

End-of-Life Online Health Education Uptake and Usage by Australian Health Professionals: Urban, Rural and Remote Settings

A white paper published by the Flinders Research Centre for Palliative Care, Death and Dying

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About this White Paper

This publication is a RePaDD White Paper and Research Report.

The RePaDD White Paper and Research Report Series provides researchers and policy makers with evidence-based data and recommendations. By organising, summarising, and disseminating previous and current studies, the series aims to inform ongoing and future research in palliative care, death, and dying.

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Acknowledgement of Country

Flinders University was established on the lands of the Kurna nation, with the first University campus, Bedford Park, located on the ancestral body of Ngannu near Warriparinga.

Warriparinga is a significant site in the complex and multi-layered Dreaming of the Kurna ancestor, Tjilbruke. For the Kurna nation, Tjilbruke was a keeper of the fire and a peace maker/law maker. Tjilbruke is part of the living culture and traditions of the Kurna people. His spirit lives in the Land and Waters, in the Kurna people and in the glossy ibis (known as Tjilbruke for the Kurna). Through Tjilbruke, the Kurna people continue their creative relationship with their Country, its spirituality, and its stories.

Flinders University acknowledges the Traditional Owners and Custodians, both past and present, of the various locations the University operates on, and recognises their continued relationship and responsibility to these Lands and waters.

About the RePaDD

Death and dying will affect all of us. The Research Centre for Palliative Care, Death, and Dying or RePaDD works to make a difference to the care of persons at the end of life.

We examine the universal experience of dying and create innovative solutions for people living with a life-limiting illness, their carers, and the clinicians caring for them. Our members lead major national palliative care projects in Australia. Our team of multidisciplinary researchers and experts work collaboratively with various organisations and funding agencies to deliver impact. We also strengthen research capacity by offering evidence-based resources, researcher education, and training and scholarships.

Our research

We focus on the following research areas:

Palliative care across the health system: We conduct clinical and service studies and develop online palliative care resources and applications. Our work in this area contributes towards ensuring that quality palliative care can be delivered in all healthcare settings - whether in hospitals, aged care, homes, hospices, clinics, or the community.

Death and dying across the community: We examine and respond to community and consumer attitudes, views, and needs with respect to death and dying and palliative care. Our research in this area empowers the wider community to make informed decisions by raising awareness and building death literacy.

Online evidence and practice translation: We build, synthesise, and disseminate the evidence for palliative care. We also create innovative digital solutions to improve evidence translation and use. Our research in this area builds palliative care capacity of the health and aged care workforce, access and use of information by health consumers and the community.

Further information can be found at flinders.edu.au/repadd

About End-of-Life Essentials

The End-of-Life Essentials Project offers free peer-reviewed online education modules on health care at the end of life in acute hospitals for nurses, doctors and allied health professionals. The content of the modules has been developed from the ACSQHC National End-of-life Consensus Statement. A range of implementation tools are also available to assist managers and clinicians to implement a unified approach to strategies and processes which will inform end-of-life care.

Further information can be found at endoflifeessentials.com.au

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Executive Summary

Access to skilled end-of-life care is particularly important for those who live in rural and remote areas in Australia given the high levels of chronic disease and higher mortality rates. However, health professionals in rural and remote areas do not always receive adequate training to provide this care due to lack of accessible education. End-of-Life Essentials (EOLE) is a government funded education project which aims to provide free peer-reviewed online education modules and implementation resources on end-of-life care to health professionals in acute hospitals in Australia. In order to understand the uptake and usage of the EOLE education modules, learners' geographical locations and module completion data from the first year of the program were analysed according to remoteness category.

This White Paper outlines and explores the results of the retrospective data analysis conducted in June 2018. Data from learners who registered in the first year of the EOLE program was extracted, and 4224 learners were included for data analysis. The differences in proportion

of Module completion status among learners from different geographical location was tested by Column Proportions Tests.

The majority of learners were from major cities (N=2689, 63.7%), working in acute hospitals and residing in all states and territories in Australia. The proportions of Modules being fully completed (Modules 1-6) by learners from very remote areas were significantly higher than those of learners from major cities and regional areas. The proportion of learners from very remote areas who completed all six modules was significantly higher than that of learners from major cities and regional areas.

Study findings show that there is a good reach of EOLE to health professionals living in remote and very remote areas. As learners from very remote areas showed the highest proportion of module completion, it suggests the potential benefit of this important online education in providing accessible continuing end-of-life care education for health professionals residing in the most remote parts of Australia.

Introduction

Over half of people who die in Australia receive end of life care in an acute hospital.¹ Although the importance of quality and safety of end-of-life care has been recognised, and various strategies developed to enhance care, gaps in quality end-of-life care remain.² To close these gaps, The National Safety and Quality Health Service (NSQHS) Standards³ declared end-of-life care as an integral part of good clinical governance as evident in the development of comprehensive care standards.

Access to skilled end-of-life care is particularly important for those who live in rural and remote areas given the high levels of chronic disease and higher mortality rates experienced by people living in these locations.^{4 5} In Australia, given the lack of palliative care specialists in rural and remote areas, palliative care delivery often falls to general practitioners, allied health professionals and nurses.^{6 7 8} However, health professionals in rural and remote areas do not always receive adequate training to provide this care. Nurses working in many rural areas worldwide, who provide end-of-life care to patients, lack end-of-life care training and knowledge.⁹ Several studies highlight the need for/importance of end-of-life care education for health professionals in rural and remote areas.^{10 11 12 13 14}

Health professionals in rural, remote, and very remote areas share similar challenges in accessing clinically

relevant education. These challenges include limited resources, accessible education, time, staff shortages, and geographic distance which often precludes face-to-face attendance at educational sessions^{15 16 17}. While a number of end-of-life care education programs have been developed and implemented specifically for rural and remote health professionals¹⁸, these programs were delivered predominantly through face-to-face modalities.

Online education programs play an important role therefore, in the provision of accessible continuing education for health professionals. They are convenient for users, design is flexible, and they are suitable for various learning styles¹⁹, which may appeal to learners with different learning needs. Given access to education is a significant barrier for rural health professionals to maintain current knowledge and skills¹⁸, there is an imperative to understand the uptake and usage of online education programs and potential professional development benefits for health professionals from rural and remote areas.

End-of-Life Essentials (EOLE) is a government funded education project which aims to provide free peer-reviewed online education modules and implementation resources on end-of-life care to health professionals in acute hospitals in Australia²⁰. Six education modules and an associated

toolkit, content informed by the Australian Commission on Safety and Quality in Health care (ACQSHC) National End-of-Life Consensus Statement, were developed with input and review of industry stakeholders.

Ongoing evaluation has been built into the education modules in order to detect changes in learner responses before and after they engage with the modules, as well as answers to tailored questions posed at the end of each module^{21 22}. The toolkit has also led to self-reported changes in learners' practice, improving

confidence when dealing with end-of-life issues²³.

In order to understand the uptake and usage of the EOLE education modules around Australia, learners' geographical locations and module completion data from the first year of the program were analysed according to remoteness category⁴. Differences in nomenclature are used to describe geographic regions and we have adopted the Australian Statistical Geography Standard (ASGS) remoteness structure²⁴

Methods

Data extraction and cleaning

A retrospective data analysis was conducted in June 2018. Data from learners who registered from 24th June 2016 (the launch date of EOLE) to 30th June 2017 were extracted from the EOLE data management system for the analysis. In total, 4,384 health professionals registered for EOLE during this time. Data from learners who resided overseas (N=141), without country, state, and/or post code information (N=16), or whose postcode was not classified to a remoteness category⁴ (N=3) were excluded from the data analysis. In total, data from 4224 learners were included for data analysis.

Data analysis

All analyses were conducted using SPSS version 25.00 (IBM). A value of $p < 0.05$ was considered statistically significant. The significance of differences in proportion to Module completion status (Completions are tallied when a learner clicks all the way through to the end of a module) among learners from different geographical locations was tested using Column Proportions Tests.

Ethics approval

The project received approval from the Flinders University Research Ethics Committee (Project number: 7012).

Results

Demographic characteristics of all learners

Those who completed EOLE modules included doctors, allied health professionals and nurses. As shown in **Table 1**, the majority of learners were from major cities (N=2689, 63.7%), worked in acute hospitals and resided in all states and territories in Australia.

Table 1. Demographic characteristics of all learners

	Total (N=4224) N (%)
Professions/Settings	
Doctors	
Acute hospitals	238 (5.6)
Other settings	26 (0.6)
Allied health professionals	
Acute hospitals	522 (12.4)
Other settings	260 (6.2)
Nurses	
Acute hospitals	2255 (53.4)
Other settings	923 (21.9)
States	
NSW	664 (15.7)
VIC	606 (14.3)
QLD	2075 (49.1)
SA	491 (11.6)
WA	167 (4.0)
TAS	104 (2.5)
NT	16 (0.4)
ACT	101 (2.4)
Geographic locations	
Major cities of AU	2689 (63.7)
Inner regional AU	875 (20.7)
Outer regional AU	524 (12.4)
Remote AU	70 (1.7)
Very remote AU	66 (1.6)

Difference in each module completion status between learners from different geographical locations

The proportions of a Module being completed in full (Modules 1-6) by learners from very remote areas were significantly higher than those of learners from major cities and regional areas. In addition, the proportions of Module 1 and Module 2 completion by learners from remote areas were significantly higher than those of learners from major cities and regional areas (**Table 2**).

Table 2. Difference in each module completion status between learners from different geographical locations

Geographical locations		Major cities	Inner regional	Outer regional	Remote	Very remote
		(n=2689)	(n=875)	(n=524)	(n=70)	(n=66)
Module completion status		N (%)	N (%)	N (%)	N (%)	N (%)
Module 1	Completed	1232 (45.8)	382 (43.7)	257 (49.0)	47 (67.1) ^{ABC}	48 (72.7) ^{ABC}
Module 2	Completed	668 (24.8)	230 (26.3)	151 (28.8)	37 (52.9) ^{ABC}	31 (47.0) ^{ABC}
Module 3	Completed	512 (19.0)	176 (20.1)	121 (23.1)	26 (37.1) ^{AB}	27 (40.9) ^{ABC}
Module 4	Completed	393 (14.6) ^B	95 (10.9)	65 (12.4)	14 (20.0)	19 (28.8) ^{ABC}
Module 5	Completed	263 (9.8)	81 (9.3)	54 (10.3)	12 (17.1)	18 (27.3) ^{ABC}
Module 6	Completed	246 (9.1)	77 (8.8)	52 (9.9)	12 (17.1)	17 (25.8) ^{ABC}

^A $P < 0.05$: compare to major cities

^B $P < 0.05$: compare to inner regional

^C $P < 0.05$: compare to outer regional

^D $P < 0.05$: compare to remote

^E $P < 0.05$: compare to very remote

Note: Module 1: Dying, a normal part of life; Module 2: Patient-centred communication & shared decision-making; Module 3: Recognising the end of life; Module 4: Planning end-of-life care-Goals of care; Module 5: Teams and continuity for the patient; Module 6: Responding to Concerns

Difference in the number of modules completed by learners from different geographical locations

Table 3 outlines that the proportion of learners from very remote areas who completed all six modules was significantly higher than that of learners from major cities and regional areas. Further, the proportion of learners from major cities and regional areas who registered with EOLE but who did not complete any module was significantly higher than that of learners from remote and very remote areas.

Table 3. Difference in the numbers of modules completed between learners from different geographical locations

Geographical locations		Major cities	Inner regional	Outer regional	Remote	Very remote
		(n=2689)	(n=875)	(n=524)	(n=70)	(n=66)
		N (%)	N (%)	N (%)	N (%)	N (%)
0 Module	Completed	1374 (51.1) ^{DE}	485 (55.4) ^{DE}	262 (50.0) ^{DE}	21 (30.0)	18 (27.3)
1 Module	Completed	600 (22.3)	158 (18.1)	104 (19.8)	13 (18.6)	16 (24.2)
2 Module	Completed	216 (8.0)	57 (6.5)	39 (7.4)	11 (15.7) ^B	6 (9.1)
3 Module	Completed	203 (7.5)	85 (9.7)	57 (10.9)	11 (15.7)	7 (10.6)
4 Module	Completed	38 (1.4)	10 (1.1)	10 (1.9)	2 (2.9)	1 (1.5)
5 Module	Completed	27 (1.0)	6 (0.7)	5 (1.0)	0 (0.0)	1 (1.5)
6 Module	Completed	231 (8.6)	74 (8.5)	47 (9.0)	12 (17.1)	17 (25.8) ^{ABC}

^A $P < 0.05$: compare to major cities

^B $P < 0.05$: compare to inner regional

^C $P < 0.05$: compare to outer regional

^D $P < 0.05$: compare to remote

^E $P < 0.05$: compare to very remote

Discussion

EOLE registered users include doctors, nurses, and allied health professionals. They work in acute hospitals and across a range of other health settings and are from all geographic areas of Australia. Findings suggest that EOLE is an accessible and feasible way to provide comprehensive continuing end-of-life care education for health professionals anywhere in Australia²³. Although the original aim of EOLE was to target the learning needs of health professionals working in acute hospitals, findings from this study demonstrate that the education modules are also of value to health professionals working in other health settings. Professionals working beyond the hospital system are clearly finding that EOLE meets their learning needs, also the flexible online delivery allows for engagement across geographical locations.

Our results showed that there were significantly higher proportions of module completion of learners from very remote/remote areas compared to learners from major cities and regional areas. This is consistent with findings from a recent study, in which rural nurses demonstrated higher demand for online education than their counterparts in the urban areas of China²⁵. Health professionals working in very remote and remote areas face additional challenges in accessing education as it is challenging for them to leave their workplace to travel long distances to attend face to face education or obtain backfill while they

do. As indicated by Curran et al.²⁶, rural physicians cannot access a range of continuing medical education (CME) opportunities, whereas CME meetings and workshops are more accessible for urban physicians. Accessibility, and the flexible nature of online platforms and learning, might contribute to the higher usage of the EOLE modules by health professionals working in remote areas, as it may overcome some of the challenges highlighted earlier²⁷. Findings from a qualitative study exploring factors which influence rural Australian nurses' online learning engagement showed that improved access to education, flexibility, and cost saving were valued by nurses²⁸. The recent inclusion of rural and remote specific and focused content in EOLE, such as provision of culturally safe palliative care service delivery to indigenous people²⁹, may have influenced the higher completion proportions of remote health professionals when compared to their urban counterparts.

Online learning platforms have demonstrated benefits for health professionals in remote areas. For example, CRANAplus (the peak professional body for Australian remote health professionals working in remote areas) has developed a range of online courses (eRemote) to enable remote health professionals to update clinical skills. The benefits of eRemote have been recognised and supported by employers²⁴. However, most of the eRemote online courses include a

registration fee, and eRemote provides little end-of-life knowledge and skills training³⁰. As an evidence-based, free, online training resource, EOLE might be a valuable resource to fill this gap and help health professionals in very remote and remote areas to receive or update their end-of-life care knowledge and skills in an accessible and flexible way. Since this study was completed, we have experienced advent of the COVID-19 pandemic. This has revolutionised the way that health professionals can access online learning. In a post Covid-19 world, End-of-Life Essentials provides an invaluable mode of professional development that educates health professionals and supports Covid safe practices.

Limitations to this study include the retrospective study design and the limited analysable data from the online education learning management system. The project aimed to produce and deliver peer reviewed and evidence-based education and implementation resources with an evaluation component. As such, our primary aim was not a research study per se, but to build evaluation and investigation in a pragmatic and appropriate manner. Furthermore, as indicated by Koczwara et al⁶, complicated evaluation components built into a free education program might discourage learners from accessing the online course.

Conclusion

Results from this retrospective study demonstrate that health professionals are willing to engage with online learning about provision of end-of-life care. EOLE is readily accessible to those health professionals living in remote and very remote areas. As learners from very remote areas showed the highest proportion of module completion, it highlights the potential benefit of this important online education in providing accessible continuing end of life care education for health professionals residing in the most remote part of Australia. This has implications for the delivery of safe and quality end-of-life care in remote areas. Further research could be considered to explore the effectiveness of EOLE education modules in improving remote health professionals' knowledge, skills, and confidence in providing quality end-of-life care in their workplace.

It would be meaningful to examine which existing module components are of most benefit to health professionals working in remote regions, along with identification of areas that could be included in future iterations of End of Life Essentials. In a world where online meetings are becoming the norm, future research needs to also consider the impact of EOLE modules on clinical practice for all health professionals post the advent of Covid-19 irrespective of remote or rural.

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