

## Research paper

# Cardiopulmonary resuscitation and endotracheal intubation decisions for adults with advance care directive and resuscitation plans in the emergency department

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## ABSTRACT

**Background:** Emergency departments routinely offer cardiopulmonary resuscitation and endotracheal intubation to patients in resuscitative states. With increasing longevity and prevalence of chronic conditions in Australia, there has been growing need to uptake and implement advance care directives and resuscitation plans. This study investigates the frequency of the presence of advance care directives and resuscitation plans and its utilisation in cardiopulmonary and endotracheal intubation decision making. **Methods:** Retrospective audit of electronic patients' medical records aged  $\geq 65$  years presenting over a 3-month period. Data collected included demographics, triage categories, advance care directive and/or resuscitation plans/orders status.

**Results:** A total of 6439 patients were included representing 29% of the total patient population during the study period. Participants were randomly selected ( $N = 300$ ); mean age was 78.7 ( $\pm 8.1$ ) years. An advance care directive was present in only 8% and one in three patients (37%) had a previous resuscitation plan/order. Senior consultant was present at the department for consultation by junior doctors for most of the patients (82%). Acknowledgment of either advance care directive or resuscitation plans/orders in clinical notes was only 9.5% ( $n = 116$ ).

**Conclusion:** Advance care directive prevalence was low with resuscitation plans/orders being more common. However, clinician acknowledgement was infrequent for both.

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## Introduction

Advance care planning helps individuals document preferences for their future treatment for a time when they may not be able to make decisions for themselves due to cognitive impairment [1,2]. Advance care planning is recommended for all Australians aged 65 years and above or those with chronic illnesses, to express their wishes and values through an advance care directive (ACD) in relation to the level of treatment they prefer to receive from clinicians.

In Australia, advance care planning is supported by both statute and common laws [3] and in the state of Victoria, there is recent legislation on Medical Treatment Planning and Decisions [4].

The Australian national general common law discusses the applicable principles to advance care planning broadly with reference to individual states and territories legal requirements [3]. There is an ongoing effort for a unified ACD [5], however Australia currently lacks a consistent national ACD [3,6,7]. While the Commonwealth could give guidance and arrange agreement on consistent legislation, under the constitution this is a state responsibility and requires State law, therefore it is the jurisdictional specific legislation on advance care planning [8] that guides clinicians on implementation at their Australian State or jurisdiction of practice.

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In the State of Victoria, the level of implementation of ACD is expected to be clearly documented by treating clinicians as mentioned in Part 4, section 56 (pp. 44) of the medical treatment planning and decisions act (2016) [4] mandating the acknowledgement and adherence or non-adherence with justification to the content of ACD in clinical decision making as proven by recording in writing in individual's clinical notes. The institutional policy on resuscitation plan (pp. 3) states, "The Resuscitation Plan should only be used to document decisions. At all times, accurate and complete notes in accordance with this policy must be maintained in the patient's medical history" [9].

Unlike an ACD which is valid indefinitely for all healthcare facilities, a resuscitation plan which is also known as a "resuscitation order" or "goals of care" is used as a guidance on the extent of life prolonging care that can be offered. A resuscitation plan is only valid for the individual institution and is usually limited to the current admission and therefore only serves as a guide for subsequent hospital presentations.

Despite the emergence of advance care planning and resuscitation plans/orders, emergency departments (ED) continue to routinely provide emergency medical treatment (EMT) which comprises three principles; 1. Providing emergency care and interventions to acutely unwell, 2. Prevent serious damage to patients' health, 3. Prevent patients from suffering or continuing to suffer from significant pain or distress [4,10]. In the State of Victoria, as in the rest of Australia, these principles are enshrined in the law [4].

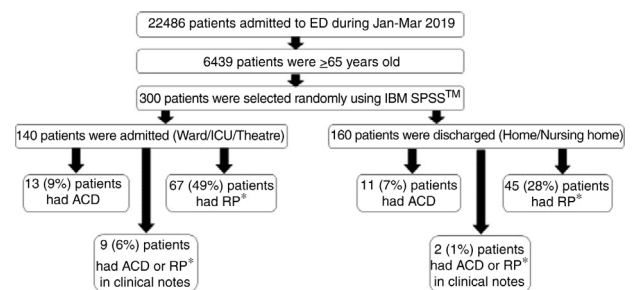
The universal application of EMT to all ED patients may be less appropriate for the changing ED patient demographics with increasingly elderly patients [11,12] and patients living with chronic illnesses [13] of whom some are in palliative care [14]. Patients who may fall short of qualifying for EMT category but seeking treatment in ED need to be managed with treatment plans that are consistent with any pre-existing directives such as ACD or as directed by State law, in the case of Victoria, the Medical Treatment Planning and Decisions Act 2016 [1,4].

The need or consideration for EMT can be determined by utilising patients triage categories [15,16] and involving senior clinicians in treatment decision making [17]. Patients with semi or non-urgent conditions (based on their triage category) with decision-making capacity can consent or object to their care if they need to. The dilemma lies with patients who may lack decision making capacity. Clinicians then need to look for the patient's prior wishes, such as ACD or, by consulting with surrogate decision makers, such as an appointed medical treatment decision maker [1] or the State civil and administrative tribunals, Victorian Civil and Administrative Tribunal [4] in the case of Victoria.

Previous resuscitation plans, while not considered as a valid document in determining patient treatment level, are an important element in aiding patients treatment decisions [18]. These documents are an indication of the patient's prior wishes, as they are usually made after discussion with either a capable patient or in concordance with a surrogate decision maker, a medical treatment decision maker.

It is known that patients aged 65 years and above should have an ACD [1] or a resuscitation plan as per individual institutions policies in the absence of an ACD and depending on their presenting conditions and underlying commodities. However, the implementation of ACD has been challenging in Australia with State/jurisdictional variations and a mobile population; and that, EDs traditionally utilised and continue to utilise EMT for majority of their patients despite changing patient population dynamics and emergence of legislation's on respecting preferences through ACD in Australia.

This paper confirms other studies findings of low prevalence of ACD among the target patient population [19], and the prevalence even been lower in EDs compared to other in-patient or residential setting [20]. The paper finds that; clinicians are not reviewing ACD



**Fig. 1.** Selection of study participants for ED patients aged at least 65 years presenting to ED over a 3-month period.

\*Resuscitation Plan (RP).

and previous resuscitation plans and that may result in offering futile treatment to patients leading to; unnecessary distress for the patients and their families and not re-directing resources to where it benefits most.

This study examined retrospectively, electronic records of randomly selected patients attending a level four ED [21]. The study aim was, to determine the frequency of the presence of advance care directives and resuscitation plans, written acknowledgement of the existence of advance care directive/resuscitation plans in patients' electronic medical records, and whether cardiopulmonary resuscitation and intubation interventions offered were consistent with patients advance care directive and previous resuscitation plans.

## Methods

### Study design and study site

Retrospective audit on electronic patient records including electronic discharge summaries of a tertiary hospital's ED in Melbourne was undertaken. Data extraction was restricted to the period between 1st January 2019 and 31st March 2019, for patients presented to ED aged  $\geq 65$  years.

Ethics approval for the study was obtained from the Institutional Human Research Ethics committee. Patient consent was not required for the study as the data was de-identified and observational in nature.

### Sampling

A total of 22,486 patients presented to ED during the study period and 6,439 patients were aged  $\geq 65$  years. Sample size (Fig. 1) was calculated using OpenEpi [22] with the following assumption: frequency of outcome (presence of documented ACD) in the population of 29% [19], power of 80% and confidence interval of 95%, which yielded a sample size of 302. Simple random sampling technique was used to select 302 patients from the list of eligible patients, two patients were excluded due to duplication resulting from multiple presentations, and therefore, the analysis was performed using data for 300 patients in total.

### Data extraction

Variables extracted from the electronic patients records were: demographics, triage category, ACD presence, date of the ACD, previous resuscitation plans, date of last previous resuscitation plan, and acknowledgement of ACD/resuscitation plans on patients' electronic discharge summary.

Other variables included: time presented to ED to examine against times when senior clinicians are rostered and present in the department for advice and guidance on previous ACD and resus-

citation plans utilisation in treatment decision making, CPR and endotracheal intubation interventions as treatment consistency with ACD/resuscitation plans as documented in patients' electronic discharge summary, admission and discharge destination from ED and admitting specialty. Triage (Australasian Triage Scale) is a scale used to assess the clinical urgency of patients determining the need for time-critical intervention [16]. Extracted data were validated independently by two clinicians who were not in the study team; both were blinded to the study objectives. Formal measures of inter-observer agreement were not performed. The data was then analysed.

### Analysis

Numerical data were presented as counts and percentages. In cases where there were missing values the data were presented as n (number of cases) / N (number of instances where the value was known) with no assumptions made about missing data. Age was the only continuous variable and the rest of the variables were categorical. Differences in categorical data were examined with the chi-squared or Fisher's exact test, as appropriate. Statistical significance was indicated by a two-sided p value < 0.05.

## Results

### Details of patient cohort

A total of 300 patients were randomly selected for this study. Mean age of the study population was 78.7 years with an SD of ( $\pm 8.1$ ). There was similar proportion of male and female. Most of the study group were allocated triage categories 3 (47%) and 4 (34%) during their visit to the ED. More than half of the patients (53.3%) were discharged to home or nursing homes. Among the admitted patients, most were admitted into General Medicine wards (Table 1).

One in three patients (37%) had prior resuscitation plans, presence of ACD was just 8%. A senior consultant was present for most patients (82%) based on departments senior consultant coverage schedule times.

### Acknowledgement of resuscitation plans and ACD in ED clinician's notes

Acknowledgment of either ACD or resuscitation plans in clinical notes was only 9.5% (11/116) and all patients with ACD/resuscitation plans received treatment consistent with their documented wishes (n = 116) in relation to CPR and intubation.

Among the 140 admitted patients, 13 (9%) patients had an ACD and 67 (48%) patients had a resuscitation plan. However, acknowledgement of ACD/resuscitation plans in clinical notes was only 6% (9/140) of the patients. Among the 160 patients discharged from the ED, 11 (7%) had ACD and 45 (28%) had resuscitation plans, but acknowledgement of ACD/resuscitation plans found in clinical notes was only among 2 (1%) of patients. Details of distribution of ACD and resuscitation plans among admitted and discharged patients according to different age groups are outlined in Fig. 1.

### Differences in ACD and resuscitation plans documentation based on patient demographics and outcomes

Admitted and discharged patients were compared and there was no statistically significant difference in terms of age, gender, presence of senior consultants, presence of ACD or resuscitation plans, or acknowledgement of ACD/resuscitation plans in clinical notes

**Table 1**

Characteristics of the study population for patients aged at least 65 years presenting to ED over a 3-month period.

Variables	n (%)
Study participants	<b>300</b>
Age in years	
Range	65–100
Mean ( $\pm$ SD)	78.7 (8.1)
Age groups	<b>300</b>
65–74 years	106 (35.3)
75–85 years	122 (40.7)
>85 years	72 (24.0)
Gender	<b>300</b>
Male	148 (49.3)
Female	152 (50.7)
Triage category	<b>300</b>
1	2 (0.7)
2	48 (16.0)
3	141 (47.0)
4	102 (34.0)
5	7 (2.3)
Presence of ACD	<b>300</b>
Yes	24 (8.0)
Presence of resuscitation plan	<b>300</b>
Yes	112 (37.3)
Acknowledgement of ACD/resuscitation plan in clinical notes	<b>116</b>
Yes	11 (9.5)
Presence of senior consultants	<b>300</b>
Yes	246 (82.0)
Treatment consistent with ACD/resuscitation plan	116
Yes	116 (100)
Destination	<b>300</b>
Home	148 (49.3)
Nursing homes	12 (4.0)
ICU	2 (0.7)
Theatre	4 (1.3)
Ward	134 (44.7)
Speciality	<b>140</b>
Cardiology	8 (5.7)
Gastroenterology	2 (1.4)
General Medicine	65 (46.4)
General Surgery	17 (12.1)
Neurology	7 (5)
Orthopedics	5 (3.6)
Oncology	13 (9.3)
Respiratory Medicine	16 (11.4)
Urology	6 (4.3)
Vascular Surgery	1 (0.7)

(Table 2). Acknowledgment of ACD/resuscitation plans in clinical notes was more likely if the patients had ACD (55% vs. 16%, p = 0.009, OR 6.21, 95% CI: 1.70–22.7).

## Discussion

The present study examined the existence of ACD and resuscitation plan documents in electronic records of patients and its consideration in CPR and intubation decision making. The target population were patients aged 65 years and over attending ED which comprised 29% of total ED presentations during the study period. In this study, 37% of patients had resuscitation plans while 8% had ACD. Documented acknowledgement of an ACD or resuscitation plans was relatively infrequent.

Advance care planning completion rates were reported to be better at residential care facilities than either community or integrative services [23,24] but prior studies have demonstrated that implementation or consideration of ACD by healthcare workers was low [2,8,25,26] and our study findings were similar at 9.5%. The majority of the study patients were not in the very urgent triage categories [16] and therefore, review of their records for ACD and previous resuscitation plans if necessary as well as treatment options discussion were possible for acuity-time factor [15]. None

**Table 2**  
Comparing admitted and discharged patients.

Variables	Discharged, n(%)	Admitted, n(%)	p	Odds Ratio (ORs)	95% Confidence Intervals (CIs)
Total study participants	<b>160</b>	<b>140</b>			
Age in years					
Range	65–95	65–100			
Mean ( $\pm$ SD)	78.2 (7.9)	79.3 (8.2)			
Age groups					
65–74 years	59 (36.9)	47 (33.6)		1	
75–85 years	64 (40.0)	58 (41.4)	0.591	1.32	0.48–3.63
>85 years	37 (23.1)	35 (25.0)	0.737	0.83	0.27–2.53
Gender					
Male	71 (44.4)	77 (55.0)		1	
Female	89 (55.6)	63 (45.0)	0.816	0.91	0.40–2.06
Presence of senior consultants	137 (85.6)	109 (77.9)	0.623	0.78	0.30–2.07
Presence of ACD	11 (6.9)	13 (9.3)	0.460	0.66	0.22–1.97
Presence of resuscitation plan	45 (28.1)	67 (47.9)	1.000	NA	NA
Acknowledgement of ACD/resuscitation plan in clinical notes	2 (1.3)	9 (6.4)	0.121	3.81	0.70–20.7

of the patients admitted to ICU or theatre for urgent surgical intervention had ACD. For those who had previous resuscitation plans, they were either for full resuscitation or for conservative management and this had been offered consistent with those recorded in their previous plans at the target destinations. Considering that the study examined only extreme interventions such as cardiopulmonary resuscitation and invasive airway management as set at the study's inception, the study result found all patient who had ACD and previous resuscitation plans treatment to be consistent with their records.

General medicine admitted the highest number of patients which represented 46% of total admitted patients [27] with the rest evenly distributed among nine other specialties. Based on patients presenting times to the department, senior consultants were present for an average 82% of the time for all patients to supervise clinicians working in the department [28]. Generally, EMT has been the usual practice of EDs especially in the absence of senior consultants who can make early determination to treatment limitations [28]. Changes from a patient population perspective [11–14] and the emergence of initiatives such as Choosing Wisely Australia [29] that helps reduce the use of harmful or unnecessary tests, treatments and procedures and the recently adopted Victoria State legislation on assisted dying [30] may mean EDs utilisation of EMT needs to be revisited.

There has been increasing demand for ED services across Australia with reported growth of 3.4% in 2017/2018, of which, 22% of the total were patients aged 65 years and over [11]. The changing patient demographics seen in EDs are consistent with the country's demographic change which is due to increasing longevity in the Australian population. The proportion of the patients over the age of 65, who are targeted to have an ACD [1] will rapidly increase over the next decade [31] necessitating improving the uptake of advance care planning through national, state and institutional proactive campaigns.

Advance care directives are legal documents which are meant to aid in addressing elderly and chronically ill patient's treatment plans. Advance care planning is recommended for all Australians aged 65 years and above or those with chronic illnesses [1,2]. There are issues with ACD such as; poor uptake with a national uptake rate at 29% [19], and this study is showing consistent results; legal complexity and State/jurisdictional variations for a mobile society [3,8,26], and a lack of a national or state-wide centralised ACD record keeping facility [8] for patients visiting hospitals outside their usual catchment area with My Health Record, an Australian national online portal of individual's medical record that can be accessed anywhere at any time being the only possible avenue despite its implementation issues [26].

## Limitations

This is a single centre study conducted in Victoria which may limit its generalisability to other centres in other states. The retrospective observational study design has an inferior level of evidence compared to prospective study. The inability to generalise treatment consistency beyond cardiopulmonary resuscitation and invasive airway management.

This study measured the documentation retrieved from the electronic medical record of patients' preferences from ACD and resuscitation plan records only. As such, the reported absence of acknowledgements in the clinical documentation about ACD or resuscitation plans should be interpreted with caution, as it may not necessarily mean that it was not considered in the clinical decision making or care of the patients.

## Conclusion

Our study results indicate, ACD is uncommon, resuscitation plans are more common, clinician acknowledgement of either of these documents where present was infrequent. There is a need to improve ACD uptake and consideration by ED clinicians and changing the approach in ED's universal application of EMT principles.

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## Provenance and conflict of interest

There are no provenances or conflict of interest to declare for this study.

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## References

- [1] Advance Care Planning Australia. 2018 Available from: <https://www.advancareplanning.org.au/>. [Accessed 22 February 2019].
- [2] Scott IA, Mitchell GK, J Reymond E, Daly MP. Difficult but necessary conversations "B" the case for advance care planning. *Med J Aust* 2013;199(10):662–6.
- [3] Advance Care Planning Australia. Advance care planning and the law; 2018. Available from: zShellOpenCommand. [Accessed 18 March 2020].
- [4] Parliament of Victoria. Medical Treatment Planning and Decisions Act 2016 Victoria 2018 Available from: <http://www.legislation.vic.gov.au/domino/>

- Web\_Notes/LDMS/LTObject\_Store/ltobjst10.nsf/DDE300B846EED9C7CA257616000A3571/E1C62E0B8A2916E5CA25824B0007362D/\$FILE/16-69aa001%20authorised.pdf. [Accessed 7 February 2019].
- [5] The Australian Health Ministers' Advisory Council. A national framework for advanced care directives; 2011. Available from: <https://www.dementia.org.au/files/start2talk/5.0.4.1%20AHMAC%20framework.pdf>. [Accessed 26 March 2020].
  - [6] Lockett T, Bhattarai P, Phillips J, Agar M, Currow D, Krastev Y, et al. Advance care planning in 21st century Australia: a systematic review and appraisal of online advance care directive templates against national framework criteria. *Aust Health Rev* 2015;39(5):552–60.
  - [7] Advance Care Planning Australia. Review of advance care planning laws across Australia: short report; 2018. Available from: <https://www.advancecareplanning.org.au/docs/default-source/acpa-resource-library/acpa-publications/review-of-advance-care-planning-laws-across-australia-short-report-2018-final.pdf?sfvrsn=4>. [Accessed 26 March 2020].
  - [8] Boddy J, Chenoweth L, McLennan V, Daly M. It's just too hard! Australian health care practitioner perspectives on barriers to advance care planning. *Aust J Prim Health* 2013;19(1):38–45.
  - [9] Austin Health. Life Prolonging Treatment Policy – a guide to life prolonging treatment and limitation of treatment. Advance Care Planning department. Institutional policy; 2018.
  - [10] ELDAC. Factsheet: emergency medical treatment. End of life directions for aged care; 2018. Available from: <https://www.eldac.com.au/tabid/5274/Default.aspx>. [Accessed 3 October 2019].
  - [11] Australian Institute of Health and Welfare. Emergency department care 2017–18: Australian Hospital Statistics. Canberra: AIHW; 2018. Available from: <https://www.aihw.gov.au/getmedia/9ca4c770-3c3b-42fe-b071-3d758711c23a/aihw-hse-216.pdf.aspx?inline=true>. [Accessed 14 August 2019].
  - [12] Mane G, Alkhoury H, Dinh M, McCarthy S. One hundred and counting: centenarian use of emergency departments in New South Wales. *Emerg Med Australas* 2019;31(4):626–31.
  - [13] He J, Hou X-Y, Toloo S, Patrick JR, Fitz Gerald G. Demand for hospital emergency departments: a conceptual understanding. *World J Emerg Med* 2011;2(4):253–61.
  - [14] Cooper E, Hutchinson A, Sheikh Z, Taylor P, Townend W, Johnson MJ. Palliative care in the emergency department: a systematic literature qualitative review and thematic synthesis. *Palliat Med* 2018;32(9):1443–54.
  - [15] Saban M, Patito H, Zaretsky L, Salama R, Darawsha A. Emergency department mortality: fair and square. *Am J Emerg Med* 2019;37(6):1020–4.
  - [16] Australasian College for Emergency Medicine. Guidelines on the implementation of the Australasian triage scale in emergency departments. Melbourne: ACEM; 2016. Available from: [https://acem.org.au/getmedia/51dc74f7-9ff0-42ce-872a-0437f3db640a/G24.04\\_Guidelines\\_on\\_Implementation\\_of\\_ATS\\_Jul-16.aspx](https://acem.org.au/getmedia/51dc74f7-9ff0-42ce-872a-0437f3db640a/G24.04_Guidelines_on_Implementation_of_ATS_Jul-16.aspx). [Accessed 8 October 2019].
  - [17] Harvey M, Al Shaar M, Cave G, Wallace M, Brydon P. Correlation of physician seniority with increased emergency department efficiency during a resident doctors' strike. *N Z Med J* 2008;121(1272):59–68.
  - [18] Loertscher L, Reed DA, Bannon MP, Mueller PS. Cardiopulmonary resuscitation and do-not-Resuscitate orders: a guide for clinicians. *Am J Med* 2010;123(1):4–9.
  - [19] Buck K, Detering K, Sellars M, Ruseckaite R, Kelly H, Nolte L. Prevalence of advance care planning documentation in Australian health and residential aged care services: short Report. Austin Health. Melbourne: Adv Care Planning Australia; 2017.
  - [20] Grudzen CR, Buonocore P, Steinberg J, Ortiz JM, Richardson LD, Aslakson RA, et al. Concordance of advance care plans with inpatient directives in the electronic medical record for older patients admitted from the emergency department. *J Pain Symptom Manage* 2016;51(4):647–51.
  - [21] Australasian College for Emergency Medicine. Statement on the delineation of emergency departments; 2012. Available from: [https://acem.org.au/getmedia/aa6c120d-bd9f-4850-a257-2b9a8f3860b3/S12\\_Statement\\_on\\_the\\_Delineation\\_EDs\\_Nov-12.v05-\(1\).aspx](https://acem.org.au/getmedia/aa6c120d-bd9f-4850-a257-2b9a8f3860b3/S12_Statement_on_the_Delineation_EDs_Nov-12.v05-(1).aspx). [Accessed 15 May 2020].
  - [22] Openepi. Available from: <https://www.openepi.com/SampleSize/SSPropor.htm>. [Accessed 26 March 2020].
  - [23] Street M, Ottmann G, Johnstone M-J, Considine J, Livingston PM. Advance care planning for older people in Australia presenting to the emergency department from the community or residential aged care facilities. *Health Soc Care Commun* 2015;23(5):513–22.
  - [24] Detering KM, Buck K, Ruseckaite R, Kelly H, Sellars M, Sinclair C, et al. Prevalence and correlates of advance care directives among older Australians accessing health and residential aged care services: multicentre audit study. *BMJ Open* 2019;9(1):e025255.
  - [25] Lewis E, Cardona-Morrell M, Ong KY, Trankle SA, Hillman K. Evidence still insufficient that advance care documentation leads to engagement of healthcare professionals in end-of-life discussions: a systematic review. *London, England* 2016;807–24.
  - [26] McCarthy S, Meredith J, Bryant L, Hemsley B. Legal and ethical issues surrounding advance care directives in Australia: implications for the advance care planning document in the Australian my health record. *J Law Med* 2017;25(1):136–49.
  - [27] Firth J. The future of general medicine. *Clin Med (London, England)* 2014;14(4):354–6.
  - [28] White AI, Armstrong Par, Thakore S. Impact of senior clinical review on patient disposition from the emergency department. *Emerg Med J* 2010;27(4):262–5.
  - [29] NPS Medicine Wise. Choosing Wisely Australia; 2019. Available from: <http://www.choosingwisely.org.au/home>. [Accessed 16 December 2019].
  - [30] Parliament of Victoria. Voluntary Assisted Dying Act 2017. No. 61 of 2017. Available from: [http://www.legislation.vic.gov.au/Domino/Web\\_Notes/LDMS/PubStatbook.nsf/f932b66241ecf1b7ca256e92000e23be/B320E209775D253CCA2581ED00114C60/\\$FILE/17-061aa%20authorised.pdf](http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubStatbook.nsf/f932b66241ecf1b7ca256e92000e23be/B320E209775D253CCA2581ED00114C60/$FILE/17-061aa%20authorised.pdf). [Accessed 16 December 2019].
  - [31] Australia Bureau of Statistics. Feature article 1: population by age and sex, Australia, states and territories. ABS; 2019. Available from: <https://www.abs.gov.au/ausstats/abs@.nsf/0/1CD2B1952AFC5E7ACA25729800F2E76?OpenDocument>. [Accessed 4 December 2019].