

Improving the Management of Severe Behavioural and Psychological Symptoms of Dementia (BPSD) in Hospitals

Population Level Prevalence Study of
Dementia in Victorian Health Services

Final Online Report

Prepared by:

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ABBREVIATIONS

AIHW	Australian Institute of Health and Welfare
BPSD	Behavioural and Psychological Symptoms of Dementia
CFA	Criteria for Admission
CVDL	Centre for Victorian Data Linkage
DH	Department of Health
ED	Emergency Department
GEM	Geriatric Evaluation and Management
HREC	Human Research Ethics Committee
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification
LOS	Length of Stay
NARI	National Ageing Research Institute
NSW Health	New South Wales Health
OH&S	Occupational Health and Safety
RACF	Residential Aged Care Facilities
RIR	Residential In-Reach
SBRT	Severe Behaviour Response Teams
VAED	Victorian Admitted Episodes Dataset
VAHI	Victorian Agency for Health Information
VALT	Virtual Access Linkage Trust
VEMD	Victorian Emergency Minimum Dataset
VHIMS	Victorian Health Incident Management System
VHIMS CS	Victorian Health Incident Management System Central Solution
VIF	Variance Inflation Factor

EXECUTIVE SUMMARY

Hospitals are known to be challenging places for people with dementia. Numerous physiological and psychosocial factors associated with being acutely unwell, combined with an unfamiliar and often unsuitable physical and social environment, can exacerbate symptoms of dementia. These new or changing symptoms can be difficult to manage, cause significant distress to patients, family members, staff and other patients, may result in harm to people with a dementia diagnosis or to others, and result in increased morbidity and mortality.

This population prevalence study forms part of a larger project titled '*Improving the Management of Patients with Severe Behavioural and Psychological Symptoms of Dementia (BPSD) in Victorian Hospitals*' conducted by the National Ageing Research Institute (NARI) on behalf of the Victorian Department of Health (DH). The results from all components of the project will help to inform service delivery and the development of a best practice model of care for patients with BPSD in Victorian public hospitals.

The primary objective of this component was to report the prevalence of dementia within Victorian public hospitals, on a population level. This component used existing state-wide datasets to describe population level trends of the prevalence of dementia (identified according to hospital coding as having dementia) in older patients (aged 50 years and over) in Victorian public and private hospitals at an acute, sub-acute, and emergency department (ED) level.

Ethical approval for this study was obtained from Austin Health Human Research Ethics Committee (HREC) on July 6th, 2021 (HREC/75588/Austin-2021). The existing administrative datasets used in this study were the Victorian Emergency Minimum Dataset (VEMD) and the Victorian Admitted Episodes Dataset (VAED). The data included individuals who presented to a public hospital ED (VEMD) as well as individuals who separated from a public or private hospital in Victoria (VAED) between 1 July 2018 and June 30, 2019. Data extraction was limited to individuals 50 years and over. A diagnosis of dementia is coded based on the International Statistical Classification of Diseases and Related Health Problems Tenth Revision, Australian Modification (ICD-10-AM) classification and has been entered into these datasets by health services. The two data samples from the VEMD and VAED were sourced from Victorian Agency for Health Information (VAHI) and the Centre for Victorian Data Linkage (CVDL).

Key Findings

Australia lacks reliable national data to calculate prevalence estimates of dementia. It also lacks data about hospitalisation and ED visits for those with a dementia diagnosis. This study has investigated the prevalence of hospitalisation for those aged 50 years and above with a diagnosis of dementia compared with those without in the state of Victoria for the 12-month period, 1st July 2018 – 30 June 2019.

Of the 1,163,618 hospital separations in Victoria for those aged 50 years and over, 3% had a diagnosis of dementia, with 45% of these identified as female. Of the 659,667 ED presentations of those aged 50 years and over, 0.3% had a diagnosis of dementia, with 51% female. Nearly 50% of those hospital separations coded with a diagnosis of dementia were over 84 years of age. Similarly, a large proportion (over 43%) of ED presentations with a dementia diagnosis were 85 and older. Nearly a third (29.5%) of patients coded with a diagnosis of dementia presenting to ED were from residential aged care facilities (RACF) and over 12% of hospital separations were admitted directly from RACF. Over three quarters (76.9%) of hospital separations of individuals aged 50 years and over with a diagnosis of dementia were admitted to general medicine, emergency medicine or geriatric units.

A multivariable regression investigating predictors of Length of Stay (LOS) for individuals aged 50 years and over with a dementia diagnosis found that gender reduced the LOS—being female reduced LOS by 3% compared to males. Not having a carer present increased LOS by 12% in comparison to separations where a carer was present and those admitted in winter compared to summer had an increased LOS (in days) by 3%, also statistically significant.

Another multivariable regression investigated predictors of mortality in hospital for individuals aged 50 years and over with a dementia diagnosis and found that being female reduced the odds of death by 9% compared to males. When compared with private accommodation, being transferred from a RACF increased the odds of death during admission by 17%.

1. BACKGROUND

1.1 Context

1.1.1 Dementia and Severe BPSD in Hospitals

Dementia is recognised as a significant and growing issue for health and aged care services in Australia. While dementia is not an inevitable or normal part of the ageing process, dementia was the leading cause of death of women and the second leading cause for men in 2020.¹

The term “dementia” describes a group of conditions characterised by gradual impairment of brain function, which impacts daily function. Dementia symptoms include difficulties with memory and thinking, communication and speech, and/or mobility, and changes in personality and behaviour. For people formally diagnosed with dementia, difficulties in communicating and expressing needs may manifest in many ways. The Behavioural and Psychological Symptoms of Dementia (BPSD) refer to symptoms of dementia such as mood disturbances, hyperactivity-type symptoms, psychotic symptoms, changes in appetite, hoarding, night-time behaviour disturbances and “wandering” and can affect between 60 and 90% of people with dementia to varying extents.² These symptoms often have a significant impact on people with dementia, carers and family, and have been associated with reduced functional ability, premature admission to residential care, increased hospitalisation rates, and increased stress for carers and for the person with dementia.³

The use of the term ‘BPSD’ is controversial as such symptoms may manifest because of the circumstances and situations perpetuated by other people and by external environments, and also from physical causes (such as medication side effects, undetected or untreated pain or discomfort, infections). However, the term is frequently used in clinical contexts and in the literature alongside other terminology such as changed behaviours, responsive behaviours, unmet needs, behaviours of concern, challenging behaviours and non-cognitive or neuropsychiatric symptoms of dementia.

Hospitals are known to be challenging places for people with dementia, particularly those presenting with BPSD. Numerous physiological and psychosocial factors associated with being acutely unwell, combined with an unfamiliar and often unsuitable physical and social environment, can exacerbate symptoms. These new or changing symptoms can be difficult to manage, cause significant distress to family members, staff and other patients, pose a significant risk of harm to patients themselves or to others, and result in increased morbidity and mortality.

1.1.2. ‘Improving the Management of Patients with Severe BPSD in Victorian Hospitals’ Project

A key issue identified by the Victorian Sub-acute Executive Peak Body in 2019 was whether Victorian health services have the capacity to meet the needs of a growing number, and increased severity, of people presenting and being admitted to hospitals with BPSD. A preliminary benchmarking survey of nine metropolitan and three regional health services in Victoria revealed that all health services provide care for patients with dementia and BPSD in sub-acute settings, but individual models of care (including management approaches and patient pathways relating to relevant ED and acute care settings) varied significantly between health services.⁴ In addition, a number of challenges to achieving a responsive Geriatric Evaluation and Management (GEM) service, the most common specialist model of care used in Victoria for patients with dementia and BPSD, were identified. Challenges included workforce recruitment, retention, level of skill, and access to specialist mental health services, and issues relating to the built environment.

Since the commencement of this project in 2019 there have been a myriad of issues for hospitals relating to care of older people due to the COVID-19 pandemic. Across Australia the COVID-19 pandemic placed and continues to impact service provision in hospitals and RACF. In Victoria, at least 191 RACF experienced at least one COVID-19 outbreak in the early years of the pandemic. Transfer to hospital was a common response for residents who tested positive for COVID-19 and required medical care. Many of those transferred from RACF to hospital had a diagnosis of dementia and the challenges in managing BPSD were exacerbated.

As a result, the National Ageing Research Institute (NARI) was commissioned by the Victorian Department of Health (DH) to undertake a comprehensive review of the management of patients with severe BPSD in Victorian Hospitals (*Improving the Management of Patients with Severe BPSD in Victorian Hospitals* project).

This population prevalence study forms part of that larger project.

1.2 Project Components

The *Improving the Management of Patients with Severe Behavioural and Psychological Symptoms of Dementia in Victorian Hospitals* project consists of multiple components. The project components include:

1. Establishment of an agreed definition of 'severe BPSD';
2. Exploration of national and international best practice principles and models of care regarding the hospital management of patients with severe BPSD through a rapid literature review;
3. Exploration of the extent and impact of severe BPSD on incidents, adverse events and outcomes in hospital settings within Victorian health services (through a population prevalence study, a point prevalence study, and a retrospective manual file audit);
4. Exploration of the local actions currently in place within Victorian health services to manage patients with severe BPSD in the hospital setting and compare these against best practice (using an online benchmarking survey); and
5. Exploration of the experience of family members* and staff relating to the current hospital management of severe BPSD within Victorian health services.

**Due to the COVID-19 pandemic, family member experience was not explored*

The results from all components of the project will help to inform service delivery and the development of a best practice model of care for patients with BPSD in Victorian public hospitals.

2. OVERVIEW

2.1 Study Aim

This current study addresses the population prevalence activity of project component #3. The aim is to report the prevalence of dementia within all Victorian public hospitals on a population level.

Existing state-wide hospital administrative datasets were used to describe population level trends of the prevalence of dementia. Data is routinely submitted by health services using valid codes listed in dataset manuals provided by the Victorian DH. Identified trends will be reported for older patients (aged 50 and over) in Victorian public and private hospitals at an acute, sub-acute, and emergency department (ED) level.

2.2 Study Objectives

The primary objective of this study was to report the prevalence of dementia and BPSD within Victorian public hospitals on a population level. Additional objectives included:

1. To determine the proportion of ED presentations involving older individuals with dementia for Victorian public hospitals for a 12-month period.
2. To determine the proportion of hospital admissions involving older individuals with dementia over a 12-month period for Victorian public and private hospitals.
3. To determine the proportion of hospital admissions involving older individuals with dementia who receive care from adult acute care units over a 12-month period for Victorian public and private hospitals.
4. To determine the proportion of hospital admissions involving older individuals with dementia who receive care from sub-acute care units over a 12-month period for Victorian public and private hospitals.

3. PROJECT DESIGN

3.1 Procedure

Relevant data from Victorian Government hospital administrative datasets were obtained through the Victorian Agency for Health Information (VAHI) and the Centre for Victorian Data Linkage (CVDL). Ethical approval for this study was obtained from Austin Health Human Research Ethics Committee (HREC) on July 6th, 2021 (HREC/75588/Austin-2021). Data was extracted by each data custodian agency and converted to non-identifiable form and then provided to the NARI research team for analysis.

3.2 Data Sources

The hospital administrative datasets used in this study were the Victorian Emergency Minimum Dataset (VEMD). And the Victorian Admitted Episodes Dataset (VAED). The VEMD includes ED presentations at Victorian public hospitals only while the VAED contains demographic, clinical and administrative data for every separation occurring in all Victorian public and private hospitals. An admitted patient, as per the VAED criteria, is defined as a patient who meets at least one of the criteria for admission (CFA) and undergoes the hospital admission process. Separations are defined as "the process by which an episode of care for an admitted patient ceases" and can be formal or statistical⁵. Statistical separations are when there is change in care type within the current hospital.⁵ An admitted patient can have multiple episodes of care in one hospital stay.

3.3 Data Identification, Extraction and Analysis

Data was extracted for individuals who presented to a public hospital ED (VEMD) as well as individuals who separated from a public or private hospital in Victoria (VAED) between 1 July 2018 and June 30, 2019. Data extraction was limited to individuals aged 50 years and over.

A diagnosis of dementia is coded based on the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) classification which is used by all Victorian health services to assign clinical codes to admitted episodes of care in hospitals (Table 1)

Table 1. Dementia Diagnosis Codes included in VEMD and VAED, 2018-2019

	VEMD	VAED
ICD-10AM Dementia Diagnosis Codes	F03 Dementia, unspecified F051 Delirium superimposed on dementia	F000 Early dementia in Alzheimer's disease F001 Late dementia in Alzheimer's disease F002 Alzheimer's dementia atypical/mixed F009 Alzheimer's dementia unspecified F010 Vascular dementia of acute onset F011 Multi-infarct dementia F012 Subcortical vascular dementia F013 Mixed cortical & subcortical vascular dementia F018 Other vascular dementia F019 Vascular dementia unspecified F020 Dementia in Picks disease F021 Dementia in Creutzfeldt-Jakob disease F022 Dementia in Huntington's disease F023 Dementia in Parkinson's disease F024 Dementia in HIV disease F028 Dementia in other specified disease class elsewhere F03 Dementia, unspecified F051 Delirium superimposed on dementia U791 Dementia (including in Alzheimer's disease)

Note: Dementias induced by alcohol and/or psychoactive substance use were not included

3.3.1 Data Variables

The following variables were selected for extraction:

- Demographics (sex, country of birth, date of birth, carer availability, preferred language, interpreter required, type of usual accommodation)
- Diagnosis – primary and additional codes (ICD-10-AM codes)
- ED Presentations (arrival month and year, LOS in ED)
- ED Departures (departure month and year; departure status; referred to on departure)
- Inpatient Admission Details (date and time, admitting unit; inpatient care type, admission source)
- Inpatient Separation Details (LOS, date and time, status on separation, referrals on separation)

3.3.2 Primary Outcomes

The primary outcomes identified for Victorian hospitals for a 12-month period include:

1. Percentage of public hospital ED presentations involving individuals aged 50 years and over with a diagnosis of dementia
2. Percentage of public and private hospital admissions involving individuals aged 50 years and over with a diagnosis of dementia

3.3.3 Analysis

The two data samples from each of the VEMD and VAED were sourced from VAHI and the CVDL for the period 1st July 2018 to 30th June 2019.

1. **VAHI Data:** VAHI provided data from two datasets separate – VEMD and VAED. The VAHI data included records of those with and without dementia. It was used to generate descriptive results to compare the proportions of those who were coded with a diagnosis of dementia to individuals without code of dementia. The VAHI data were provided as aggregated data and not as unit record files.
2. **CVDL Data:** CVDL provided data from VAED dataset only. The CVDL data provided only included all records of people with a diagnosis of dementia in any of the diagnosis variables (Table 1) as defined by the ICD-10AM codes. The CVDL data were presented as a single unit record file per line. VAED data were analysed to explore predictors of LOS and death using multivariable regression modelling. LOS was measured in days, and analysed using negative binomial regression, while predictors of death were analysed using logistic regression with death as a binary outcome. Input variables were selected a priori and included the following: age (in 5-year age groups), whether an interpreter was required, admission source, indigenous status; date of admission (according to season) and whether the admission was on a weekend.

4. KEY FINDINGS

For the year 2018-2019, VAHI provided counts of all hospital separations (see section 3.2 for the definition of a separation) and all ED presentations for those presenting with and without dementia. Only separations and presentations of individuals aged 50 years and over were included.

As shown in Table 2, the VAHI dataset provided aggregated data showing 34,992 hospital separations in the 12-month period with a dementia code. This is different to the 30,737 admissions recorded according to CVDL (which were associated with 20,497 individual patients). This translates to an average of 1.5 admissions per person over the timeframe.

Transfer between hospitals and within hospitals was excluded in the CVDL dataset which may explain the differences between 34,992 separations and 30,737 admissions as presented here.

Table 2. Total Number of Hospital Separations and ED Presentations by Diagnosis of Dementia in Individuals aged 50 Years and Over (Source: VEMD, VAED 2018-2019)

	Dementia	No Dementia	Total
VEMD (ED Presentations), n (%)	1,876 (0.3%)	657,791 (99.7%)	659,667 (100%)
VAED (Hospital Separations), n (%)	34,992 (3%)	1,128,696 (97%)	1,163,618 (100%)

4.1 Demographics

4.1.1 Sex

Within the VEMD sample of ED presentations over the age of 50 years coded as having a dementia diagnosis ($n=1,876$), 50.8% were female. Of the VAED reported hospital separations for individuals 50 years or over, coded as having a dementia diagnosis ($n=34,992$), 45.2% were female (Table 3).

Table 3. Sex of Patients With & Without Dementia (Source: VAED, VEMD 2018-2019).

ED Presentations	Dementia (N=1,876)	No Dementia (N=657,791)
Male	923 (49.2%)	346,195 (52.6%)
Female	953 (50.8%)	311,596 (47.4%)
Hospital Separations	Dementia (N=34,992)	No Dementia (N=1,128,696)
Male	19,176 (54.8%)	616,832 (54.7%)
Female	15,816 (45.2%)	511,864 (45.4%)

4.1.2 Age

Of the hospital separations included in the 2018-2019 VAED sample coded as having dementia, 49.4% were over the age of 84 years. The hospital separations without a dementia diagnosis were spread across age groups, ranging from 9.9% to 15.5% of separations (Figure 1).

Within the VEMD sample, 43.5% of all ED presentations with a dementia diagnostic code were for individuals that were 85 years or older (Figure 2). Similar to the VAED sample, those aged 50 years and over presenting to the ED without a dementia diagnostic code were evenly spread across the age groups—between 10.6% to 13.7%.

Figure 1. Hospital Separations (%), by Age Group

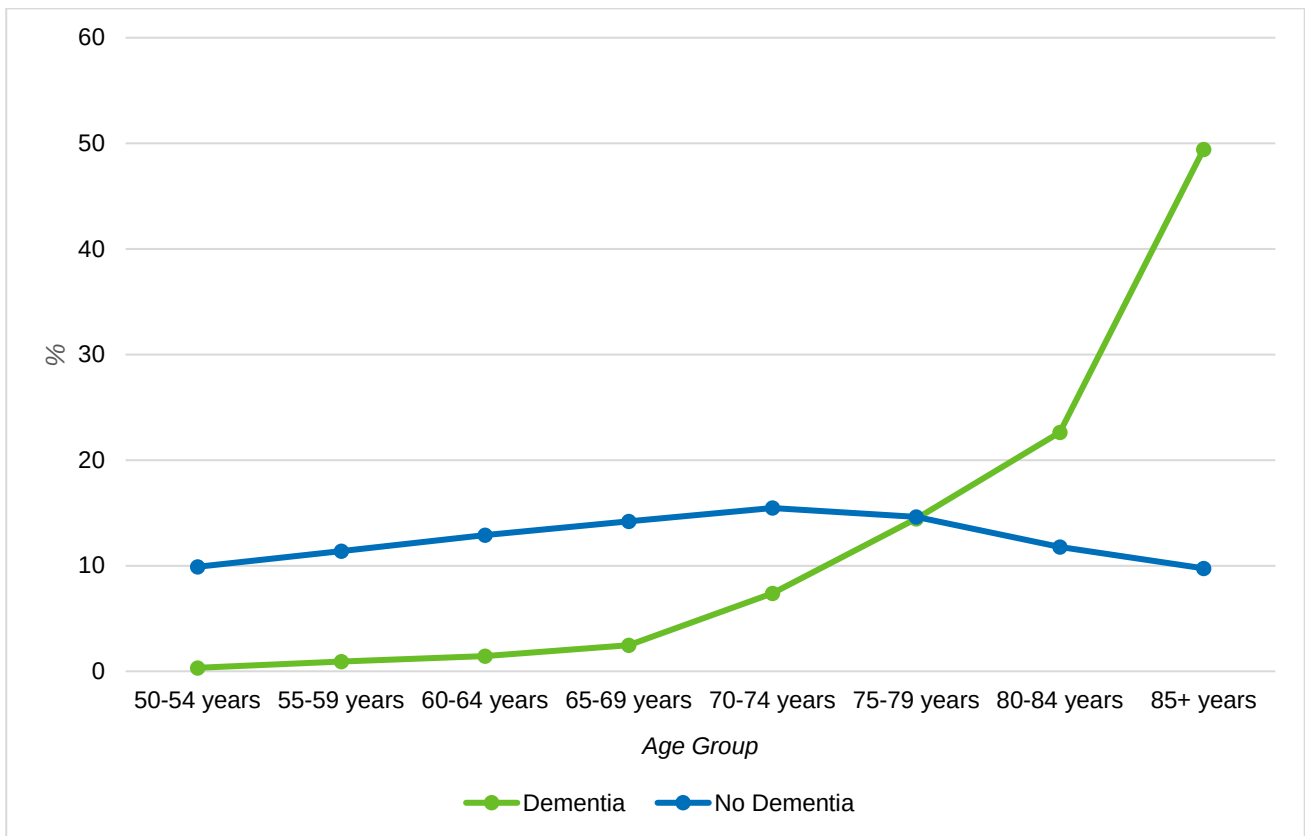
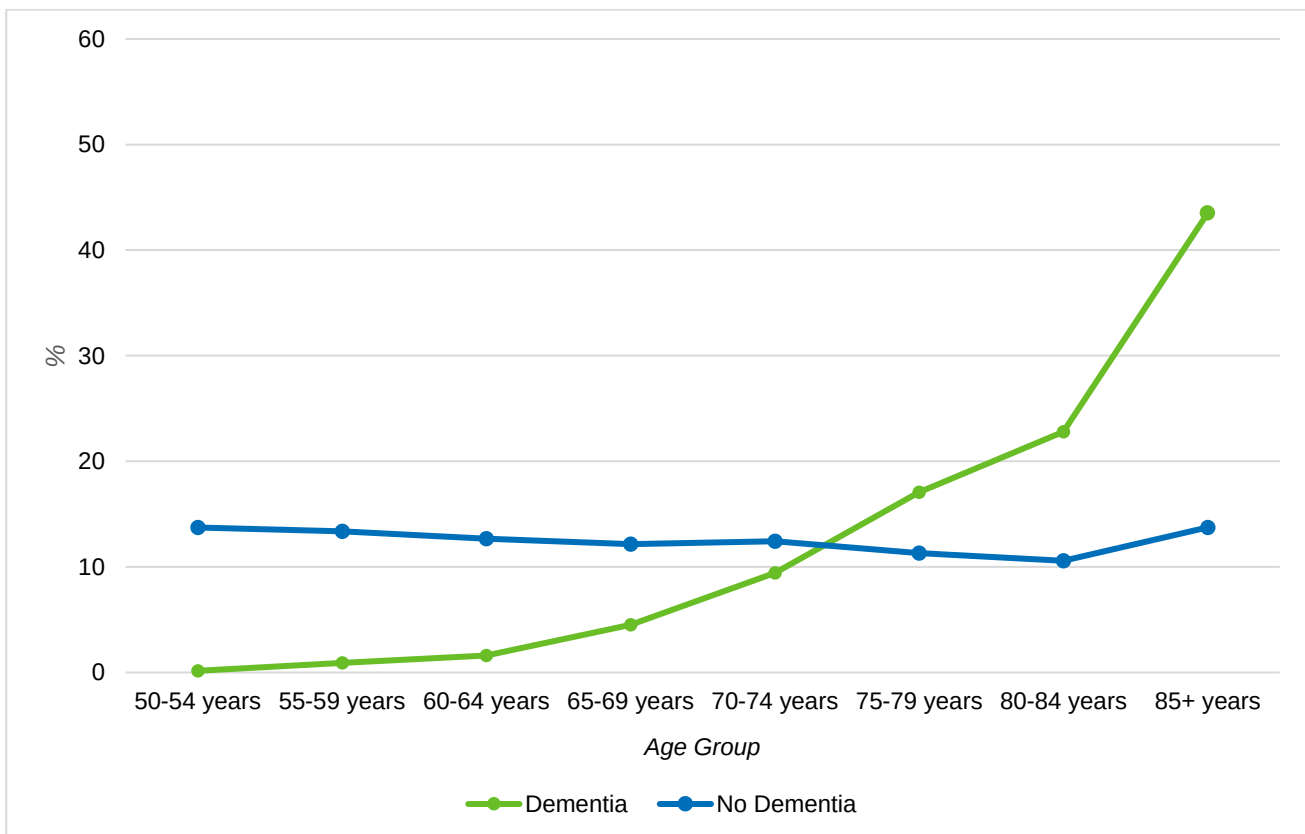


Figure 2. ED Presentations (%), by Age Group



4.1.3 Preferred Language Groups

Of those aged 50 years and over with a dementia diagnosis who presented to a public hospital ED between 2018-2019, 79% had English listed as their preferred language (Table 4). The next most common language preferred by this patient population was Italian (5.4%), followed by Greek (5.4%).

In comparison, approximately 90% of individuals aged 50 years and over without a dementia diagnosis listed English as their preferred language; the next most preferred language was Greek (2.0%). Approximately 15% had another language other than English as their preferred language (irrespective of a dementia diagnosis).

Table 4. Most Common Preferred Language by Diagnosis of Dementia – ED Presentations (Source: VEMD 2018-2019)

Preferred Language	Dementia (N=1,876)	No Dementia (N=657,791)
English	1,487 (79.3%)	591,749 (90.0%)
Italian	102 (5.4%)	10,919 (1.7%)
Greek	101 (5.4%)	12,827 (2.0%)
Vietnamese	19 (1.0%)	4,539 (0.7%)
Macedonian	18 (1.0%)	3,157 (0.5%)
Cantonese	18 (1.0%)	2,565 (0.4%)
Arabic	16 (0.9%)	4,407 (0.7%)
Turkish	13 (0.7%)	2,829 (0.4%)
Mandarin	9 (0.5%)	4,868 (0.7%)
Dari	0 (0.00%)	592 (0.1%)
Other	93 (5.0%)	19,273 (2.9%)

Approximately 80% of hospital separations aged 50 years and over with a diagnosis of dementia had English listed as their preferred language; of those without a diagnosis of dementia, 87% had English listed as their preferred language (Table 5). The next most listed language preference for hospital separations was Italian (5.4%), followed by Greek (5.0%).

Table 5. Most Common Preferred Language by Diagnosis of Dementia – Hospital Separations (Source: VAED 2018-2019)

Preferred Language	Dementia (N=34,922)	No Dementia (N=1,128,696)
English	27,945 (80.0%)	983,771 (87.2%)
Italian	1,882 (5.4%)	19,865 (1.8%)
Greek	1,757 (5.0%)	26,976 (2.4%)
Macedonian	346 (1.0%)	7,449 (0.7%)
Arabic	307 (0.9%)	9,368 (0.8%)
Vietnamese	297 (0.9%)	12,641 (1.1%)
Cantonese	224 (0.6%)	7,562 (0.7%)
Turkish	182 (0.5%)	5,756 (0.5%)
Other	1,613 (4.6%)	43,003 (3.8%)

4.1.4 Indigenous Status

Of all ED presentations for those aged 50 years and over with a diagnosis for the same period, 0.3% identified as Aboriginal or Torres Strait Islander. Of all hospital separations for those 50 years and over during the 2018-2019 timeframe with a diagnosis of dementia, 0.5% of separations occurred in individuals who identified as Aboriginal or Torres Strait Islander (Table 6).

Table 6. Percentage of Hospital Separations and ED Presentations where Individual Identified as an Aboriginal or Torres Strait Islander (Source: VAED, VEMD 2018-2019).

ED Presentations	Dementia (N=1,876)	No Dementia (N=657,791)
Identified as Aboriginal or Torres Strait Islander	5 (0.3%)	7,236 (1.1%)
Hospital Separations	Dementia (N=34,992)	No Dementia (N=1,128,696)
Identified as Aboriginal or Torres Strait Islander	165 (0.5%)	11,513 (1.0%)

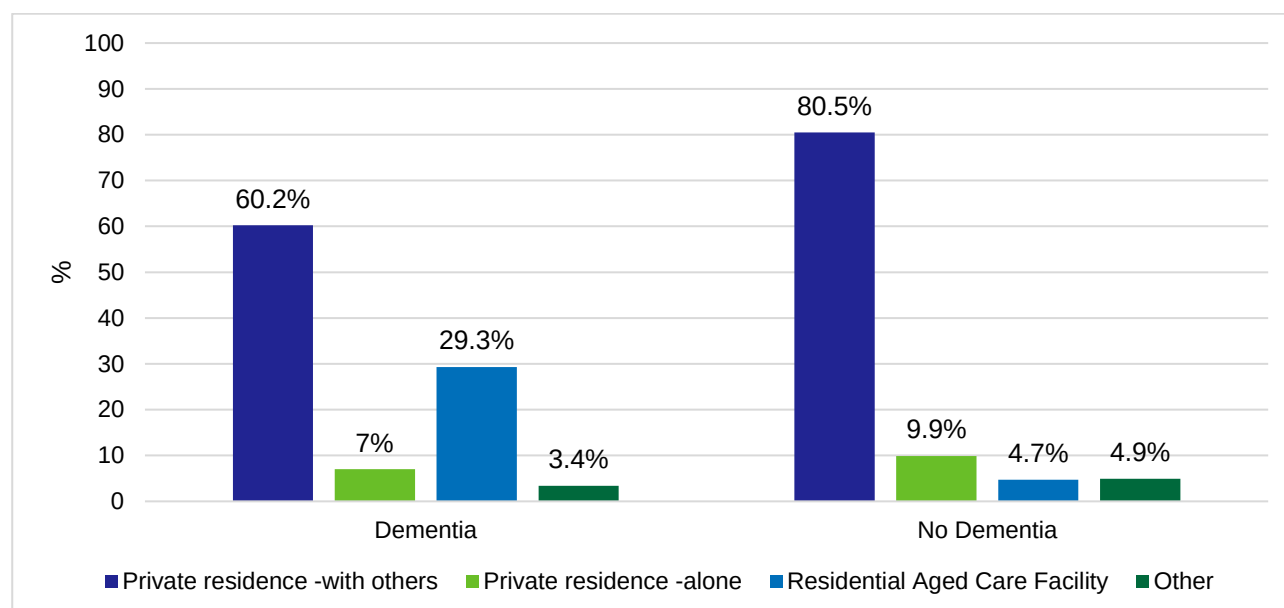
4.2 Admission Source

Admission source of individuals aged 50 years and over, presenting to an ED with or without a diagnosis of dementia, was identified using VEMD data (Table 7). Of the 1,876 presentations to ED with a dementia diagnosis, 60.2% were admitted from a private residence - with others; the next most common admission source was from a RACF (29.3%). In comparison, 80.5% of individuals aged 50 years and over without a dementia diagnosis were admitted from a private residence - with others; the next most common admission source was a private residence - alone (10.0%).

Table 7. Admission Source for ED Presentations by Diagnosis of Dementia (Source: VEMD 2018-2019)

Admission Source for ED Presentations	Dementia (N=1,876)	No Dementia (N=657,791)
Private Residence - with other/s	1,130 (60.2%)	529,522 (80.5%)
RACF	550 (29.3%)	30,916 (4.7%)
Private Residence – alone	132 (7.0%)	65,187 (10.0%)
Unknown	31 (1.7%)	23,615 (3.4%)
Other Accommodation	17 (0.9%)	2,236 (0.3%)
Community-based supported accommodation	10 (0.5%)	3,552 (0.5%)
Other Hospital Setting	3 (0.2%)	329 (1.0%)
Psychiatric Hospital	3 (0.2%)	132 (0.02%)
Boarding/rooming house/hostel	0 (0.00%)	789 (0.1%)
Homeless Persons Shelter	0 (0.00%)	197 (0.03%)
Prison/Remand/Youth Training Centre	0 (0.00%)	460 (1.0%)
Public Place (Homeless)	0 (0.00%)	855 (0.1%)
Shelter/Refuge Other Than Homeless Shelter	0 (0.00%)	66 (0.01%)

Figure 3. Admission Source for ED Presentations by Diagnosis of Dementia (Source: VEMD 2018-2019)



Admission source for individuals aged 50 years and over admitted to hospital with or without a diagnosis of dementia was identified from VAED data (Table 8). Of the 34,922 separations from hospital with a dementia diagnosis, 65.5% were admitted from a private residence; the next most common admission source was from another acute hospital, extended care centre, rehabilitation centre or geriatric centre (15.2%).

In comparison, 91.8% of individuals who were 50 years and older without a dementia diagnosis were admitted from a private residence. In contrast to VEMD data, there was no differentiation between admission from private residence with others vs private residence alone.

Table 8. Admission Source by Diagnosis of Dementia (Source: VAED 2018-2019)

Admission Source	Dementia (N=34,922)	No Dementia (N=1,128,696)
Private residence	22,872 (65.5%)	1,035,804 (91.8%)
Transfer from acute hospital/extended care/rehab/geriatric centre	5,313 (15.2%)	59,595 (5.3%)
Transfer from aged care residential facility	4,442 (12.7%)	16,592 (1.5%)
Statistical Admission	2,166 (6.2%)	15,125 (1.3%)
Transfer from transition care bed-based program	90 (0.3%)	1,016 (1.0%)
Transfer from mental health residential facility	39 (0.1%)	451 (0.04%)
Posthumous Organ Procurement	0 (0%)	113 (0.01%)

4.3 Seasonality

The VAHI sample of VEMD and VAED was used to calculate the proportion of presentations to public hospital EDs and hospital separations from public and private hospitals across Victoria by season. Little difference in the proportion of hospital separations and presentations across the four seasons was evident (Table 9).

Table 9. Seasonality of Admission/Presentation of Patients With & Without Dementia, by Dataset (Source: VEMD, VAED, 2018-2019).

	ED Presentations (VEMD)		Hospital Separations (VAED)	
	Dementia (N=1,876)	No Dementia (N=657,791)	Dementia (N=34,922)	No Dementia (N=1,128,696)
Summer	505 (26.9%)	167,737 (25.5%)	8,402 (24.1%)	272,919 (24.2%)
Autumn	492 (26.2%)	167,079 (25.4%)	8,751 (25.1%)	289,849 (25.7%)
Winter	483 (25.8%)	160,041 (24.3%)	9,048 (25.9%)	282,964 (25.1%)
Spring	396 (21.1%)	162,935 (24.8%)	8,535 (24.4%)	283,077 (25.1%)

4.4 Admitting Unit and Discharging Unit

Over three quarters (76.9%) of hospital separations of individuals aged 50 years and over with a diagnosis of dementia were admitted to general medicine, emergency medicine or geriatric units (Table 10). This contrasts with separations without a diagnosis of dementia where 74.5% are admitted to units other than general medicine, emergency medicine and geriatrics. Although not able to be analysed at an individual level, the proportions of separations in each admitting unit is similar to the proportion in each discharge unit. It is important to note that there are over 100 codes for admitting unit within the VAED dataset, accounting for the large 'other' category which is an amalgamation of codes that account for small proportions of separations.

Table 10. Admitting and Discharging Unit for Hospital Separations by Diagnosis of Dementia (Source: VAED 2018-2019)

	Dementia (N=34,922)	No Dementia (N=1,128,696)
Admitting Unit		
Emergency Medicine	8,867 (25.4%)	140,636 (12.5%)
General Medicine	12,537 (35.9%)	147,069 (13.0%)
Geriatrics	5,434 (15.6%)	19,075 (1.7%)
Orthopaedics	1,310 (3.8%)	24,154 (2.1%)
General Surgical	1,118 (3.2%)	71,898 (6.4%)
Neurology	894 (2.6%)	17,156 (1.5%)
Other	4,763 (13.6%)	708,708 (62.8%)
Discharging Unit		
Emergency Medicine	7,571 (21.7%)	7,571 (10.8%)
General Medical	13,326 (38.2%)	13,326 (13.8%)
Geriatrics	5,874 (16.8%)	5,874 (1.8%)
Orthopaedics	1,338 (3.8%)	1,338 (2.2%)
General Surgical	1,041 (3.0%)	1,041 (6.4%)
Neurology	925 (2.7%)	925 (1.6%)
Other	4,847 (13.9%)	4,847 (63.4%)

4.5 Care Type

For the over 34,000 hospital separations with a dementia diagnosis, the most common care type was acute care (82.3%). For those without a dementia diagnosis, 95.4% of separations received acute care (Table 11). Of those hospital separations with a diagnosis of dementia and aged 50 years and over, 15.9% spent time under sub-acute care units.

Table 11. Care type for Hospital Separations by Diagnosis of Dementia (Source: VAED 2018-2019)

Care Type for Hospital Separations	Dementia (N=34,922)	No Dementia (N=1,128,696)
Acute	28,741 (82.3%)	1,082,419 (95.9%)
Sub-acute (GEM, Rehabilitation, Palliative Care, Maintenance Care, Nursing Home Type / Non-acute)	5,553 (15.9%)	39,504 (3.5%)
Mental Health	629 (1.8%)	5,643 (0.5%)
Alcohol and Drug Program	0 (0.0%)	0 (0.0%)

4.6 Separation Mode and Departure Status

When an episode of care ceases, the two datasets use different terminology. The VEMD refers to “departure” whereas the VAED dataset refers to “separation”. For the purposes of this report, “separation” will be used to describe the cessation of an episode of care.

The VEMD data for 2018-2019 shows that approximately 70% of all separations for individuals with a diagnosis of dementia who presented to a public hospital ED separated to an inpatient ward (not elsewhere described, or short stay unit) (Table 12). This contrasts with separations for individuals without a diagnosis of dementia, with approximately 50% of these separating to a ward (not elsewhere described, or short stay unit). Of those without a dementia diagnosis presenting to an ED, 38.28% separated to home; for those with a dementia diagnosis this proportion was much lower, with only approximately 12% separated to home.

Table 12. ED Departure Status (Source: VEMD 2018-2019)

Departure Status (VEMD)	Dementia (N=1,876)	No Dementia (N=657,791)
Departure Before Treatment Completed		
After Advice re Treatment Options	2 (0.1%)	2,171 (0.3%)
After Treatment Started	3 (0.2%)	9,012 (1.4%)
Died within ED / On Arrival	3 (0.2%)	921 (0.1%)
Without Treatment	0 (0.0%)	16,642 (2.5%)
On Campus		
Cardiac Catheter Laboratory	0 (0.00%)	1,973 (0.3%)
Coronary Care Unit	4 (0.2%)	6,381 (1.0%)
Intensive Care Unit	4 (0.2%)	6,907 (1.1%)
Medical Assessment & Planning Unit	141 (7.5%)	8,486 (1.3%)
Mental Health Bed	29 (1.6%)	1,710 (0.3%)
Mental Health Observation / Assessment Unit	1 (1.0%)	263 (0.04%)

Other Operating Theatre / Procedure Room	0 (0.0%)	2,171 (0.3%)
Short Stay Unit	363 (19.4%)	158,725 (24.1%)
Ward not elsewhere described	949 (50.6%)	170,894 (26.0%)
Returning to Usual Residence		
Correctional / Custodial Facility	0 (0.0%)	263 (0.04%)
Mental Health Residential Facility	3 (0.2%)	66 (0.01%)
Private Home	225 (12.0%)	251,802 (38.3%)
RACF	75 (4.0%)	4,210 (0.6%)
Transfers to Another Hospital Campus		
Coronary Care Unit	0 (0.0%)	1,118 (0.2%)
Excludes Mental Health / Intensive Care Unit / Coronary Care Unit	67 (3.6%)	12,827 (2.0%)
Intensive Care Unit	0 (0.0%)	724 (0.1%)
Mental Health	7 (0.4%)	658 (0.1%)

4.7 Additional Analyses

Just over 2,000 hospital separations (5.9%) for patients aged 50 years and over with a diagnosis of dementia in Victorian public and private hospitals in 2018-2019 resulted in death as the separation mode (Table 13). This proportion is substantially higher than those without dementia, where only 1.1% of patients were coded as having died. Nearly a third (29.5%) of separations of individuals with a diagnosis of dementia separated to RACF as opposed to 2.3% of those without. Transfers to acute hospitals/extended care and statistical separations (where there is change in care type within the current hospital) were also more than twice as likely to occur for patients with dementia.

Table 13. Separation Mode, by Diagnosis of Dementia (Source: VAED 2018-2019)

Separation Mode	Dementia (N=34,922)	No Dementia (N=1,128,696)
Private Accommodation or Home	14,817 (42.4%)	996,639 (88.3%)
Transfer to RACF	10,302 (29.5%)	25,621 (2.3%)
Transfer to Acute Hospital / Extended Care	4,711 (13.5%)	68,173 (6.0%)
Died	2,074 (5.9%)	12,641 (1.1%)
Statistical Separation	2,032 (5.8%)	15,576 (1.4%)
Transfer to Transition Care Bed-based Program	765 (2.2%)	3,499 (0.3%)
Left against Medical Advice	119 (0.3%)	5,418 (0.5%)
Transfer to Mental Health Residential Facility	101 (0.3%)	790 (1.0%)
Posthumous Organ Procurement	0 (0.0%)	113 (0.01%)

4.7.1 Length of Stay

A multivariable regression was conducted on the CVDL sample of VAED data to investigate predictors of inpatient LOS for individuals aged 50 years and over with a dementia diagnosis. The results indicated that being female was associated with a 3% shorter length of stay compared to males (Table 14), which was statistically significant ($p < 0.05$). Not having a carer present increased LOS by 12% in comparison to separations where a carer was present and was statistically significant. Those admitted in winter compared to summer had an increased LOS (in days) by 3%, also statistically significant.

For individuals over 50 years old with a dementia diagnosis, with Indigenous Status recorded as Aboriginal or Torres Strait Islander, LOS was approximately 24% shorter and statistically significant. Requiring an interpreter also was associated with a decreased LOS by 7%. Compared to private accommodation, being transferred from residential aged care was associated with decreased LOS by 32% and being transferred as a “statistical” or transfer admission was associated with a 64% increased LOS.

In terms of care type, compared to acute care, individuals with GEM care type had 3.4-fold longer LOS. This was not unexpected due to the criteria for admission to GEM often including those who require more complex assessment / management / discharge planning processes and are therefore anticipated to require extended hospitalisation.

Table 44. Length of Stay: Multivariable Regression (Source: CVDL dataset of VAED and VEMD data 2018-2019)

Outcome: LOS (days) N=38,153	R	p (sig. <.05)
Age (ref. 50-54)		
55-59	1.19 [0.95-1.48]	0.114
60-64	1.14 [0.92-1.40]	0.205
65-69	1.15 [0.94-1.40]	0.163
70-74	1.05 [0.87-1.28]	0.574
75-79	1.03 [0.85-1.25]	0.701
80-84	1.00 [0.82-1.21]	0.987
85+	0.98 [0.81-1.19]	0.892
Gender		
Female	0.97 [0.95-0.99]	0.008
Interpreter Status		
Interpreter not required	1.07 [1.04-1.10]	<0.001
Aboriginal and Torres Strait Islander Status		
Not Indigenous	1.24 [1.05-1.47]	0.009
Carer Status		
No Carer	1.12 [1.04-1.21]	0.002
Admission Source (ref. private accommodation)		
Transfer from aged care	0.68 [0.66-0.71]	<0.001
Statistical or transfer admission	1.64 [1.58-1.69]	<0.001
Other	1.63 [1.36-1.95]	<0.001

Care Type (ref. Acute)		
GEM	3.40 [3.25-3.56]	<0.001
Other	2.42 [2.33-2.52]	<0.001
Season (re. Summer)		
Autumn	1.01 [0.98-1.04]	0.347
Winter	1.03 [1.00-1.06]	0.023
Spring	0.99 [0.96-1.02]	0.863
Day of Admission		
Weekend Admission	0.99 [0.96-1.01]	0.543

4.7.2 Predictors of mortality

A multivariable regression was run using the CVDL sample to investigate predictors of mortality in hospital for individuals aged 50 and over with a dementia diagnosis. It was found that being female reduced the odds of death by 9% compared to males (Table 15). In addition, not needing an interpreter reduced the odds of death during admission by 32%.

Analysis of the relationship between carer availability and mortality was not conducted due to the small amount of data in these fields.

When compared with private accommodation, being transferred from a RACF increased the odds of death during admission by 17%; whereas being transferred as a 'statistical' or 'transfer' type admission increased the odds of death by 29%. Also of note was that weekend admissions increased the odds of death for those aged 50 years and over with a dementia diagnosis by 31%.

Table 15. Mortality in Hospital for Separations with a Dementia Diagnosis: Multivariable Regression (Source: CVDL dataset of VAED and VEMD data 2018-2109)

Outcome: Death N=38,153	O.R [95% CI]	P (sig. <.05)
Age (ref. 50-54)		
55-59	0.53 [0.19-1.48]	0.227
60-64	0.60 [0.23-1.55]	0.299
65-69	0.52 [0.21-1.28]	0.161
70-74	0.62 [0.26-1.45]	0.276
75-79	0.68 [0.29-1.58]	0.373
80-84	0.84 [0.36-1.93]	0.683
85+	1.18 [0.51-2.72]	0.681
Gender		
Female	0.91 [0.83-0.99]	0.048
Interpreter Status		
Interpreter not required	0.67 [0.60-0.76]	<0.001
Aboriginal and Torres Strait Islander Status		
Not Indigenous	1.99 [0.63-6.30]	0.325

Admission Source (ref. private accommodation)		
Transfer from aged care	1.17 [1.01-1.35]	0.030
Statistical or transfer admission	1.29 [1.13-1.48]	<0.001
Other	0.71 [0.28-1.95]	0.508
Care type (ref. Acute)		
GEM	0.63 [0.51-0.78]	<0.001
Other	3.46 [3.03-3.95]	<0.001
Season (ref. Summer)		
Autumn	1.02 [0.90-1.15]	0.740
Winter	1.02 [0.90-1.16]	0.725
Spring	0.98 [0.86-1.11]	0.790
Day of Admission		
Weekend Admission	1.31 [1.18-1.46]	<0.001

5. DISCUSSION

This study investigated the prevalence of dementia in Victorians aged 50 years and above who were hospitalised between 1st July 2018 and 30th June 2019. Of the 1,163,618 hospital separations in this population, 3% had a diagnosis of dementia. These findings are the first step in establishing the size and significance of inpatient and ED utilisation by people with dementia, which is needed to develop appropriate governance structures and associated models of care. However, both at a state and national level, there is a lack of reliable data regarding prevalence estimates of dementia for those requiring hospitalisation.⁶

5.1 Dementia and ED Presentations

Dementia is under-recognised and under-coded, particularly in relation to ED presentation. For people aged 50 years and over who have departed from an ED, approximately 0.3% had a coded diagnosis of dementia (as recorded in the VEMD). Anecdotally, this figure is considered an under-estimation of the true prevalence due to a presumed lack of coding of the diagnosis of dementia in many cases. While dementia may be present, and an underlying factor relevant to the reason for admission, it is frequently not considered the primary diagnosis. The current study supports this claim, with evidence obtained from the VAED which showed that the admitting unit for 25% of hospital separations was Emergency Medicine. For emergency presentations, clinicians are often addressing the acute medical symptoms which have brought the patient to the ED which may not be dementia. This is then reflected in the coding process. This finding highlights a limitation of retrieving and analysing routinely collected state-wide administrative data. Distinguishing between hospitalisations *due* to dementia (i.e. hospitalisations where dementia was recorded as a principal diagnosis) and hospitalisations *with* dementia (i.e. hospitalisations where dementia was recorded as a principal diagnosis and/or an additional diagnosis⁷) is another differential that needs to be considered.

5.1.1 Age and Gender

As expected, a higher proportion of people aged 50 years and above presenting to ED with a diagnosis code including dementia were in the older age groups (43.5% over 84 years of age). This compares to those over 84 years of age without a diagnosis of dementia making up only 13.8% of ED presentations. Within this care setting, males represented just under half (49.2%) of patients with dementia presenting to the ED, however this gender group was slightly over-represented (52.6%) in those without dementia.

5.1.2 Preferred Language

A higher proportion of people aged 50 years and over who come to ED with dementia do not speak English compared to those without dementia (20.7% vs 10.0%). In many instances, people present to ED when there are no community healthcare options to address their needs. Accessing care for complex issues like dementia in the community is generally considered harder for people who don't speak English. Therefore older people with dementia who have limited English proficiency may not be receiving adequate primary care. In addition, due to communication challenges, people who do not speak English and have a diagnosis of dementia may stay at home as long as possible before seeking healthcare.

5.1.3 Admission Source

Data on admission sources, describing where a patient was residing prior the admission, can provide insight into primary care models. Nearly a third (29.3%) of ED presentations in people aged 50 and above with a diagnosis of dementia were those living in RACF compared with only approximately 5% of those without a dementia diagnosis. In Australia in 2019-2020, 54% of people living in permanent residential care have dementia.⁸ People with dementia have substantial impact on health services and, as a result, requirements for tertiary care is not unexpected. Although there are increasing in-reach services available, transfer to health services is common for RACF residents. While a number of hospital avoidance models of care have been developed e.g. Residential In-Reach (RIR),⁹ Severe Behaviour Response Teams (SBRT)^{10,11} these may be more appropriate in providing alternatives for acute care management rather than transfer to ED.

5.2 Dementia and Hospital Admissions

Hospital separations of those aged 50 years and over with a coded diagnosis of dementia were approximately three percent (3%) equating to nearly 35,000 separations in 2018-2019. The CVDL data indicates this is approximately 20,000 individuals living with dementia who were hospitalised in the 12-month period, representing an average of 1.5 episodes of care per person. These episodes of care occurred across acute and sub-acute settings across a range of specialities.

It is difficult to compare these findings to other published or available data as the cohort analysed in this study were hospitalisations for those over 50 years of age. In 2020–21, there were more than 11.8 million hospitalisations in Australia.⁷ This includes all ages including paediatric hospitalisations and those for maternity services. Of these, dementia was the main reason for admission in approximately 25,500 hospitalisations, which is equivalent to 2 out of every 1,000 hospitalisations (or 0.2%).⁷ The current study finding of 3% of hospitalisations were for those with a dementia diagnosis, which is significantly higher. This may in part be explained by our study sample comprising of those aged 50 years and over, with increasing age being a risk factor for dementia. However, 3% of hospitalisations in this cohort does represent a significant number of people (over 20,000 individuals annually) requiring care in hospital.

5.2.1 Age and Gender

Findings from the study demonstrate a higher proportion of male hospital separations (54.8% male vs 45.2% female). This is supported by the latest Australian Institute of Health and Welfare (AIHW) report which identified that, in admitted patient care separations for those 50 years and over for 2020-2021, males are requiring hospitalisation in greater proportion than females (54% male vs 45% female).⁸ The increased rate of males being admitted to hospital is even more significant when considering of the 25,422,788 people counted by the Australian 2021 census, 49.3% were male and 50.7% female.¹² More specifically, of those who were 50 years and over in 2021, 12.7% were male and 14.6% female.¹³ The potential reasons that men are requiring hospitalisations at higher proportions requires further investigation.

Similar to the ED presentations, and not unexpected due to the higher prevalence of dementia as people age, nearly half (49.4%) of hospital separations of people aged 50 years and over with a diagnosis of dementia were in those over 84 years of age. This compares to those over 84 years of age without a diagnosis of dementia making up only 9.8% of the hospital separations of the sample. The findings provide motivation for hospital staff and services to consider dementia screening whenever a person aged 85 years and over is admitted, as nearly half may have a dementia diagnosis. It is important, however, that staff are not ageist in their practice and do not assume a diagnosis of dementia.

5.2.2 Preferred Language

For admitted patients in 2018-2019, 15% of hospital separations in those aged 50 years and over (irrespective of dementia diagnosis) had a preferred language other than English. The models of care hospitals use to provide high quality service to these people is paramount and even more so for those with diagnosed or probable cognitive impairment. The screening and assessment of cognitive impairment needs to be in the person's preferred language. With limited interpreter services, the question remains, how were hospitals in Victoria in 2018-2019 able to achieve this for nearly 175,000 hospital separations?

Language barriers, in addition to existing communication issues associated with dementia, can greatly impact the care received. The finding of “not needing an interpreter reduced the odds of death during admission by 32%” may indicate that needing an interpreter increases the odds of death. Potential reasons that the odds of death finding is higher include “delayed health care seeking”, meaning that people with dementia have more progressed symptoms when they seek hospital services or, alternatively, differences in health care provided due to language differences between healthcare staff and those receiving care.¹⁴ These factors need to be investigated further.

It should be noted that the following was considered by the research team prior to undertaking the final multiple regression analyses related to communication. As the variables “interpreter required” and “preferred language” are similar predictors and demonstrated multi-collinearity when examined using the Variance Inflation Factor (VIF), “preferred language” was eliminated in favour of “interpreter required”. This is because the need for an interpreter represents a true communication barrier compared to “preferred language”, as an individual may have one preferred language, but competency in multiple languages.

5.2.3 Admission Source and Separation Mode

The usual accommodation of a patient, although not directly related to acute care treatment, can influence management whilst hospitalised and impact discharge planning. In this study, the data revealed that 67.3% of hospital separations of those aged 50 years and over with a diagnosis of dementia were admitted from a private residence (either alone or with others), and nearly 13% of hospital separations were in people who had previously been living in a RACF.

The findings also include a difference in the admission source and where patients are discharged. For example, 42.4% of hospital separations of those 50 years and over with a diagnosis of dementia had a separation mode of private residence (either alone or with others), lower than the 67.3% who had been living in a private residence prior to the admission. And in comparison, nearly 30% of separations for the cohort were to a RACF, significantly more than the 13% who had previous been living in one.

As shown in the multiple regression analysis, the admission source was associated with a decreased LOS i.e. those admitted from a RACF had a significantly shorter length of stay than those who had been living in a private residence prior to admission. This may be explained by RACFs, and supportive in-reach programs, having the capacity and capability to provide the appropriate ongoing care in the patient’s “home” environment. However, it may also warrant further investigation into whether those who live in RACF leave hospital care at the most appropriate time or if they are being discharged prematurely. There are many current conversations around the care for people living in RACFs and also what is the best way to deliver healthcare to those residents.^{11,15} It is important that residents of RACFs receive equitable hospital care to those not living in RACF. Hospitals need to ensure they are not discharging RACFs residents before their healthcare needs are met by the hospital, nor should they assume the healthcare needs of the residents will be met by the RACF.

5.2.4 Care Type

While it is known that people with dementia require hospitalisation, there is often a misconception and expectation that the care for people with dementia will be provided in in sub-acute settings, for example, GEM wards or specific dementia units. However the findings in this study provide evidence that care for people with dementia is provided throughout the hospital. Over four-fifths (82.3%) of hospital separations of those aged 50 years and over with a diagnosis of dementia had an acute ward care type. It is not possible with the data provided by VAHI or CVDL to determine those who only had an acute care type, those who only had a sub-acute care type admission and/or those who had both an acute and sub-acute care type during their episode of care. However, despite these failings, it is possible to say that acute ward care types included a significant number of people living with dementia. In the period 2018-2019, at least 28,000 hospital separations with a diagnosis of dementia included care delivered in acute settings.

Those admitted to hospital with a dementia diagnosis usually have complex care needs and often require care from different care types during a hospital episode. This is highlighted in the findings of a higher proportion of statistical admissions (which equates to transfers between care types) and transfers from acute hospital/extended care/rehab/geriatric care in those people over 50 years of age with a dementia diagnosis separated from hospital compared to those without dementia (5.8% c.f.1.4%). Understanding the impact of transferring between care types on the person with dementia needs to be further explored.

Role of General Medicine

With 35.9% of hospital separations in patients aged 50 years and over with a diagnosis of dementia being admitted to General Medicine care type in the current findings, there is a need for strong geriatric knowledge and skills to be present within these units. Although there are current models of care to support the care of older people (particularly those with dementia) on general medical wards, including the presence of dual or advanced-trained physicians, geriatric liaison/consultation services and formalised shared care arrangements, these models are not widely implemented. Staff with good dementia knowledge are critical to ensure the use of evidence-based guidelines and external expertise, and the use/implementation of more individualised care practices.¹⁶ Ongoing education for staff working in General Medicine is critical in ensuring that, despite the volume of older patients with a diagnosis of dementia, quality dementia care and person-centred care practices can be provided.

Patient Pathways

The benefits of patient pathways that bypass ED for patients living with dementia and allow for direct admission to wards (where clinically relevant) cannot be underestimated. Noisy, chaotic ED environments can be unsuitable for older people with cognitive impairment.¹⁷ In the sample reported, approximately a quarter (25.4%) i.e. nearly 9,000 hospital separations of patients aged 50 years and over with a diagnosis of dementia included an emergency medicine unit code. Efforts should be made to avoid ED by direct admission to reduce confusion for people with dementia. If ED admission is warranted, however, moving patients with a diagnosis of dementia between wards and bays should be avoided wherever possible. A systems-wide approach to care can ensure continuity of care and establish pathways and processes for collaborative care between general and specialist staff, and family members.

5.3 Study Limitations

The data requested and supplied from VAHI and linked by the CVDL comes with two main limitations. Firstly, the data was cross-sectional in nature, and this limited the ability to determine causality in an accurate manner. Secondly, the data sets are the data entered by individual health services using the primary and secondary patient codes for dementia diagnosis using the ICD-10-AM classification and following the VEMD and VAED manuals provided by the Victorian Department of Health. These datasets and the information they contain are only as good as the recorded and coded patient information and its retrieval for data entry by health service staff. An example of a potential underestimation of diagnosis of dementia coding is the low number of ED presentations in health services. This may be due to coding related issues where only two codes related to a diagnosis of dementia are required to be recorded for those presenting to ED. Presentations may have included individuals with dementia, however dementia may not have been the primary (or secondary diagnosis) for the presentation.

Within the larger project, design of additional components have acknowledged these limitations and have been addressed through the planned point-prevalence study, manual file audit, gap analysis, and potentially semi-structured interviews with staff and patient family members.

As part of this component of the larger project, an objective relating to a population prevalence study of aggressive, abusive, or threatening behaviours or incidents (hospital emergency codes: code grey/code black) exhibited by adults aged 50 years and over with a dementia diagnosis during their hospital admission and/or ED presentation was to be included. However, this objective relied on obtaining a sample of de-identified data from the Victorian Health Incident Management System (Central Solution) (VHIMS/VHIMS CS) dataset. This is a standardised dataset for the collection and classification of clinical, occupational health and safety (OH&S) incidents, near misses, hazards, and consumer feedback within Victorian public hospitals and health services. Advice from the Victorian Centre for Data Linkage (CVDL) suggested that this dataset would not be appropriate to be used for the study, given the volume (and resultant variation) of free-typed information, and identifying details regarding individual patients. As a result, this objective was unable to be achieved.

6. CONCLUSION

Dementia is recognised as a significant and growing health and aged care issue in Australia. Although hospitals are known to be challenging places for people with dementia, there is limited information available about the prevalence of this patient population in these settings. The current population prevalence study aimed to identify the prevalence of patients with dementia in Victorian hospital ED and inpatient settings over a 12-month period. It is part of a wider project focusing on the management of dementia and severe BPSD in hospital settings that will help inform service delivery and the development of a best practice model of care for these patients in Victorian public hospitals.

Findings from analysis of the VEMD and VAED data suggests that 0.3% of Victorians aged 50 years and over who present to ED, as well as 3% of inpatient admissions, have a diagnosis of dementia. While this indicates that hospital coding of this patient population is inadequate, the number of ED presentations and hospital separations identified in the current study is still clinically significant, i.e., nearly 35,000 in one year across Victorian public and private hospitals in 2018-2019. Of those who are admitted to an inpatient ward, over 82% of patients receive care in acute settings while almost 16% access sub-acute care such as GEM or rehabilitation. As a result, regardless of the care setting, hospital services and staff need to have capacity and capability to provide high quality care to these people.

Furthermore, the outcomes from this study highlight the importance of accurate coding and data collection, analysis and reporting regarding the presence of dementia, as well as timely access to datasets, to identify patterns and trends in both ED presentations and hospitalisations. Having greater knowledge and understanding of care processes, experiences and outcomes will support service improvement and ensure the highest standards of quality and safety for this patient population.

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