Emergency department presentations by older people for mental health or drug and alcohol conditions: a multicentre retrospective audit

ABSTRACT

PURPOSE

Emergency department presentations by older people associated with mental health and drug and alcohol related conditions are increasing. However, the characteristics of presentations by older people in Australia are largely unknown. The aim of this research was to explore the characteristics of older people presenting with mental health and drug and alcohol conditions.

PROCEDURES

We used a retrospective electronic medical record audit to explore all emergency department presentations by older people 65 years and over for mental health and drug and alcohol related conditions over a 12 month period. Data were described using descriptive statistics.

FINIDNGS

There were 40,093 presentations; 2% (n=900) were related to mental health or drug and alcohol related conditions. Presentations were mainly associated with primary mental or medical symptoms. The majority were female (n=471; 53%). Predominate conditions were cognitive impairment (n=234; 26%) and affective disorders (n=233; 26.0%). Sixty-three percent of patients were admitted to a hospital ward. Over the study period 106 patients (242 episodes of care) represented.

PRINCIPLE CONCLUSIONS

Given the ageing population and increasing prevalence for mental health and drug and alcohol conditions, strategies are required to better recognise these conditions to reduce the burden on the health care system and improve health for older people.

INTRODUCTION

Globally, older people are presenting to Emergency Departments (EDs) more frequently with chronic mental health and/or drug and alcohol conditions[1]. People are living longer as a result of improved access to healthcare, proactive population health strategies and advances in medication to control systemic illness[2]. Therefore, there has been an increase in chronic mental health and/or drug and alcohol conditions resulting in complex ED presentations that often require multidisciplinary management[3-5].

Australian EDs manage 7.2 million presentations every year and 1.4 million of these are people aged 65 years or older[6]. Generally, older people are less vocal about seeking assistance and often there is a greater focus in acute care settings, such as the ED, on their physical health[7]. Further, older people experience bio-psychosocial changes, which may also affect how they present with mental health and or drug and alcohol conditions[8,9].

Bio-psychosocial changes, which place older people at risk of mental health and drug and alcohol conditions, include: social isolation, lack of social role, grief and loss, physical disability and financial stress[8]. Other factors implicated in the rise of mental health conditions in the older person is low resilience and personality vulnerabilities limiting their ability to adapt to the functional decline associated with ageing[10]. A history of mental health problems, in earlier years, has also been associated with increased risk of depression and suicidal behaviour in later years[11]. While older people are often regular users of ED, mental health conditions are frequently undetected due to a focus on physical health despite the fact that an estimated 10-15% of older Australians live with anxiety or depression[12].

Early recognition and management of mental health and / or drug and alcohol conditions may assist to improve quality of life, the quality of care and safety for this vulnerable patient group {de Mendonca Lima, 2013 #447}{Steptoe, 2015 #448}. Therefore, the aim of this research was to explore the characteristics and patterns of older people presenting with mental health and / or drug and alcohol conditions in the ED.

PATIENTS AND METHODS

Study Design

This was a 12 month multi-centre retrospective medical record audit of presentations by older people related to mental health and / or drug and alcohol conditions. The objectives and analyses were decided a priori. Data for all ED presentations were obtained and specific data for people aged 65 years and over was explored.

Setting

The study was conducted in four hospital EDs: one university tertiary referral hospital (mixed adult and paediatric) and three district Hospitals. The tertiary referral hospital and one of the district hospitals had mental health units attached to the ED. The tertiary referral hospital was an area trauma centre and provided specialist services including treatment for spinal cord and burn injury. The study EDs were overseen by emergency medicine staff specialists and nurse managers and staffed by registrars in emergency medicine, registered nurses (many with post graduate qualifications) and residents in rotation. Usual practices for emergency care in an ED in Australia were used in these study settings that is triage category allocated by a nurse (using the Australasian triage scale) and consultation by a medical doctor.

Hospital patient data were extracted from FirstNet[TM13] the emergency department computer software program. Data were obtained for one calendar year that is 1st January to 31st December 2014. Data retrieved included: patient demographics (age, gender); clinical information (time of arrival to the ED, triage code, doctor 'seen by time', treating doctor, discharge, diagnostic code, number of representations and disposition). The diagnoses were based on the Systematised Nomenclature of Medicine Clinical Terms (SNOWMED-CT©[14]) concept identifier. The SNOWMED-CT© is a common application provided within ED systems to classify diagnoses. The mental health and drug and alcohol conditions were grouped in categories for the purposes of reporting (Table 1).

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Patients

The focus of this study was older people presenting to emergency departments with complaints related to mental health and / or drug and alcohol conditions. Convenience sampling was used for the medical record audit and inclusion criteria included: all older persons (aged 65 years and over) presenting to the study sites in the 12 month study period.

Data collection and analysis

Data was analysed using IBM SPSS© Statistics for Windows[15] and Microsoft Office Excel 2010©[16]. Descriptive statistics were used to summarise the data; means/standard deviations and medians/interquartile ranges for continuous data and frequencies/percentages for categorical data.

Ethical Approval

Ethical approval to undertake the study was obtained from the Human Research Ethics Committee of the relevant Local Health Districts (HREC LNR/15/HAWKE/108). As all data were aggregated and not re-identifiable; the potential risk to those involved in the study was considered low.

RESULTS

The total number of older person presentations for the four EDs was 40,093 (20%). Approximately 40% of patients (n=17,397) presented to the tertiary referral hospital with the remainder presenting to the three district hospitals. More females (n=22,017; 55%) than males presented. The mean age was 79.3 (SD 8.7) years and more than half (n=21,380; 53%) arrived by ambulance.

Of the ED presentations by older people, there were 765 (2%) patients with mental health conditions and drug and alcohol conditions. Less than half were male (n = 429; 47%) with a mean age of 77.7 (SD 8.6) years (Table 2). The 765 patients had 900 episodes of ED care. Of the 900 episodes of ED care, the majority self referred or were referred by family or

friends (n = 802, 89%) and were allocated triage category 4 (n = 401; 45%). The most common reason for presenting to ED recorded by the triage nurse related to mental health symptoms (344; 38%); medical symptoms (n = 218; 24%); and cognitive changes (n = 109; 12%) (Table 2). The median time from triage to be seen by a clinician was 15 (0:07-0:32) minutes.

Of the episodes of care (n = 900) presentations related to mental health and drug conditions a primary mental health diagnosis was allocated for 87% (n = 780) of the patients. Cognitive impairment was documented in 26% (n=234, 26) of all episodes of care. The common mental health diagnoses for older people were affective disorders (n=233; 26%); chronic mental health conditions (n=91; 10%) and aggression (n=86; 9.6%). Alcohol related (n=120; 13%) conditions or medicines overdose (n=81; 9%) were more common than suicide related presentations 6% (n=55). There was no ED documentation of completed suicide for this study cohort. There were more 'suicide' (n=55; 6%) conditions recorded for males (3%) than (2%) females. Of the mental health presentations, 9% (n=81) related to medicine misuse (inclusive of medication overdose).

The median length of stay in ED for the 900 episodes of care was 4:30 (03:20-06:47) hours. A large proportion (n=570; 63%) of patients presenting with mental health and drug and alcohol related conditions were admitted for treatment in an inpatient ward.

Thirteen percent of the patients (n = 106/765) represented within 12 months with mental health conditions (Figure 1). Eighty patients presented twice and twenty-two patients presented three times over 12 months (Table 3). Sixteen patients presented to more than one facility in the 12 month study period.

DISCUSSION

The findings of this study suggest that older people comprised approximately one fifth of the total number of ED presentations in the Local Health District[17]. This is characteristic of ED presentation patterns in Australia[18,19] and internationally[20,21]. The proportion of episodes of

care classified as mental health presentations in this cohort of older people was low (approximately 2%). This is also reflective of national and international reports[21].

The majority of episodes of care classified as mental health presentations were allocated mid to lower (urgent and non-urgent) triage categories however patients' length of stay in ED was prolonged. The main reason for presenting to ED for a mental health presentation was 'mental health symptoms' and perhaps unsurprisingly for this cohort of older adults the main diagnostic grouping was cognitive impairment.

Thirteen percent of the cohort represented with mental health related symptoms during the 12 month study period. Of the mental health related diagnoses affective disorders and alcohol related condition had the highest prevalence. The median length of stay in ED was just over the four-hour National Emergency Access Target which was much lower than other reports of ED presentations for older people[19,20] but is probably reflective of the proportion (two thirds) of the cohort who were admitted to hospital for treatment (commonly patients who are admitted to hospital spend less time in ED). This together with the significant number of representations to more than one hospital suggests there was an underlying complexity in the treatment and resolution of health problems in this cohort of older people presenting to ED with mental health conditions which is reflective of national and international trends in ED presentations[18,19,22].

Our study revealed that there were no completed suicides across the four EDs. The low suicide rate may in part be a result of clinicians failing to appropriately identify and recognize suicide risk factors in the older person and presentations not classically considered to be caused by suicide or intentional and unintentional self-harm[23]. For example increased frailty as a result of poor self-care in the setting of untreated depression may result in a fall and a long bone fracture. The diagnosis of 'fracture' would be allocated. In addition the appearance of flat affect and low mood would be an expectation for a patient with a traumatic injury and may not cause a clinician to delve into the causes and investigate any further. In this

situation it is obvious how easily sub-clinical mental illness or mental problems may go unrecognised and untreated.

Alternatively the pattern of repeat presentations for a proportion of our cohort may suggest that the ED was providing an important intervention in the prevention of mental deterioration (especially since the majority of patients self referred or were referred by family or friends). Previous studies reveal that more than half of older people who die from suicide show signs of mood disorder in the preceding weeks[24]. The suicide rate for older people (>65 years) is twice the rate for younger adults (older people have a propensity for depression, physical co-morbidities, grief, and social isolation and tend to employ more lethal measures and are therefore more likely to succeed)[25]. Therefore it is imperative that ED clinicians challenge their assumptions about the mental health of older people and actively look for signs of depression and suicidal ideation and behaviour. Suicidal behaviour in later life is complex and the cause is multifactorial requiring clinicians to thoroughly assess risk factors for mental illness and the mental health of older people.

There were a low number of presentations for alcohol related conditions in our cohort and very few medicine overdoses. This is somewhat surprising since it has been estimated that more than a third of people presenting to NSW EDs have an underlying alcohol or drug related condition[26]. The explanation may in part be that the outcome of alcohol related or medicine overdose such as 'fall' and subsequent fracture was the main documented reason for presentation (diagnosis) thus alcohol related and medicine overdose conditions were under reported. Alternatively, while the ED environment remains strongly focused on physical symptoms psychological factors underpinning an ED presentation may remain unrecognised and managed[4,27,28].

Nationally and internationally there is an increasing trend in ED presentations by older people and older people are up to nearly four times more likely to present than people in the 35 to 39 year old age group[19]. Many of these presentations may be potentially avoidable and may be better managed within the primary care setting[29] because older people present with

complex and chronic conditions which require time and continuity to manage[30]. Arguably the time pressured setting of the ED is not well suited to the assessment of people with multiple comorbidities. Therefore systems are required to assist clinicians to meet the needs of people with acute exacerbations of illness on the background of chronic disease or mental illness as this ED presentation is likely to become more common as the population ages.

In reporting the findings there are some limitations of this study which should be acknowledged. The majority pertain to the known limitations associated with using a retrospective exploration of medical records, namely any errors in the data could not be identified and remedied and the lack of contextual data related to the complexity of presentations in this cohort of older people. The diagnoses were based on the SNOWMED-CT©[14]. In the study EDs it was only possible to record one diagnosis in the database. Hence, in the example provided previously, a frail older person presenting with a long bone fracture after a fall in the setting of untreated depression would receive the diagnosis of 'fracture' and the primary cause of this presentation remained uncaptured. The documentation systems used in the EDs did not provide adequate depth in the data to thoroughly interrogate the complexity of the health of older people presenting to ED. Hence the incidence of depression, suicidal behaviour and alcohol and medicine overdose related conditions was probably under reported and under recognised thus under treated.

Further research is needed to identify ED processes that could further assist clinicians in their quest to better assess and manage this vulnerable population. For example the dedicated Geriatric Emergency Department Intervention (GEDI) or Aged Care Emergency Services team models of care have shown promise in this regard as the use of comprehensive assessments including all aspects of psychosocial status and continuity of care facilitated by an advanced practice nurse are key aspects of these models[27,31,32]. The use of validated reliable screening tools such as the Patient Health Questionnaire for Depression and Anxiety (PHQ4)[33] and appropriate referral in the interim may be of some benefit. Screening might assist in the identification and treatment of sub-clinical mental

illness or problems early reducing likelihood of mental illness. Alternatively in the time pressured ED environment simply posing two screening questions, 'During the past month, have you often been bothered by feeling down, depressed or hopeless?' and 'During the past month, have you often been bothered by having little interest or pleasure in doing things?' may assist in identifying those at risk of suicide (people who answer 'yes' to both)[34] along with referral to mental health services could improve quality of life for some older people. Other preventative less labour intensive programs such as the Lifestyle Matters occupational intervention in which healthy elderly people were provided with assistance with goal setting and opportunities to share strengths and skills in a group setting have shown social and emotional benefits that has reduced loneliness over 12 months but little benefit over the short term[35]. However this approach requires further investigation in at risk individuals to establish if it is an effective intervention to prevent mental problems or illness in the elderly.

CONCLUSION

The findings of this study identified that the number of presentations for mental health related conditions in this cohort of older adults was small. Furthermore, there were no completed suicides and the incidence of depression and alcohol related conditions were low. However there were suggestions in the data of the complexity in the health status for this cohort; a significant proportion of the cohort were admitted to hospital for treatment and some patients frequently represented to EDs. Although our findings do not conflict with outcomes of other studies conducted in ED they do conflict with evidence from epidemiological population based studies in which the mental health of older people is known to be poor including higher rates of depression and completed suicide than younger people. Therefore there is a need to improve current practices with regard to the assessment of mental health and identification of mental illness in older people in the ED.

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Table 1

TABLES

Table 1. Mental health and/or drug and alcohol conditions presentation (categories)

Categories	Definition
Suicide related	Terminology of actual suicide attempt, self-injurious behaviour, suicidal ideation, and suicide.
Affective Disorder	Terminology of anxiety, depression, panic disorder, social phobia, generalized anxiety, flat affect, low mood, grief and loss, and anhedonia.
Chronic mental health condition	Terminology of schizophrenia, Bi polar disorder, psychosis, psychotic depression, delusional disorder, and schizoaffective disorder.
Alcohol related	Terminology of alcohol abuse, misuse, dependence, tolerance, withdrawal, overdose, and intoxication.
Medicines overdose	Terminology of medication misuse, drug abuse, drug overdose, accidental overdose, prescription medication overdose, intentional medication overdose.
Cognitive impairment	Terminology of dementia, Alzheimer's disease, delirium, confusion, disorientation, vascular dementia, lewy body dementia, and Picks disease.
Aggression	Terminology of behavioral disturbance, anger, physical and verbal violence, threatening behaviour and intimidation.

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Table 2

Table 2: Selected demographic and clinical characteristics for 900 episodes of care

Characteristics	Statistic		
Gender, male, n (%)	429 (47)		
Age, years, mean (SD)	77.7 (8.6)		
Source of ED referral, n (%)			
Self, family or friend	802 (89)		
Nursing home	36 (4)		
General practitioner	33 (3)		
Mental health team	5 (1)		
Community health	4 (1)		
Other	20 (2)		
Triage categories, n (%)			
1 (Resuscitation)	16 (2)		
2 (Emergency)	100 (10)		
3 (Urgent)	328 (37)		
4 (Non-Urgent)	401 (45)		
5 (Non-Urgent)	55 (6)		
Disposition, n (%)			
Admitted to hospital	570 (63.5)		
Discharged	308 (36)		
Transfer to another hospital	18 (2)		
Did not wait	4 (0.5)		
Reason for presentation, n (%)	Male	Female	Total
Mental health symptoms	150 (17)	194 (22)	344 (38)
Medical symptoms	98 (11)	120 (13)	218 (24)
Cognitive changes	53 (6)	56 (6)	109 (12)
Mobility/falls	51 (5)	24 (3)	75 (8)
Drug and alcohol	34 (4)	32 (4)	66 (7)
Medical review	25 (3)	21 (2)	46 (5)
Pain	18 (2)	22 (2)	40 (4)
None Stated	0 (0)	2 (0.05)	2 (0.05)
MH and DA conditions, n (%)	Male	Female	
Cognitive impairment	136 (15)	98 (11)	234 (26)
Affective disorder	61 (7)	172 (19)	233 (26)
Alcohol related	78 (9)	42 (5)	120 (13)
Chronic mental health condition	34 (4)	57 (6)	91 (10)
Aggression	54 (6)	32 (4)	86 (10)
Medicine overdose	36 (4)	45 (5)	81 (9)
Suicide related	30 (3)	25 (2)	55 (6)

Notes: MH = mental health, DA = Drug and alcohol

MH ED elderly presentations_tables

Table 3

Table 3: Selected characteristics for patients who represented within 12 months (n=106) and selected clinical features of the 242 episodes of care

Characteristic, n = 106	Statistic
Gender, male, n (%)	64 (60.4)
Age, years, mean (SD)	75.3 (7.8)
Representations within 12 months, no. hospitals	106
One hospital, n (%)	89 (84)
Two hospitals, n (%)	16 (15)
Three hospitals, n (%)	1 (1)
Representations within 12 months, no. representations	
Two presentations, n (%)	80 (76)
Three presentations, n (%)	22 (21)
Four presentations, n (%)	4 (3)
Representations within 30 days	53
One hospital	45 (85)
Two hospitals, n (%)	7 (14)
Three hospitals, n (%)	1 (1)
Representations within 72 hours, n (%)	13*
Features of episodes of care, n = 242	
Source of ED referral, n (%)	
Self, family or friend	226 (94)
Nursing home	7 (3)
General practitioner	5 (1.5)
Mental health team	1 (0.5)
Community health	3 (1)
Mode of arrival, n (%)	
Ambulance	178 (73)
Private car	53 (22)
Police /Correctional services	3 (1)
Other (including walked in)	8 (3)
Disposition, n (%)	
Admitted to hospital	152 (63)
Discharged	86 (35.5)
Did not wait	4 (1.5)
Triage categories, n (%)	
1 (Resuscitation)	2 (0.5)
2 (Emergency)	29 (12)
3 (Urgent)	75 (31.5)
4 (Non-urgent)	126 (52)
5 (Non-urgent)	10 (4)
MH and DA conditions, n (%)	
Cognitive impairment	45 (18)
Affective disorder	55 (23)
Alcohol related	51 (21)
Chronic mental health condition	29 (12)
Aggression	32 (13)
Medicine overdose	16 (7)
Suicide related	14 (6)

Notes: * all patients represented to one hospital only, MH = mental health, DA = Drug and alcohol

MH ED elderly presentations_tables

Figures 1

40, 093 episodes of care

Excluded
- Medical diagnoses (39,193)

900 episodes of care
Mental Health / AOD
presentations

106 patients represented in 12 months (242 episodes of care) – See also Table 3

- 80 presented twice
- 22 presented three times
- 4 presented four times

13 patients represented within 72 hours

53 patients represented within 3 months
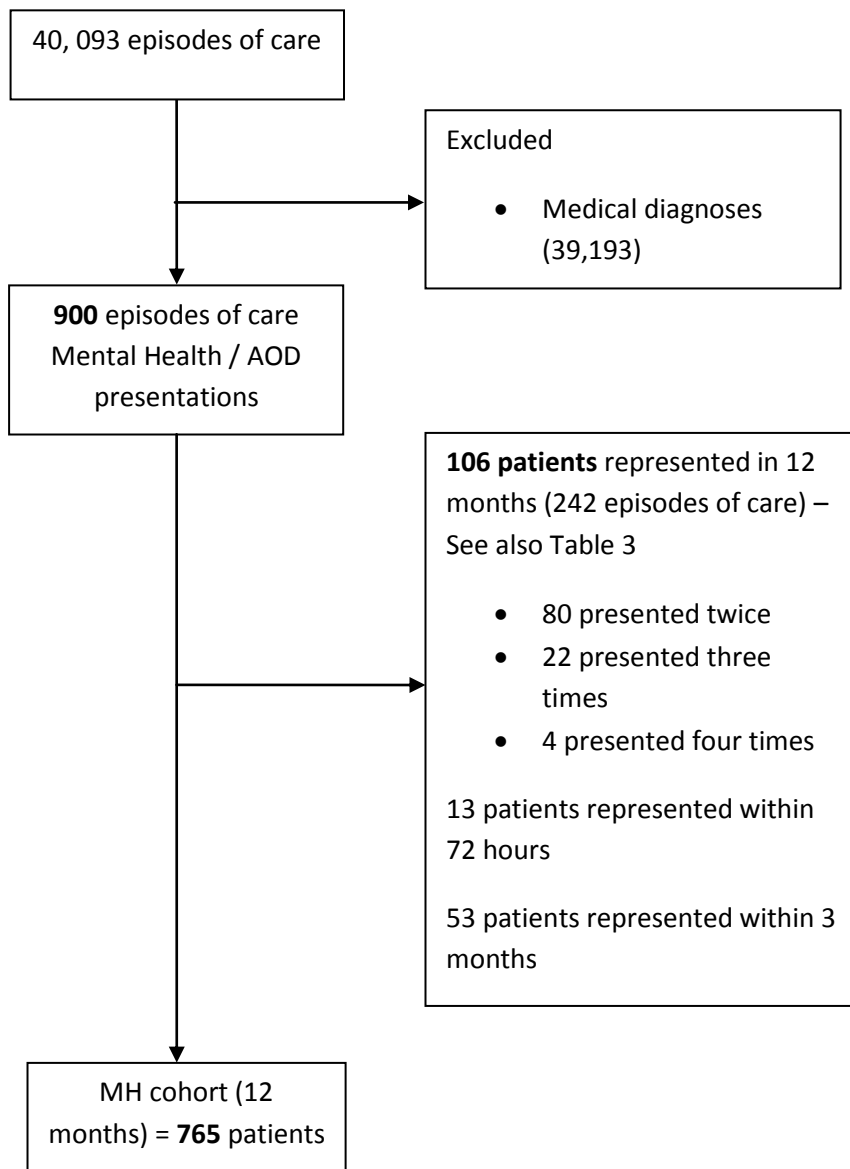
MH cohort (12 months) = **765** patients

Figure 1: Flow chart of study cohort (older people >65 years old) presenting to ED with mental health presentations; number of episodes of care and number of patients with multiple presentations