. This cohort had the least contact with Psychologist among all the professions. Behavioural plans were found lacking in almost 66.7 % of the Total sample and more so in Non-accepted patients (74.5%) (Table 13).

Table 13: Engagement with allied health professionals for Total sample and Accepted/Non-accepted groups

Engaged with allied Health N(%)	Psychologist	Neuro-psychologist	Occupational Therapist	Social Worker	Behaviour management plan
Total N=98	25(25.5)	39(39.8)	42(42.9)	60(61.2)	33(33.7)
Accepted n-55	18(32.7)	20 (36.6)	25(45.4)	34(61.2)	22(40)
Non-accepted n=43	7(16.2)	18(41.8)	17(39.5)	26(60.4)	11(25.5)

Comparison of HoNOS profile of the Accepted patients and Total Sample.

The HoNOS profiles indicated that an Accepted patient had mild aggressive tendencies, agitation, minor cognitive problems, minor health problems, mild delusions and hallucinations mild depressive symptoms, mild anxiety, moderate problems in relationships due to active or passive withdrawal, lacking in ADLs, living in less than ideal accommodation with limited choice of activities. HoNOS for the Non-accepted group was not calculated due to small numbers (n=10) (Table 14a). The Mode differed for the Total sample for items of living situation, problems of drinking or drugs (higher score), and depressed mood (lower score) compared to Accepted patients.

Table 14a: HoNOS profile of the Accepted patients and Total Sample

HoNOS items	Accepted patients Median n=55	Total Sample* Median n=72	Accepted patients Mode score (%) n=55	Total Sample* Mode scores (%) n=72
Overactive, aggressive, agitated behaviour	1	2	2(34.5)	2 (33.3)
Non-accidental Self injury	0	0	0 (67.3)	0 (66.7)
Problem drinking or drugs	2	2	0 (32.7)	3(33.3)
Cognitive problems	1	1	1 (38.2)	1(38.9)
Physical illness or disability problems	1	1	1(36.4)	0(40.3)
Hallucinations and delusions	2	2	2(30.9)	2(31.9)
Depressed Mood	1	1	2(32.7)	0(31.9)
Other mental and behavioural Problems	2	2	2(anxiety) (50)	2(anxiety) (46.5)
Relationships	2	2	3(40)	3(37.5)
Activities of daily living (ADL)	2	2	2(36.4)	2(29.2)
Living Conditions	2	2	1(30.9)	2(30.6)
Occupations and activities	2	2	2(40)	2(38.9)

*Missing data for 26 patients from the Total sample.

Comparison of LSP of the Accepted patients and Total Sample

LSP scores indicated that Accepted patients had difficulty initiating and responding to conversation, and withdraws, showing warmth to others, were moderately well-groomed and clean, with neglect of physical health, rarely violent, had difficulty in maintaining friendships, moderately unreliable with taking medications, behaves irresponsibly, and capable of sheltered work. The Accepted patient and Total sample was similar in terms of LSP scores (Median and mode). The LSP scores for Non-accepted patients were not presented due to small numbers (n=10) (Table 14b).

Table 14b: LSP of the Accepted patient and Total sample

LSP items of accepted patients	Accepted patients Median n=54	Total Sample* Median n=64	Accepted patients Mode score (%) n=54	Total sample* Mode score(%) n=64
Does this person generally have any difficulty with initiating and responding to conversation?	1	1	1 (38.2)	1(37.5)
Does this person generally withdraw from social contact	2	2	2 (50)	2(48.4)
Does this person generally show warmth to others?	2	2	2 (50)	2(50)
Is this person generally well groomed (eg, neatly dressed, hair combed)?	1	1	1(46.3)	1(43.8)
Does this person wear clean clothes generally, or ensure that they are cleaned if dirty?	1	1	1(42.6)	1(40.6)
Does this person generally neglect her or his physical health?	1	1	1(48.1)	1(43.8)
Is this person violent to others?	1	1	2(33.3)	2(35.9)
Does this person generally make and/or keep up friendships?	2	2	1(42.6)	1(39.1)
Does this person generally maintain an adequate diet?	1	1	1(43.4)	1(39.7)
Does this person generally look after and take her or his own prescribed medication (or attend for prescribed injections on time) without reminding?	2	2	2(37.7)	2(36.5)
Is this person willing to take psychiatric medication when prescribed by a doctor?	1	1	1(66)	1(58.7)
Does this person co-operate with health services (eg, doctors and/or other health workers)?	1	1	1(64.2)	1(58.7)
Does this person generally	1	2	1(47.2)	2(42.9)

have problems (eg, friction, avoidance) living with others in the household?				
Does this person behave offensively (includes sexual behaviour)?	1	1	1(34)	1(31.7)
Does this person behave irresponsibly?	2	2	2(45.3)	2(39.7)
What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?	2	2	3(37.7)	3(33.3)

*Missing data excluded for 34 patients in the Total sample.

4.2 Predictors of acceptance

The covariates of setting, complexity level and past forensic admission were examined. In the unadjusted model, being in an inpatient setting was significantly associated with the outcome, with an OR of 3.095 (95% CI: 1.114–8.37, p = 0.026). Past forensic admission showed a significant negative association, with an OR of 0.265 (95% CI: 0.114–0.615, p = 0.002), indicating that individuals with a history of forensic admissions were less likely to be accepted into SECU. Complexity Level I, when compared to the reference category (Complexity Level III), was significantly associated with the acceptance (OR = 3.788, 95% CI: 1.275–11.254, p = 0.0017).

After adjusting for the above covariates, the association between the inpatient setting and the acceptance remained significant, with an adjusted OR of 3.168 (95% CI: 1.126–8.913, p = 0.029). However, the association for past forensic admission was attenuated and became non-significant (adjusted OR = 0.428, 95% CI: 0.150–1.220, p = 0.112). Similarly, the association for Complexity Level I also diminished and was no longer statistically significant (Table 15).

Table 15: Logistic regression predicting acceptance into the SECU program

Predictor variables	Adjusted ORs	Unadjusted ORs	95% Confidence Interval	p value
Setting (inpatient)		3.095	1.114-8.37	0.026
Past forensic admission (Yes)		0.265	0.114-0.615	0.002
Complexity level 1 (reference level III)		3.788	1.275-11.254	0.0017
Model				
Setting (reference community)	3.168		1.126-8.913	0.029
Forensic admission (reference No)	0.428		0.150-1.220	0.112
Complexity (reference Level III)	1.639		0.431-6.231	0.468

4.3 Re-referrals (See Appendix I for Tables SIII-SXI)

Twenty-three Re-referrals were received for 20 patients. Three patients were referred thrice and were not included in the analysis as they were represented within cohort of 20 patients.

The median age of the Re-referred sample was 37 years (IQR 29.5,45.7). This cohort was older compared to the Total sample. Most Re-referrals came for patients in the middle age group (45%,35-44 years of age). Most were single (90%), males (65%), of European ethnicity (50%), with English speaking background (95%). Most were educated to secondary school year level, having completed 10 years of school education and above. Most received disability benefits (85%) and were not considered homeless (70%). Most of them had family (70%) who were supportive of referral to SECU. NDIS supports were present in the majority of them (60%) compared to the Total sample group. The clinical characteristics were not different from the Total sample group with predominant diagnosis of Schizophrenia and Schizoaffective disorder. Most Re-referrals had a substance use disorder diagnosis with personality traits or disorder. More than 90% of Re-referred patients had a history of trauma, and fifty per cent had a history of child sexual abuse. This is much higher compared to the Total sample. Despite this, Post Traumatic Stress Disorder (PTSD) was not identified as a significant diagnosis in the re-referral cohort. The median contact with mental health services and rehospitalisation were higher in this cohort. Previous Forensic admission, SECU and CCU admission were also higher in this cohort compared to the Total sample.

Most Re-referred patients had a complexity of Level III followed by Level II, with Level 2 and 3 interventions provided. This is understandable in the context of the failure of management in the community, and different treatments had been provided including past SECU admission in the past.

The Re-referrals cohort had higher involvement with forensic services compared to the Total sample with a median index offence of 22 years (IQR 18.25). One-third of all Re-referrals

had a previous prison sentence or youth imprisonment. Fifty-five per cent of the Re-referral sample had a history of family violence and had an intervention order at some point in time which was similar to the Total sample. Most common nature of pending charges was related to assault, sexual assault followed by breach of AVO orders. Eighty-five per cent had been convicted of any criminal act in the past, which was higher than the Total sample. The risk profile, consumer goals, and service goals for Re-referrals did not differ compared to the Total sample group.

5. Discussion

The current study (referred to in this discussion section as the SECU study) is the first to describe characteristics of patients referred over a 5-year period to a SECU in Australia. Among the 98 first-time referrals studied, 56 per cent were accepted into the program. Twenty patients were re-referred, out of which three were referred thrice during the study period. Referrals showed a high level of psychosocial-physical complexity and high forensic involvement prior to the referral. This is in keeping with our hypothesis for the study. The SECU study findings provide important information about the needs and goals of the most complex cohort of patients in the Australian mental health system. The study provides direction to the model of care required to manage this complexity.

5.1 Comparison with previous literature: The SECU study findings were generally consistent with previous related studies from United Kingdom and Australia (Huang et al., 2023; Killaspy, Marston, et al., 2016; Lavelle, 2007; Melzer et al., 2004a). Socio-demographic like gender, ethnicity, education, relationship, parenthood, family support, and financial status matched the studies above. The clinical characteristics like diagnosis of Schizophrenia, physical health and choices of substances overall matched the profile of patients in those studies. However, as outlined below, there were crucial differences and important findings compared to previous related literature.

5.1.1 Socio-demographics: Most of the patient group were between 25 and 34 years old. This is a younger cohort compared to the waitlisted patients in the Irish rehabilitation study by Lavelle et al. (2007), community patients in Harvey et al. (2012) and Davies et al. (2023), and rehabilitation users in the Killaspy et al. (2016) study. The proportion of First Nations, CALD and LGBTIQ were a minority in the Total sample for the SECU study, keeping with the findings of Davies et al. (2023). The low proportion of the First Nations and CALD population could be related to the low population percentage in the serviced area of the Austin SECU. LGBTIQ proportions are possibly due to underreporting in our sample.

The study cohort had a much higher proportion of homelessness than the survey of community patients reported by Harvey et al. (2016; 2012). High homelessness could be associated with several factors that were not examined in the SECU study due to its retrospective nature. Some of these include severe mental illness, social disadvantage, forensic history, dissocial personality, childhood trauma, substance use or other factors like housing affordability, low income, challenges with reintegrating with mental health treatment, and mental health care access (Barry et al., 2024).

5.1.2 Clinical characteristics: Diagnostic co-morbidity was high in the SECU study presented above. This study found a higher proportion of personality and neurodevelopmental comorbidity (autism, ADHD, ID) compared to Huang et al. (2023) and Killaspy et al. (2016). There is increasing evidence of the presence of personality disorder comorbidity with Schizophrenia (Moore et al., 2012; Wei et al., 2016). Our study replicates this finding and affirms that this comorbidity has significant clinical consequences as it is more likely to have negative substance use, functional outcomes, cognitive and forensic involvement and adverse childhood life events (Moore et al., 2012). Personality disorder comorbidity is usually higher in medium secure units (30%) and high secure units (45 %) (Huang et al., 2023). This is a surprising finding given the SECU unit is a low secure unit.

PTSD was not a significant diagnosis in the Total sample for the SECU study despite the finding that trauma experience was high. More than three-quarters of the sample had a history of trauma, and one-third had a history of CSA. This is in keeping with the study by Harvey et al. (2016). There are several factors reported for under-detection and underdiagnosis of PTSD (Lommen & Restifo, 2009). This includes PTSD not being the presenting complaint, and patients and clinicians being reluctant to revisit trauma or not recognising the relevance of any prior trauma to the current presentation. This is further compounded by poor documentation of assessments and findings. The SECU study provides evidence that trauma

must be recognised as one of the contributing factors towards complexity in psychosis, like unremitting illness and functional decline, comorbidity and substance use, physical illness, and cognitive impairment (Lommen & Restifo, 2009). Barry et al. (2024) noted that homelessness and personality disorders often had common vulnerability factors like early life trauma or poverty. Adverse early life experience, including CSA, can have a predictive influence on the earlier development of mental disorders, more severe psychopathology, increased risk of comorbidity like substance use, hospitalisation, and less likelihood of responding to standard treatment (Herzog & Schmahl, 2018).

Substance use was high in the current study (82.6 %) compared to Huang et al. (2023) and Lavelle et al. (2007) study of waitlisted patients. The majority were pre-contemplative in the SECU study. The choice of amphetamines among multiple substance users may be related to its use to reduce apathy and lack of energy associated with schizophrenia or antipsychotic treatment (Nolte et al., 2004).

The current study noted low level utilisation of AOD services (27%). It was not possible to study the association with possible contributing factors, including homelessness, motivation, stigma, degree of unwellness, social support, and lack of integrated service provisions (Farhoudian et al., 2022). This confirms the SECU study hypothesis around significant comorbidity with substance use and unmet need for AOD service provision.

Cognitive impairment was present or suspected in 60% of the Total sample. This is in keeping with the concept of a complex psychosis cohort (Davies et al., 2023). The high cognitive impairment in the SECU sample is understandable in the context of substance use, physical comorbidity and personality disorders (McCutcheon et al., 2023; Moore et al., 2012). Cognitive impairment is associated with poor adherence to treatment, increased

likelihood of hospital admission, and longer lengths of stay (McCutcheon et al., 2023), which is then likely to lead to the SECU referral.

Chronicity of mental illness was understandable in the SECU study cohort, with a median contact of 14 years with mental health services, a median of 8.5 years since the first involuntary mental health treatment and a median number of 12 hospitalisations after first contact with mental health services. All patients had at least one involuntary treatment in the past is an interesting finding. This is a much higher hospitalisation compared to the findings of Killaspy et al. (2016) and Lavell et al. (2007). This also confirms our hypothesis patients are referred to SECU later in the journey of mental health recovery.

5.1.3 Physical characteristics: Hepatic issues predominated in the Total sample, with Hepatitis C in 21%. This is much higher than 6% found in the Davies et al. (2023) study. Braude et al. (2021) estimated that pooled Hepatitis C virus (HCV) seroprevalence was 8% in severe mental illness (SMI), which is higher than the general population. Reasons cited include substance use, social disadvantage, and cognitive and positive symptoms related to SMI, stigma, misconceptions of healthcare workers and diagnostic overshadowing (Braude et al., 2021; Preston et al., 2024). This is in keeping with the socio-economic and clinical status of the SECU study sample. Most patients in the SECU study did not engage with a GP (60%). This may partly explain why three-quarters of our study sample was not tested or had an unknown status for Hepatitis infection. This is an important finding, given that new treatments have helped make significant progress towards eliminating HCV in the general population (Preston et al. 2024). This needs to be offered to the SECU setting and the complex psychosis group. Australia has set its sights on eliminating Hepatitis C by 2030. This is not possible without a targeted approach toward the chronic mentally ill and substance-using population (Dore, 2021).

Metabolic syndrome was reported only in 17 % of our sample. This is possibly a significant underestimation given that metabolic syndrome is present in over 50 per cent of the inpatient population of SMI in Australia (John et al., 2009) and 58.5 % in the SHIP study of community case-managed patients (Harvey et al., 2016). This underestimation could be related to homelessness, lower GP engagement, social disadvantage, substance use and cognitive impairments in the SECU Total sample.

5.1.4 Forensic characteristics: The SECU study found only 14 % of the Total sample had a history of youth offending, but by the time they were referred to SECU, 89% had a forensic history, and 73% had a past conviction. A median of 9 years elapsed between Index offence and referral to SECU during the study period. This gives credence to the thinking that a lack of secure mental health beds leads to the criminalisation of mentally unwell and revolving door admissions (Carroll et al., 2021; Copolov & Bastiampillai, 2019).

The SECU study Total sample had a significant history of violence, particularly FV, with the gravest offence being assault or harm. SMI and comorbid substance use have an approximate 8-10-fold increase in the odds of committing violence, compared to only twofold without substance use comorbidity (Pickard & Fazel, 2013). Alcohol and cocaine have been reported to be associated with intimate partner violence, and methamphetamine with acquisitive offences. Multiple substance use, amphetamines, and heroin use have been associated with high recidivism (Pickard & Fazel, 2013). Likewise, personality disorders predicted violent offending and recidivism (Grann et al., 2008). The SECU study sample had significant comorbidity with substance use (82%), and personality disorder (50%) which could explain the forensic burden in the Total sample.

5.1.5 Risk characteristics: Self-neglect, sexual vulnerability and severe self-harm ranked high among risks to self in the Total sample. Physical threats and violence with sexual harassment

and family violence ranked high in risk to others. These findings are similar to Killaspy et al. (2016). Moore et al. (2012) found that comorbidity between personality and Schizophrenia leads to worse clinical outcomes in terms of increased suicidality, poor cognition and experience of childhood trauma. The high comorbidity with cluster B personality traits may explain high self-harm, sexual vulnerability, and violence risks in this SECU Total sample. The SECU setting provides care to both perpetrators of FV and serious assault and to patients who had lived experiences of sexual and FV prior to referral. This creates challenges in managing exposure and containment of risks within a restrictive setting and raises ethical concerns due to the limitation of freedom and autonomy. The inpatient and involuntary setting of treatment brings into play an imbalance of power and control, managing dangerousness vs. providing therapeutic environments. There is a risk that such an environment may traumatise patients (Edwards & Morris, 2024). Working with trauma in such a setting requires enhanced practitioners' knowledge and skills in developing trust with this vulnerable cohort of patients, balancing restrictive treatment of mental health conditions and risk management with providing an environment of safety, kindness and validation (Edwards & Morris, 2024). Recent Safewards initiatives in the SECU environment had a positive impact on both patient and staff experiences and is a step towards making these environments safe, respectful and increase patient participation in their care with dignity and hope (Fletcher et al., 2019).

5.1.6 Treatment: Polypharmacy in treatment was the norm rather than the exception in the current study. Morgan et al. (2017) findings of the SHIP study were that two-thirds were on more than one medication. Davies et al. (2023) reported 37 % had polypharmacy in their study.

Thirty percent of the Total sample had discontinued clozapine with a minority (7%) currently on it. This is much smaller compared to Huang et al. (2023) and Davies et al. (2023). A

portion of the patients who discontinued clozapine could be considered ultra-treatment resistant, requiring specialist treatment options like double depots. A small proportion of patients in the Total sample received double-depot treatments, which are off-label treatments and may reflect both desperation and convenience in psychopharmacology treatment. This is particularly noteworthy as 70% per cent of patients had discontinued clozapine due to non-compliance. Patients are offered double depot when they have failed clozapine trial or cannot tolerate it, or prefer not to take it. Double-depot treatment tends to improve compliance with medication but requires close physical health monitoring like extra pyramidal side effects (Lenardon et al., 2017).

Surprisingly, two-thirds of the Total sample never tried clozapine, and only twenty per cent received ECT; similar to Morgan et al. (2017) and Davies et al. (2023). One of the reasons for referral to SECU is to start patients on clozapine. Admission to SECU addresses issues of noncompliance with treatment in a substance-free environment, which then allows for proper assessment of response to treatment. Unfortunately, this leads to the postponement of initiation until admission to SECU. This supports the observation of underutilisation and delayed initiation of clozapine in the literature (Chakrabarti, 2021). Delayed initiation has been associated with a higher risk of re-hospitalisation and poor outcomes, and longer stays in inpatient units (Hatano et al., 2023; Shah et al., 2018). Augmentation with ECT has been noted to have a faster response among patients with a high risk of aggression and self-harm (Chakrabarti, 2021). This appears to be underutilised in the Total sample.

5.1.7 Patient and Provider goals: The top four patient goals were living independently, choosing accommodation, finding work, and reconnecting with family. Given the homelessness and significant family support at the time of referral (61.2%), it is not a surprise

that it is high up on the consumer priority list. Family importance was likewise noted in studies by Killaspy et al. (2016), Harvey et al. (2016) and Carr et al. (2012). The top four service reasons were containment, review of medications, abstinence, and providing structures to develop routines and skills. These service goals directly contrasted with the goals of patient. This along with low acceptance of referral to SECU is an important finding. The SHIP study gives insight into this (Carr et al., 2012). The most important challenges facing participants of SHIP study were finances, loneliness or social isolation, lack of employment, poor physical health, and uncontrolled symptoms of mental health and housing (Carr et al., 2012). It is important to balance the recovery approaches, clinical and personal recovery, and incorporate trauma informed care to reduce such dissonance in goal setting (Wilson et al., 2017). Shorter admission, safe and dignified treatment, patient-centred goals and alignment of goals are needed to achieve more acceptance of referral to the program and subsequent success in rehabilitation.

5.1.8 Utilisation of services: Long stays (up to 3 months) in an acute inpatient bed before referral to the SECU for the Total sample is an important observation as this impacts the flow and availability of acute beds. Only a minority (less than a third) had been through the rehabilitation programs of community care units, and approximately one-fifth had previously been admitted to SECUs. There were no patients who stepped up from CCU directly. Low CCU utilisation in our study is an important finding. The complexity of this cohort excludes them from this model of care. NDIS is currently a significant stakeholder that is underutilised in this cohort. The utilisation of specialist allied health professionals and behavioural management plans was low. This helps to understand reasons for requests for cognitive assessments, the creation of behaviour management plans and the management of physical comorbidity and substance use treatment. This is in keeping with waitlisted patients in Lavelle et al. (2007).

About 62 % did not have NDIS services. Where NDIS services were being provided, patients were disengaged (59%). This is in keeping with Harvey et al.'s (2016) finding that a subset of patients do not engage, but this number is higher. Further, restriction in NDIS funding during admission to SECU could mean that disengagement may remain an issue even post-discharge from the facility. There is a need for change in the NDIS funding model for this subset of patients entering inpatient rehabilitation services to achieve better chances of integration back into community, have the autonomy and choice of providers and period of engagement whilst being inpatient.

5.1.9 Accepted and Non-accepted groups: The socio-demographic, overall clinical characteristics, forensic and risk profiles of Accepted and Non-accepted patients did not differ. The SECU study found a trend towards acceptance of lower complexity levels. Melzer et al. (2004a) couldn't find any significant predictors of admission to medium secure unit except for severity of illness. In this study, patients who were verbally abusive or offensive were less likely to be accepted compared to patients who self-harmed. Dangerousness and personality disorder diagnosis predicted the need for admission but not acceptance (Melzer et al., 2004a). Berry et al.(2003) studied predictors of acceptance to high secure unit. The study found 41% were accepted on their first referral. The predictors that influenced admission were serious index offences and severity of mental illness. SECU study found that Accepted patients were three times more likely in an inpatient setting than in the community when referred with up to 3 months of stay before referral. This could be considered as a surrogate maker of severity of illness. Controlling past forensic admission and complexity, this remained significant. This is an important finding as it creates bed block situation. However, this may also reflect prioritization over community patients. This could also be understood in the context of exhausting all treatment options, discharge options and consensus building

among treating professionals, patient and family around need for long term inpatient rehabilitation.

The Accepted group had patients who committed homicides but no patients with sexual violence. The significance of this finding could not be explored in this study. However, an assumption could be made that given the low secure inpatient setting and restrictions around freedom, staff are cautious about such referrals similar to Melzer et al. (2004a) study.

A higher proportion of Accepted patients contributed to goal setting in the referral compared to Non-accepted patients. This is an important finding as it may indicate a level of engagement with the service and give SECU clarity as to priority areas of intervention.

5.2 Implication for practice and future research: SECU serves as a single point of long-term inpatient rehabilitation for all non forensic patients within public mental health services. Therefore, the expectation of high comorbidity, substance use, and forensic history are the norm. The absence of medium secure units in Victoria means all patients who cannot be managed in the community or cannot find a bed in a high secure unit, and not meeting criteria under the Secure Treatment order or under the Crimes Act, are being referred to SECU. The creation of medium and high secure units or subsections within current SECUs will need to be considered. Increasing the number of low secure beds within Forensic service is another consideration.

A model that integrates housing organisations and NDIS support services with clinical services could make it attractive for patients, as these are high on the list of patient goals. The NDIS regulatory framework will need to be reviewed to consider SECU as a different model of care compared to acute inpatients. This is to remove the restriction on accessing NDIS services for this vulnerable cohort once they get admitted to the program.

Integration of CCU with SECU would help to ensure that rehabilitation gains made during SECU stay are not lost immediately post-discharge. The co-location of future SECUs and CCUs needs to be considered so that step-ups and steps-downs can become seamless between these programs. A current requirement is for patients to step up to SECU through inpatient units, which blocks an inpatient bed and creates delays in the transfer of patients, as can be seen in up to 3 months of stay in an acute inpatient unit in our study. A model that flexibly uses CCU and SECU beds for long-stay patients from acute inpatient units with rapid transfer to SECU should be considered.

Two-thirds of the Total sample of patients rejected a referral to SECU when offered. It is understood that inpatient rehabilitation is considered as restrictive treatment option. Choice and control are important parts of the recovery journey, and this may determine success in rehabilitation in this group. A model of care that provides a personalised treatment plan with a bouquet of treatment choices, focusing on skills creation, substance use management, with trauma informed care could balance the restrictive nature of the unit. Readiness for rehabilitation is an essential factor to consider in the rejection of referral. Further studies are needed to study this aspect.

Underutilisation of clozapine and ECT in the Total sample is an important observation. The ECT-clozapine combination was found to be better than clozapine-alone augmentation in reducing positive symptoms in Schizophrenia (Chakrabarti, 2021). SECU study found medication review is one of the priority goals of service providers and ranked high among consumer goals. The retrial of clozapine was one of the top goals of the Non-accepted patient sample. This was a lost opportunity to provide evidence-based treatment to Non-accepted groups and is likely to impact their functioning and risk behaviours in the community. Therefore, future studies examining the recovery trajectory of the Non-accepted group is important. An interesting observation is that 3 patients were referred thrice and were accepted

into the SECU. One may speculate that continued re-referral may achieve acceptance into the program with good clinical justification as to how the patient and family is likely to benefit.

Non compliance to medications and reduced engagement with NDIS means ACT teams will need to continue providing assertive supervision of medication for this both Non-accepted cohort of patients, and Accepted patients who are likely to need this service for post-SECU stay.

This study will help to inform a model of care in keeping with consumer needs. However, future studies should focus on the attitude of patients towards inpatient rehabilitation, readiness for rehabilitation and determinants of successful rehabilitation in an involuntary hospital setting. Future models of care for this cohort would need to be a one-stop shop of integrated rehabilitation. For this to be realized, SECUs should consider adequate staffing skill mix with neuropsychologists and forensic behavioural psychologists to help develop a person-centred behaviour plan that allows patients to exercise choice and control and to learn skills of independent living. Focus should be placed on therapy that takes into consideration attachment style, cognitive compensatory strategies, remediation strategies and family intervention. The complexity of the patient group means the treatment plans must be interdisciplinary to create a holistic understanding of complex issues.

5.3 Limitations: Data were obtained from only a single service (Austin SECU). The study is the first of its kind over 5 years with consecutive sampling. Austin SECU covers a significant catchment area in metropolitan Melbourne. However, the ability to generalise these results to other low-secure hospital samples is limited. The study could not compare complexity to a cohort of community patients not referred to the service to ascertain the difference better. Further, follow-up of Non-accepted patients' post-referral could have provided greater insights into the unmet needs of this patient population.

The retrospective nature of the research has limitations, such as bias and missing data for certain variables. Data were missing for some of the variables for the Non-accepted group because, in many cases, patients dropped out of follow-up of the service, so CMI information could not be accessed, or the service could not provide the information within the data collection period of the study. This is likely to bias the results, particularly findings for the Non-accepted group. HoNOS and LSP data have limitations due to their reliability and completeness in medical records. Attempts were made to collect missing data by contacting individual services with variable success. Reasons for the decline of acceptance were not available for the majority of the Non-accepted group, which could have helped understand the decision-making better.

There were fewer events for variables (Settings and complexity). This may reduce the estimated effects' precision and could weaken the model's generalizability. Due to their small event counts, the effects associated with these two variables need to be cautiously interpreted.

The study did not characterise risk into an ordinal scale (mild, moderate, severe) which could have helped predict acceptance into the program. However, it was reassuring to see that risk characteristics did not differ between Accepted and Non-accepted patients.

The re-referrals group had a small sample size. Therefore, statistical comparison with this subgroup was not done.

6. Conclusions

The research described above adds valuable information about patients referred to a SECU program. The SECU program under investigation received referrals of patients with

significant risk behaviours. The patient's referred had significant comorbidity with personality disorder and substance use. Most patients had repeated hospitalisation, and a subset had been incarcerated. There were no clear predictors of acceptance into the program except for the inpatient referral setting. Austin SECU is meeting its mandate of accepting high-risk patients who have failed community management. Efforts should be made to refine the criteria for acceptance into the program to give patients the best chance to be accepted.

The study makes the case for creating medium and high secure units within public non-forensic mental health services. An increased accessibility of low secure beds within the forensic system is required. The study gives guidance to the clinical governance model of SECU, which should look to the CCU model of care and consider ways of incorporating NGO and NDIS services. Additionally, consideration should be given to integrating CCU and SECUs to allow seamless transition between these programs. Changes in NDIS regulation will be required to provide enhanced in-reach and outreach services to this cohort of patients accepted into the SECU program and non-accepted patients whose complexities are difficult to manage in the community. The study highlights the need for a new model of care that integrates disciplines, creates holistic treatment plans, and acts as a one-stop shop for rehabilitation to address the complex physical, psychological, and social needs of patients.

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Appendices

Appendix I: Additional Tables

Table SI: Homeless types (ABS classification, Homeless operational Groups, 2021)

Homeless Types	N=39 n	%
Sleeping rough	5	12.8
Supported Accommodation for homeless	2	5.1
Staying temporarily with others	8	20.5
Living in Boarding House	2	5.1
Other temporary lodging	6	15.3
Homeless unspecified	16	41.0

Table SII: Categories of Antisocial behaviours for the Total sample

Offences	N=98	%
Violence	14	14.3
Acquisitional	3	3.1
Breaching AVO	4	4.1
Drug related	1	1.1
Combination	58	59.2
Sexual	2	2
Family violence unreported	3	3.1
Arson	2	2
Threats and aggression towards clinicians	4	4.1
others	9	10.2

Table SIII: Sociodemographic for all Re-referrals

Socio demographics	N=20 n or Median	% or [IQR]

Age*	37	[29.5,45.7]
Age groups 18-24 25-34 35-44 45-64 55-64	 1 5 9 2 3	 5 25 45 10 15
Male Female	13 6	65 30
Education in years*	12	10,12
Secondary Education Year 10 and above	19	95
Single	18	90
Children	3	15
Disability benefits	17	85
English Speaking background	19	95
Aboriginal/First nations	1	5
European ethnicity Oceania Middle Eastern	10 7 2	50 35 10
Homelessness	6	30
Family involved	14	70
Family supportive of admission	12	60
NDIS Support present	12	60
Engagement with NDIS (Poor/disengaged) No or unknown NDIS	11 7	55 35

Table SIV: Clinical characteristics of all Re-referrals

Primary Diagnosis	N=20 n	%
Schizophrenia	14	70
Schizoaffective disorder	6	30
Any Substance use (SUD)	18	90
Any personality Disorders/traits	11	55

ICD10 diagnostic group.

Table SV: Complexity, trauma and cognitive impairment of Re-referrals

Variables	N=20	%

Complexity Level I	 0	 0
Level II	8	40
Level III	12	60
Interventions Level1	 1	 5
Level 2	13	65
Level 3	6	30
History of trauma	18	90
Child Sexual Abuse (CSA)	10	50
Cognitive impairment: Suspected	6	30
Cognitive impairment: present	6	30
ABI (Mild/Mod/severe)	2	10
Intellectual disability (Mild/mod)	3	15

Table SVI: Clinical history for Re-referrals

Clinical variables	N=20 n	% or [IQR]
Median number of years of* contact with MHS	18	[9.25,25.50]
Median number of admissions prior to re-referral *	22.5	14.75,28.75
Median HONOS scores (n=13) Max score possible 48	21	14,24
Median LSP scores (n=13) Max score possible 48	26	14,29.5
Previous SECU admission	9	45
Previous CCU referral	10	50
Previous Forensic or Prison Hospital admission	12	60
Median admission to inpatient in last 12 months	3	1.25,4
Mental health orders Inpatient order Community order Voluntary	9 9 2	45 45 10
Length of order 6-12 month 3-6 month <3 month	6 8 4	30 40 20

*Median is used as data is Skewed

Table SVII: Forensic history for Re-referrals

Forensic variables	N=20 n	% or [IQR]
Forensic History	17	85
Age of index offence in years (n=13)*	22	[18, 25]
History of youth offending	3	15
Nature of offending/antisocial behaviours Combination of acts Violence Acquisitional Breaching Drug related	 10 1 1 2 2	50 5 5 10 10
Convicted of Any Act	17	85
Type of conviction (N=17) Combination Violence Drug related	13 2 2	 76.4 11.7 11.7
Pending charges awaiting court	6	30
Number of pending charges No charges 1-3 4-6 7+	 14 3 2 1	 70 15 10 5
Nature of pending charges Assault/Violence Sexual assaults Breaching AVO	 I II III	Rank order
Criminal law status Bail Community corrections orders Remand Custodial supervision order (community or inpatient)	n=9 4 2 1 2	 44.4 22.2 11.1 22.2
Perpetrator of FV and AVO	11	55
Victim in AVO	3	15
Gravest offence historically (n=17) Assault Harm or endanger a person Homicide Sexual offence Weapons and explosive offence Drug offences	 9 4 0 1 1	 52.9 23.5 0 5.8 5.8

Public order health and safety Traffic and vehicle offence	2 0 0	11.7 0 0

Table SVIII: Risk history for Re-referrals group

Risk	N=20 n	%
Combined harm to self and others	14	70
Harm to others	4	20
Harm to Self	2	10

Table SIX: Treatment history for Re-referrals

Different treatment at referral	N=20 n	%
Double Depot treatment	4	20
Single Depot treatment	13	65
Current Clozapine Never been on clozapine	2 12	10 60
Clozapine discontinued in the past	8	40
Past ECT	2	10

Table SX: Consumer goals of Re-referrals

Top consumers goal	Rank
Live independently/choice of accommodations	I
Community reengagement	II
Finding a partner	III
Lifestyle choices/license/ADLs/finance	IV
Substance use management	V
Building and reconnecting with family including children	VI
Finding work	VII
Choice of treatment and Provider	VIII
Physical health	IX
Education (complete)	X

Table SXI: Service goals of Re-referrals

Service Goals	Rank
Review or optimization or retrial of medication	I
Containment or Stabilization or Break cycle of admission or offending	II
Develop skills, ADLs, provide structure to develop routines	III
Abstinence or AOD intervention	IV
Assessment (Neuropsychology, Occupational therapy, Psychology)	V
Housing support	VI
Linkage with community supports, enhance or relink with NDIS	VII

Physical health intervention	VIII
Financial support	IX
Developing enhanced treatment plan	X

Appendix II

PROTOCOL

Secure Extended Care Unit: An exploration of social demographics and clinical characteristics of referred adult mental health consumers.

Protocol Number: HREC/84769/Austin-2022
OxTREC 577-23
Version: 1.2
Date: 18/11/2023

Author/s:

Partha Das, Sarah Funnell, Emma Robertson, Victoria Harpwood
Funding: Austin Foundation grant

CONFIDENTIAL

Statement of Compliance

This document is a protocol for a research project. This study will be conducted in compliance with all stipulation of this protocol, the conditions of the ethics committee approval, the NHMRC National Statement on ethical Conduct in Human Research (2007) and the Note for Guidance on Good Clinical Practice (CPMP/ICH-135/95).

STUDY SYNOPSIS (please provide a brief information)

Title:	Secure Extended Care Unit: An exploration of social demographics and clinical characteristics of referred adult mental health consumers
Short Title:	Study of referred consumers to SECU.
Design:	Retrospective file review.
Study Centre's:	Austin Health: Secure Extended Care Unit.
Hospital:	Austin hospital.
Study Question:	To analyze the complexity of patients referred to SECU by assessing needs, risks, and goals.
Study Objectives:	To explore the predictors of acceptance based on needs, risks, and goals.
Primary Objectives:	To investigate the social demographic and clinical characteristics of adult mental health patients referred to the Secure Extended Care Unit at Austin Health and association with acceptance into program.
Secondary Objectives	Comparison with re-referred consumers within the 5-year period.
Inclusion Criteria:	All patients referred to Austin SECU between 1 January 2019 and 31 December 2023.
Exclusion Criteria:	None.
Number of anticipated Referrals:	116+
Investigational product:	None.
Safety considerations:	None.
Statistical Methods:	SPSS will be used to generate descriptive data. P value of less than 0.05 would be considered significant.
Subgroups:	Accepted patients and Non-accepted patients

1. Glossary of Abbreviations & Terms

Abbreviation	Description (using lay language)
SECU	Secure Extended Care Unit
NEAMHS	Northeast Area Mental Health Service
NGO	Non-government Organizations
NDIS	National Disability Insurance Scheme
OCD	Obsessive Compulsive Disorder
ASPD	Antisocial Personality Disorder
AMHS	Area Mental Health Services
ECT	Electroconvulsive Therapy
RANZCP	Royal Australian and New Zealand College of Psychiatrists
Cluster B	Personality disorders are characterized by dramatic, overly emotional or unpredictable thinking or behavior
HoNOS	Health of the Nation Outcome Sale
CMI	Client Management Interface
LSP	Life Skills Profile – objective assessment tool used to assess a consumer's abilities with respect to basic life skills.
SMR	Scanned Medical Records

2. Study Sites

a. Study Location/s

Site	Address	Contact Person	Phone	Email
AUSTIN SECU	145 Studley Road, Heidelberg 3084			

3. Introduction/Background Information

a. Lay Summary

Secure Extended Care Units (SECU) are medium to long term inpatient mental health units which focus on the psychosocial rehabilitation of patients with severe and complex mental illness.

At present, there is very limited literature available about the patient profile, clinical and operational management of these units in an Australian context. The recent Victorian Mental Health Royal Commission noted a paucity of available SECU beds to service a growing complex patient cohort who need to access care in more restrictive environments. It is therefore paramount that relevant research is conducted to guide and inform such significant shifts in the Victorian public mental health system.

This study aims to investigate the social and clinical characteristics of patients referred to the Austin SECU. An in-depth understanding of the referral cohort will help ascertain the patient profile and guide best practice for services regarding their needs. This will be achieved through retrospective file review of all patients referred to Austin SECU between 1 January 2019 and 31 December 2023. It is envisioned that this research will increase understanding of

patient needs, tailor evidence-based treatment approaches and determine the staffing skillset required to work with some of the most complex and vulnerable individuals.

Addressing the gap in the current literature provides an opportunity to increase and improve patient centered care for individuals in SECUs. Moreover, it offers the potential to improve engagement with, and outcomes of treatment for patients accessing SECU.

b. Introduction

Secure Extended Care Units (SECU) are medium to long term mental health units which focus on the psychosocial rehabilitation of patients with severe and complex mental illness. There are six SECU units in Victoria with varying bed capacity. The recent Royal Commission into Mental Health in Victoria advocated for creating a 'model' SECU which can be replicated across Victoria (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021).

Unfortunately, very little information is available about the patient profile and the clinical and operational management of such units. To the researchers' knowledge, most published literature relates to medium secure forensic facilities in the United Kingdom or long-term psychiatric inpatient units in Southern Europe. The social, clinical and risk characteristics of adults referred to Secure Extended Care Units in Victoria have not previously been reported in the literature (Killaspy et al., 2016).

There are a multitude of reasons why there has been an increased demand for access to SECU beds in Victoria. For example, The Royal Australian and New Zealand College of Psychiatrists considers that incarceration rates in Australia and New Zealand have increased dramatically over the past decade and many prisoners suffer from some form of psychiatric condition[4]. Prisoners are two to three times more likely than those in the general community to have a mental illness and are 10 to 15 times more likely to have a psychotic disorder.

There have been growing calls for mental health services to be funded for additional resources to respond to these clinical needs (Carroll et al., 2021; Mullen & Ogloff, 2009). In Victoria, there is only one gazetted forensic mental health facility, Thomas Embling Hospital. This facility provides compulsory mental health treatment to remanded and sentenced prisoners or to individuals who are found not guilty by reason of mental impairment (Mullen & Ogloff, 2009).

Secure Extended Care Units differ from forensic mental health hospitals in that SECUs are not purpose built to be high secure or to accommodate high risk patients. They are essentially locked units with varying standards of structural design. Some SECUs across Victoria are equipped with High Dependency Areas, whilst others only have seclusion rooms, which are used as a last resort restrictive intervention when a patient is considered to be an imminent risk to themselves or others. SECU units don't admit patients under the Crimes Mental Impairment Act 1997 rather admit patients under involuntary sections of Mental Health Act of Victoria 2014. This act enshrines core principles of least restrictive treatment, supported decision making, promotion of dignity and autonomy, and holistic care. A new mental health and wellbeing act has been recommended as an outcome of the recent Royal Commission into the Victorian Mental Health system. It is currently advocated that systemic reforms be undertaken prior to legislative changes. It is therefore important that current care needs of highly complex subgroups, such as the consumer group accessing SECU be used to inform and guide system reforms[5.]

Austin SECU's patient profile includes individuals who present with multiple and complex needs and risks, including individuals who have engaged in offending behaviors and have had contact with the justice system. An internal audit of the patient cohort at Austin SECU in August 2021 demonstrated that 23 of 25 patients admitted at the time had forensic histories,

with a further patient having engaged in significantly violent conduct which did not result in formal sanctions (E Robertson, Personal communication, August 19, 2021).

Historically, Thomas Embling Hospital had the capacity to admit complex, high risk non-forensic patients who posed a risk to community safety but were not engaged with the justice system (civil patients). Since 2002, there has been a steady increase in the number of forensic patients admitted to Thomas Embling Hospital. This has resulted in a reduction in the number of beds available to service both security patients and civil patients (Forensicare, 2019). The follow-on effect of the significant reduction of forensic resources being available to high-risk civil patients has resulted in more complex and challenging consumers being referred to SECU for intervention (Forensicare, 2019).

Furthermore, during the past decade the Victorian mental health system has felt the drastic effects of the methamphetamine epidemic. Agitation and behavioural disturbance associated with methamphetamine use has been observed in psychiatric inpatient units[9] and has subsequently been linked to an increased risk of occupational violence towards mental health clinicians. Mental health services are often required to manage complex psychiatric presentations, as well as challenging behaviours related to methamphetamine use in environments which are not purpose built, or safe for managing consumers who present as a high risk of harm to self and others. Substance use patterns and needs are unknown in the cohort referred to SECU (McKetin et al., 2018).

Given the gaps between forensic mental health services, acute mental healthcare and community-based services, SECUs have come to provide care to some of the most complex forensic and vulnerable consumers. Presently, SECUs are grossly underfunded and often lack sufficient resources and staffing expertise to safely provide specialized intervention for this client cohort.

The majority of the SECU's across Victoria have patients who reside in the unit for significant periods of time. Length of stay is often influenced and associated with a myriad of factors that impede or delay consumer's discharge. These include but are not limited to, risk to self and others; lack of appropriate accommodation; challenges with resourcing; and capacity of community based mental health services to provide the high level of clinical care and input required for SECU consumers returning to the community.

This study aims to investigate the referral characteristics in an attempt to determine an ideal model of care that is required for this consumer cohort. This study will analyse the clinical, social and risk complexity of consumers referred to the Austin Health SECU. Developing an in-depth understanding of the referral cohort will help ascertain the consumer profile and guide best practice for services the needs of these consumers.

c. Background information

Recovery and rehabilitation are the key components of service delivery of all public mental health services. Recovery has been the underlying principle of deinstitutionalization[10]. In recent times there has been a reduction in the number of inpatient beds and promotion of NDIS led recovery initiatives working collaboratively alongside public mental health services. There has been a documented trend in re-institutionalization where there has been a correlation between an increase in number of psychiatric patients in forensic facilities and prisons as the number of psychiatric beds reduced(Edwards et al., 2016).

Harvey et al. (2016) found that about 20% of patients receiving treatment at community mental health services experienced severe psychosocial dysfunction and 50% of clients had experienced childhood trauma. They identified that rehabilitation and recovery needs were only partially addressed in the community. This cohort were also less likely to access disability support services. This is an important factor to consider in treatment planning as

often patients referred to SECU will not have engaged in psychosocial recovery programs despite being eligible. This lack of engagement also poses a barrier to discharge from SECU given the complexity associated with the patient's conditions are often too challenging for non-clinical services to manage.

Most consumers in the Austin SECU have a diagnosis of schizophrenia or schizoaffective disorder with significant comorbidity. Similar findings were yielded in a French study which found that patients in inpatient rehabilitation services are usually male, aged between 30 and 60 years, with long-standing psychiatric histories, predominantly have a lived experience of schizophrenia and or mental disability, and present with lack of autonomy (Clesse et al., 2020).

NICE guidelines define such patients as having complex psychosis (Killaspy et al., 2021). Patients usually have one or more of the following:

1. Specific cognitive impairments that have a negative impact on the individual's social and organizational skills.
2. Coexisting with other conditions like obsessive compulsive disorder or substance use.
3. Physical health problems like diabetes and cardiovascular disease.
4. Neurodevelopmental disorders such as Autism Spectrum Disorder.

The complex interplay between these factors generally leads to lengthy admissions and high support needs upon leaving hospital (Killaspy et al., 2021). Killaspy et al. (2016) postulates that 20% of patients with psychosis utilize 50% of the total mental health budget. The results of a study into 50 NHS mental health (only six were in-patient) rehabilitation units found 65% of patients were male, the majority has diagnosis of schizophrenia, with had a median length of contact with services was 12 years, and a median of four previous admissions. Two-thirds of patients were treated under involuntarily orders. Within this cohort, 20% had

previously been admitted to secure extended care units. The prevailing risk profile was noted to include risk of self-neglect and risk of self-harm. Their study concluded that with the provision of higher quality inpatient mental health rehabilitation in England, 71% of patients were able to be discharged within 18 months.

Similarly, a study exploring the determinants of admissions to a high secure care unit in England, found that of 138 referred, 41% of patients were offered a bed in the first instance (Berry et al, 2003). Of those referred, the majority were men with a diagnosis of schizophrenia. There was a high degree of co-morbid personality disorder diagnosis (59% of those referred) with the majority experiencing Cluster B traits. Moreover 49% had multiple prior admissions including to secure care units. The majority of the cohort engaged in considerable violence historically (Berry et al., 2003).

Inpatient rehabilitation has been a focus for the Victorian Royal Commission into Mental Health which recommended the establishment of a new intensive rehabilitation model of care. They further recommended that a secure extended care unit demonstration site be established with an aim to implement an evidence-based, consistent model of care across all SECUs (State of Victoria. Royal Commission into Victoria's Mental Health System, 2021).

This study intends to broaden the understanding of the degree of complexity associated with patients referred to SECUs in the context of a Victorian setting.

There are a number of benefits associated with this research project. This research will provide valuable insights into the consumers being referred to SECU:

Provide an understanding of the complexity of the patients referred (i.e. forensic and risk characteristics); the needs and recovery requirements for both patients, families and community teams to appropriately support future treatment and recovery. Moreover, this

research will provide the opportunity to increase and improve service provision and patient-centered care for consumers.

4. Study Objectives

Hypotheses:

4. It is expected that patients referred to SECU are of high psychosocial complexity and present with a level of risk not able to be appropriately managed in the community.
5. It is expected that SECUs are considered later in an individual's treatment trajectory rather viewed as an opportunity for early intervention.
6. It is expected that a significant proportion of patients experience untreated or undertreated substance use disorders which negatively impact their mental health outcomes.

a. study aims

Primary Aim

Aim 1: To investigate the social demographic and clinical characteristics of adult mental health consumers referred to the Secure Extended Care Unit at Austin Health.

Aim 2: To explore diagnostic, risk and social predictors of acceptance into Secure Extended Care Unit.

Secondary Aim

Investigate cohort of patients who are re-referred within the study period and examine the sociodemographic and clinical features.

The findings obtained from this research will provide insights into and increase understanding of the types of referrals being received to the Secure Extended Care Unit at Austin Health.

b. Outcome Measures

The primary outcome of this study will be the analysis of the referred patient cohort and the subsequent findings in relation to the diagnostic, risk and complexity of patients who are accepted into the SECU program. The NICE complex psychosis guidelines will guide and inform the analysis, however it is anticipated that a tailored description of complex patients will be produced to more accurately reflect the specific complexity seen within the Austin SECU cohort.

SECU referrals form will be utilized to gather data about sociodemographic profile of patients referred to the service.

5. Study Design

a. Study Type & Design & Schedule

This is a descriptive, quantitative, retrospective study that investigates available referral data by examining the social demographic and clinical characteristics of individuals who are referred to the Austin SECU between 1 January 2019 and 31 December 2023.

The proposed schedule for the study is as follows:

- February 2022 -October 2022 – Protocol writing and Austin Ethics submission
- November 2022-November 2023 – Protocol revision and Oxford ethics submission
- February 2024 - Data collection.
- March 2024 - May 2024 - Data analysis
- June 2024- September 2024 - Report writing
- October 2024 - Preparing for publication

- November -December 2024 - Publish

b. Standard Care and Additional to Standard Care Procedures

None.

c. Randomization

Not applicable

d. Study methodology

Austin SECU is 25 bed gazetted facility managed by a multidisciplinary team of Consultant Psychiatrist, Registrar, Nurses, Clinical Psychologist, Forensic Clinical Specialist, Occupational Therapist, Social worker, Consumer consultant.

SECU receives referral for patients with severe and enduring mental illness who are aged between 18-65 years from four area mental health services serving the Northwest, Northern, Inner east and Northeast metropolitan regions of Melbourne.

Referrals are received via email, and require the completion of a comprehensive referral document, and provision of collateral supporting documentation and reports. Area Mental Health Services (AMHS) carefully pre-select patients for referral and nominate an individual for upcoming available placements. Regular meetings between AMHS liaison coordinators and SECU allow for discussion about potential referrals.

Once the referral is received, it is then reviewed by the SECU treating team consisting of two consultant psychiatrists, registrars, nursing unit manager, allied health team and forensic clinical specialist. Clarification or additional documents may be requested from the referring team and a case conference may occur depending on patient complexity.

The patient is then assessed for suitability for SECU admission based on a multitude of factors. These include readiness for rehabilitation, client goals, risk profile suitable for management in SECU environment, risk mitigation and support available. Factors such as risk to community, history of failed treatment, requirement for inpatient structure to manage disruptive behaviours, second opinions from specialised services and Office of Chief Psychiatrist requesting priority admission are also considered. The subacute nature of service provision in SECU allows for different treatments including substance use treatment (opioid substitution), clozapine, ECT, engagement in psychological intervention, specialist assessments and the development of complex behavioural management plans to be explored.

For the purpose of this study, data will be manually extracted from the referral and assessment forms and collated into a purpose designed spreadsheet. The data sheet will be used to collect information which will then be added to SPSS and analysed with the assistance of a statistician. Any identifiable information relating to patients will be removed. Two investigators will collect all information from the two subfolders and will record this in a deidentified manner. Any disagreements relating to the collection of data between investigators will be discussed and finalized by the principal investigator. Data sheets will be scanned and stored in the SECU research folder (password protected and accessible only to investigators).

6. Study Population

a. Recruitment Procedure

None

b. Inclusion Criteria

All patients referred between 1 January 2019 and 31 December 2023.

c. Exclusion Criteria

None

d. Consent

Given the nature of the proposed research design (retrospective file analysis) and no active participant involvement, the researchers believe that consent is not required. As such a participant information sheet nor consent form is deemed not required at this stage.

7. **Participant Safety and Withdrawal**

e. Risk Management and Safety

None

f. Handling of Withdrawals

None

g. Replacements

None

8. Statistical Methods

h. Sample Size Estimation & Justification

116 referrals have been received during the 1 January 2019 period to present. It is anticipated further referrals may be received between until 31 December 2023. .

i. Power Calculations

None. We consider this as adequate sample size to determine in a retrospective study.

j. Statistical Methods To Be Undertaken

Sociodemographic and clinical profiles will be presented as descriptive data with measures of central tendency. A significance of 0.05 will be considered. SPSS will be used to do statistical calculations.

9. Data Security & Handling

k. Details of where records will be kept & How long will they be stored

Paper files will be securely kept within the office of Austin Health. A research folder has been created on a secure Austin server to keep all electronic files. All data related to the research will be kept for 7 years as per GCP requirements.

l. Confidentiality and Security

As above.

m. Ancillary data

None

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Appendix III

SECU REFERRAL FORM

Austin Secure Extended Care Unit,
Mental Health CSU, Austin Hospital
P.O. Box 5555, HEIDELBERG 3084
Ph: 9496 6454, Fax: 9496 4369
Send completed referral to: SECUreferrals@austin.org.au

ABOUT SECU: SECU is a 25 bed medium-to-long stay secure ward which focuses on psychiatric rehabilitation within a recovery framework. Bed fees are payable for the duration of the admission. All sections of the referral form must be completed. **Incomplete forms or missing supporting information may delay the assessment process. Referrals are triaged by each AMHS's SECU Liaison Officer. If you are unsure who this is, please phone SECU to confirm.**

Consumer Information	
Surname:	
Given name:	
Date of birth and current age:	
Sex:	
UR number:	
Current address:	
Income source:	
Ethnicity:	

Preferred language:	
At the current point in time, where is the consumer located?	

Referral Source	
Name:	
Designation:	
Contact number:	
Contact email:	
Community Case Manager and team:	
Referring Psychiatrist:	
Area Mental Health Service:	
Date of referral:	

Current Mental Health Act Status	
What is the current MHA status? (TTO, TO, CTO)	
When does the order expire?	
Date of last MHT hearing:	
Date of next MHT hearing:	
Has consumer lodged an appeal?	

Please note that involuntary consumers must have a Treatment Order of more than three months duration prior to SECU transfer.

Next of Kin, Nominated Person, and Advance Statements	
Next of kin name:	
Relationship:	
Next of kin's address:	

Please comment on next of kin's response to this referral:	
Does consumer have children? If so, please specify current care arrangements.	
Nominated person's name:	
Nominated person's relationship to consumer:	
Nominated person's contact details:	
Has the consumer made an advance statement?	

A copy of the advance statement must be attached as an appendix.

Guardianship and Financial Administration	
Is consumer subject to a Guardianship order?	
Please provide contact details of the Guardian:	
Is consumer subject to Administration order?	
Please provide contact details of Administrator:	
What is the consumer's source of income?	
What is the weekly allowance?	

Professional Support Network	
General Practitioner name:	
General Practitioner address:	###
Level of contact with G.P:	
Mental Health Community Support Service (MHCSS) key worker name:	
MHCSS organisation:	
Length of time associated with MHCSS:	
MHCSS keyworker contact details:	
Please comment on level of engagement and support provided:	

Alcohol and Other Drug counsellor:	
AOD counsellor contact details:	
Please comment on level of engagement with drug and alcohol services:	
Other professional supports (e.g., psychologist):	

Psychiatric Diagnosis, Formulation, and Risk	
Current diagnoses (DSM-5):	
Please provide an overview of the consumer's **recent and historical alcohol and other drug use**, use of substitution therapies, etc:	
Please summarise **current mental state** and **symptomatology**: -	
Please comment on client's **decision making capacity** and **stance toward SECU admission**: -	
Why is this person presenting **with these issues at this point in time**? *Please provide a current and comprehensive psychiatric formulation that sufficiently outlines relevant developmental history and predisposing, precipitating, perpetuating, and protective factors across biological, psychological, and social domains:*	
Please summarise static and dynamic **risk factors**, early warning signs, recent critical incidents, and relevant risk history: - Static - Dynamic - Early warning signs - Lead up to admission	
Does the consumer have a **forensic history**? *Please provide information about custodial sentences served, historical charges, and current charges including intervention orders:*	

A copy of the latest Risk Assessment must be included as an appendix.

Treatment History
What is the consumer's **treatment history**? *Please summarise history of admissions, reasons for same, and the different teams that have managed this person's care (e.g., continuing care, mobile support, crisis assessment, community care units, secure extended care units, etc..)*

A copy of the latest Mental Health Tribunal Report must be included as an appendix.

Current Medication, Medical, and Physical Health
What is the **current medication regime**? *Include aim of planned changes to current regime (e.g. continue cross tapering, increase according to response, monitor for adverse reaction)*

Medication	Dose	Frequency	Date Commenced and Plan

Please list any **physical health issues** and **medication allergies**:

Current Presenting Issues and Goals of Admission

Please provide a brief **summary of the rationale** for a SECU admission, including envisaged length of stay. *Please note that In accordance with the Mental Health Act's (2014) directives to provide least restrictive care and presume capacity, SECU is unable to accept referrals where the primary goal is to provide extended involuntary treatment to contain risks associated with substance use.*

What, **specifically,** are your service's goals for a SECU admission?

Specific, time-bound, achievable goal	**How can progress toward this goal be measured?**	**Who will be involved in affecting this goal?**

What are the consumer's **recovery goals**?

➔

Which **medications have been used previously**, and what was the therapeutic response?

Medication	Dose	Frequency	Period of Use	Therapeutic Response	Reason for discontinuation

Discharge Destination
What is the expected **discharge plan** from SECU? *Please note that all admissions to SECU must have a proposed discharge destination – it is not incumbent upon the SECU to source accommodation. Include likely or potential discharge accommodation and arrangements*
Please outline this consumer's **accommodation history**, *including Office of Public Housing, previous accommodation arrangements, and any relevant details:* ➔

Psychological and Behavioural Interventions
Please provide a summary of the consumer's **psychological treatment** history (e.g. CBT, ACT, DBT):
Please provide a summary of the effectiveness of **behavioural management plans** and behavioural contracts:

-

Occupational Therapy
Please provide an overview of the client's engagement with **ward based groups** and/or **sensory** interventions : -
Please comment on the consumer's level of **adherence to ADLs**: -

Recreation, Leisure, and Other Information
What are the consumer's **recreational interests**?
Please list any other relevant information:

The following must be forwarded with the referral:

1. Latest Mental Health Tribunal Report
2. Latest IRP
3. Latest Risk Assessment
4. Forensic reports
5. Copy of Advanced Statement
6. Copy of nomination of Nominated Person statement
7. Psychological assessment reports and/or behaviour management plans
8. Occupational therapy assessment reports
9. Other relevant reports (e.g., forensic)

Appendix IV

Data Sheet for Secure Extended Care Unit: An exploration of social demographics and clinical characteristics of referred adult mental health consumers.
Version 1.2.1
Date: 8.07.24
OxTREC 577-23

Accepted to SECU Yes/No

Not accepted: Yes/No, why.

Rereferral: yes/No

Delay in assessment: 1. No beds, 2 Not assessed and not appropriate 3. Not appropriate at referral or case conference 4. Not accepted post assessment 5. No delay in assessment 6. Delay in assessment due to no beds.

Reasons for Decline: Free text

Identification Data

1. **ID :** INITIAL DOB (e.g., PD1121)
2. **Age:** (At the time of referral - free text)
3. **Age groups:** 18-24, 25-34, 35-44,45-54,55-64,65-74,> 75 years
4. **Gender :** 1. Male 2. female 3. non binary4. Transgender 5. Others
5. **Education(in years):Free text**
6. **Level of education:** 1 secondary education year 9 and below, 2. Secondary year 10 and above, 3. 12 years of school and further education 4. University, 5. Unknown.
7. **Non English speaking background:** 1. NESB 2 ESB
8. **Cultural background**: 1. Oceanian2.Asian3. Indian4. Middle Eastern5. European6. North American7. South American8. African
9. **Aboriginal or Torres Straight Islander:** 1. Yes 2. No
10. **Relationship status:** 1. Single2. Married3. divorced 4. widowed5. partner6. separated7. casual8. polyamorous
11. **Children: 1. Yes2. No**
12. **Custody of children:** 1. Self2. others3. adult children 4. NA as don't have kids
13. **Income source :** 1. Disability Support Pension 2. Temporary unemployment benefits 3. Working part time and unemployment benefits 4. carer pension 5. no source of income

14. **Homelessness:** 1. Yes 2. No.
    If yes
    H1. persons living in improvised dwellings, tents or sleeping out ('sleeping rough');
    H2. persons in supported accommodation for the homeless;
    H3. persons staying temporarily with other households ('couch surfers');
    H4. persons living in boarding houses;
    H5. persons in other temporary lodgings;
    H6. persons living in 'severely' crowded dwellings
    H7. Homeless not specified
    H8. No

15. If No Homelessness
    H1. Living in Private rental
    H2 OOH property
    H3 Social housing
    H4 SRS long term tenancy
    H5 Living with family
    H6 Unknown
    H7 no
    H8 Own Home
    H9 in prison at the time of referral

16. **Guardianship and Administration Orders:** 1. No 2. Full guardianship 3. Financial guardianship 4 Finaical and accommodation guardian 5 Access to care Guardianship 6 Medical Guardianship
17. **Family/carer involved** 1. Yes 2 No

Family supportive of SECU referral 1. Yes 2 No 3. Not applicable or UNKOWN

Referral information

Source of referral: 1. Acute inpatient unit 2. Community clinic 3. Mobile support team 4. Community care team 5 Thomas embling hospital 6 Prison 7 Office of chief Psychiatrist 8 PARC 9 community home teams

1. **Which area mental health service**
   1. NEAMHS 2. NAMHS 3 NWAMHS 4 St Vincent AMHS 5. Forensicare and prison Services 6. Out of Area mental health service**Year Referral:** Free Text.
2. **Date of referral ; free text**

3. **Date of assessment:** Free Text

4. **Length of time to assess in business days:** Free Text

5. **Setting of consumer at the point of referral:** Inpatient/ community/prison/TEH/ CCU/ external SECU

6. **If hospital Inpatient, length of inpatient stay (Exluding TEH): 1.** Less than 1 month 2. 1-3 months3. 3-6 months 4. 6 months+ 5. Not applicable as in community.

7. **Patient informed of the referral**: 1. Yes 2. no
   Patient accepting SECU referral: 1. Accepting 2. not accepting 3. Not stated on referral 4 client not aware of referral
8. **Previous referral to Austin SECU in last 5 years:** 1. Yes 2. no
9. **Previous admission to any other SECU:** 1. Yes 2. no
10. **Previous Community Care unit or Community Rehabilitation unit\/CRP admission: 1. Yes 2. no**
11. **Previous admission to Forensic or Prison hospital: 1. Yes2. No**

12. **Number of admissions to IPU in 12m preceding SECU referral: 1. 1-3, 2. 4+ 3. Nil.**

13. **Number of discreet admissions in 12 months before referral: free text.**
14. **National Disability Insurance Scheme DIS**; 1. Yes 2. No 3. patient not willing to register with NDIS(free text)
15. Engagement with NDIS: 1. Good 2. Poor 3. Disengaged 4. Not applicable or Unknown

16. **Advanced Statement of preferences (advanced directive) 1.** Yes 2. no
17. **Nominated Person under the mental health act 1. Yes 2. no**

Diagnosis

1. **1. Primary psychiatry diagnosis**
   1. Schizophrenia 2. Schizoaffective disorder 3. Bipolar disorder 4. Borderline personality disorder 5 Major depressive disorder 6 complex PTSD 7 Eating disorder

2. **Secondary Diagnosis**
3. 1. Cluster B personality disorder -dissocial personality 2. Cluster B narcissitic personality 3. ASD or Aspergers 5 Eating disorders 6 depression 7 Complex ptsd 8ABI and personality disorder 9 ABI and intellectual disorder 10 Intellectual disorder 11 intellectual disorders and personality disorders 12 ASD and personality disorders 13 ASD and intellectual disorder 14 Other 15 none 16 Eating disorder and intellectual disability and borderline PD. Personality disorder on referral 1. Yes 2. No
4. Personality disorder on CMI : 1. Yes 2. No
5. Other diagnosis ; specify; free text.

6. **Diagnosed Substance Use Disorder**
7. Yes/No. If yes Free Text
8. Substance use disorder diagnosis: 1. Cannabis 2. Alcohol 3. Opioid 4. Stimulant 5 Hallucinogens 6. Cannabis and stimulants 7 Alcohol and nicotine 8 Nicotine 9 Benzodiazeoines 10 multiple substance use disorder 11 Alcohol and stimulant 12 no substance

9. **Total Number of different substances excluding nicotine**
10. **Different substance used prior to admission**: Free text.
11. **Primary substance of choice:(** Free Text)
12. **Contemplation about harm minimisation or Abstinence: specify: 1.yes 2. no 3. UK 4. Not applicable**

13. **Substitution therapy** (current or past)1. 1. Methadone 2. Buprenorphine sublingual 3. Buprenorphine injection 4. Others 5 No 6 Past, but not current 7.methadone and suboxone 9 not applicable
14. **Engagement with AOD services: 1.** Yes 2. No 3. Not applicable

Complexity of Presentation: Level 1 (refer to NICE guidelines for complex psychosis *Dx severe MI, Severe functional impairment, cognitive dysfunction, length of illness > 2 years, multiple hospitalisation*s) , Level 2 (*incarceration, 6m hospital admission, significant risk behaviours, homicide and suicide attempts, unremitting illness, homelessness*) , Level 3 (*Failed clozapine attempts, ECT, repeat admissions to SECUs, multiple imprisonments, combination of L1,L2,L3 factors).*

15. **Year of First involuntary order –** Free text

16. **Overall all contact with mental health services:** 0-5 years, 5-10, 10-15, 15-20, 20-25, 25-30 years .
17. Total number of years of public health contact: free text.
18. **Total number of admissions as per CMI:**
19. **Trauma History: 1.** Yes 2. No.
20. Child sexual abuse 1. Yes 2. No 3. Not recorded
21. **Cognitive impairment: 1.** Yes2. No3. suspected based on history
22. ID –1. Mild 2. moderate3. severe 4. No
23. If ABI –1. Mild 2. moderate 3. No 4. Severe
24. **Primary Medical diagnosis**: **Free Text**
25. **Hepatitis: 1. Hep C 2. Hep b, 3 Both Hep b and c 4. Not tested or unknown**
26. **Number of medical diagnoses:** Free text
27. **Medical problems managed by GP**: 1. Yes 2. No 3. UK

HoNOS scores on admission to SECU:

	Items	Current at the point of ref	if not accepted	Length of time since referral

1	Overactive, aggressive, agitated behavior			
2	Non-accidental Self injury			
3	Problem drinking or drugs			
4	Cognitive problems			
5	Physical illness or disability problems			
6	Hallucinations and delusions			
7	Depressed Mood			
8	Other mental and behavioral Problems			
9	Relationships			
10	Activities of daily living (ADL)			
11	Living Conditions			
12	Occupations and activities			

Life skills profile on admission to SECU:

Items	Current at the time of referral	if not accepted	Mention Length of time since referral
Does this person generally have any difficulty with initiating and responding to conversation?			
Does this person generally withdraw from social contact			
Does this person generally show warmth to others?			
Is this person generally well groomed (eg, neatly dressed, hair combed)?			
Does this person wear clean clothes generally, or ensure that they are cleaned if dirty?			

Does this person generally neglect her or his physical health?			
Is this person violent to others?			
Does this person generally make and/or keep up friendships?			
Does this person generally maintain an adequate diet?			
Does this person generally look after and take her or his own prescribed medication (or attend for prescribed injections on time) without reminding?			
Is this person willing to take psychiatric medication when prescribed by a doctor?			
Does this person co-operate with health services (eg, doctors and/or other health workers)?			
Does this person generally have problems (eg, friction, avoidance) living with others in the household?			
Does this person behave offensively (includes sexual behaviour)?			
Does this person behave irresponsibly?			
What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?			

Legal:

1. **Mental health Act status:** 1. Voluntary 2. Community treatment order 3. Inpatient order 4. Assessment order 5. secure treatment order.
2. **Length of current mental health act order** 1. <3 months 2. 3-6 months 3. 6 - 12month 4. N/A as voluntary

3. **Forensic Hx: 1.** Yes 2. no
4. Youth justice 1. Yes 2. No
5. **Criminal law status at time of referral: 1.** Good behavior bond 2. Bail 3 community corrections 4. CMIA 5. NCSO 6 CSO 7. Remand 8 Nothing outstand 9 time serviced and further charges 10. Not applicable 11 Bail and community corrections orders 12 Cvil patient at THE 13 Serving a sentence at the time of referral.
6. **History of anti-social behaviours (either attracting charges, or antisocial behaviour that did not receive legal consequences) - 1 Violence, 2. Sexual, 3. Acquisitional, 4 stalking, 5 breaching IVO, 6 combination, 7 others, 8 None, 9 drug related, 10sexual disinhibition, 11 family violence not reported,12, exposure of public masturbation, 13, aggression towards health care staff, 14 fire setting,15 threats.**
7. **History of any conviction: 1. Yes. 2. No. 3. Unknown from history provided, 4. Not applicable as nil crim history.**
8. Type of Conviction 1. Violence 2. sexual 3. acquisitional (including Burglary, theft, deception offences) 4. stalking 5. breaching IVOs / 6. Combination 7. other 8 None 9 Drug related. ,10 Driving
9. Gravest offense historically **1.** Homicide 2 assault 3 Sexual offence 4. Harm or endanger personals life 5 robbery, blackmail or extortions 6 Burglary 7 theft 8 fraud 9 drug offence 10 weapons and explosive offence 11 property damage 12 public order health and safety 13 traffic and vehicle offense procedures. 14 offences against justice
10. **Pending charges**: 1. Yes 2. No, 3. Unknown 4. Not applicable as no criminal history.
11. If yes, Pending charges 1. 1-3, 2. 4-6, 3. 7+ 4. 0
12. **Nature of pending charges/charges before the court:** Violence/sexual/acquisitional (including Burglary, theft, deception offences) /stalking/ breaching IVOs/Drug related/ combination/other
13. **Age if index offense if known:** Free Text
14. **Perpetrator in Intervention Orders:** 1. Yes perpetrators of intimate partner violence, 2. Yes family 3. Yes towards clinicians 4 neighnbours 5 Unrelated person 6 Unkown victim 7 No
15. If Yes,specify victim
16. **Victim in Intervention Orders: 1.** Yes 2. No 3. Unknown.
17. If Yes, specify victim; Free text

Medications

1. **Medication at time of referral:**
2. Free Text
3. Medication <3, 3-5, >5
4. Current clozapine 1. Yes 2. No
5. Single depot 1. Yes 2. No
6. Double depot 1. Yes 2. No
7. **Discontinued clozapine:** 1. **Yes 2. No 3. Never being on clozapine**
8. If discontinued yes, reasons : 1. Side effects2. non-adherence3. unknown 4. Not applicable
9. Never being on clozapine 1. Yes 2. No 3. Probable
10. **Past trial of meds: Free Text**
11. **Free text of past medications:**
12. **ECT** 1. Yes 2. no.
13. Response to ECT 1. Good, 2 Poor or no response 3. Unknown 4. Not applicable

Risk identified :

1. **self :** suicidal ideation/suicidal behaviours self harm /sexual vulnerability/financial vulnerability/neglect/ reputational damage/ Combination of Self risks
2. **others**: threats/ verbal abuse/ physical violence/ sexual harassment/ sexual violence/ behaviours/ family violence/ through adverse high risk behaviours/ homicidal ideation/ acting on command hallucinations/ preying on vulnerable co-patients/ Combination of risk of harm to other factors
3. **Both risk of harm to self and others – Free Text specify**

Service Reason for Referral and goals:

1. **Number of reasons for referral:** 1, 2-3, 3-4, 4+
2. **Reason for referral:** Free Text
3. **Consumer Goal of Treatment: Free Text**
4. **Intervention provided prior to admission :** Nil, Level 1 (Assertive community treatment), Level 2 (Assertive community treatment + one of ECT, Clozapine, forensic, family intervention), Level 3 (assertive intervention + more than one of ECT, Clozapine, forensic, family intervention + Multiple and complex needs , Office of the chief Psychiatrist CP, High risk panel),

Proposed discharge plan by referring service:

1. **Discharge destination:** Free Text
2. **Service involvement:** Mobile support and treatment service Community Care Service, Community Care Unit, Crisis Team, Medication Supervision Service with Case management /, Forensic Services.

Engagement with Allied Health:

1. **Neuropsych: Past:** Yes/No **Current** Yes/No
2. **Psychology: Past:** Yes/No **Current** Yes/No
3. **OT: Past:** Yes/No **Current** Yes/No
4. **SW: Past:** Yes/No **Current** Yes/No
5. **Behavioural Management: Past:** Yes/No **Current** Yes/No