



PalliativeCare
AUSTRALIA

Investing to save

The economics of increased investment in palliative care in Australia

Palliative Care Australia and KPMG

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Foreword

At Palliative Care Australia, it is our mission to influence, foster and promote the delivery of timely and quality palliative care for all who need it.

As a palliative medicine specialist, I work with people with life-limiting illness and their families every day and I know the extraordinary benefits that palliative care can provide.

I know that when people have access to timely and quality palliative care, their symptoms can be relieved, their psycho-social needs met, and they can live as well as possible for as long as possible in the place of their choosing.

I also know from experience that this care means people are less likely to receive unnecessary treatments which will not offer them benefits, they are less likely to need to go to Emergency Departments and they spend less time in hospital or Intensive Care Units.

This is all about offering good quality and proactive appropriate care and supporting decisions about clinical treatments for people living with life-limiting illness.

I also know the importance of economics. For this reason, Palliative Care Australia commissioned health economics experts at KPMG to undertake this thorough investigation of the economic value of palliative care, to look at the nation's future palliative care needs and to model effective interventions, under the guidance of a steering committee of clinical and academic experts. Most importantly, we asked KPMG to make recommendations to better prepare the nation to meet the nation's rapidly escalating palliative care needs.

I extend my thanks to the KPMG team for the thoroughness and diligence in the way they have explored the evidence, research and experience of people working in palliative care to write this report, keeping the needs of people with life-limiting illness and their families at the centre.

I also extend my thanks to all the people who contributed to this report and urge all Governments to study and implement the recommendations, which will deliver tangible benefits across the health system.



Professor Meera Agar
Chair, Palliative Care Australia

Introduction

There is a clear economic case for increased investment in palliative care in Australia.

There is a clear need to improve the way we care for people nearing the end-of-life, both for the elderly and those with a terminal illness. The majority of Australians die in hospital when most would prefer to spend more time at home. Talking about death can be difficult and seen as something to avoid. Government funded palliative care services are predominantly delivered over the last days and hours of life. Despite considerable reform over the past 30 years, palliative care has remained an optional extra rather than 'core business' within our health and aged care systems, which defaults to extending life, rather than improving the quality of time we have left.

Investing to Save – Palliative Care outlines the economic argument for increased investment in palliative care. The huge costs associated with death are not inevitable; this report highlights practical 'win-win' recommendations for investment in palliative care that deliver lower end-of-life costs to Government at the same time as achieving positive health and social outcomes for people experiencing life-limiting conditions. Savings in health care expenditure can be achieved when incentives are provided for health services to support advance care planning and greater investment in coordinated home, community and aged care (including residential care) services that avoid significantly higher end-of-life costs.

Achieving these improvements will require agents of change, or *enablers*. Funding models need to be broadened to encourage rather than hinder the provision of integrated palliative care across settings. More comprehensive administrative data on service provision is required for system planning, to sit alongside the outcomes data tracked through the world-leading Palliative Care Outcomes Collaboration. Further investment in community awareness, expansion of the specialist palliative care workforce, and increased palliative care training of the broader health and aged care workforce, are all required for palliative care to become core business. *Investing to Save – Palliative Care* highlights these key enabling steps and the practical recommendations with strong evidence bases that will improve the quality of the last years of life for people who are dying, their carers and families.

We are proud that KPMG is able to contribute to the ongoing discussion on palliative care reform as a key advisor to Governments and other organisations in the health and aged care sector. We sincerely thank Palliative Care Australia for the opportunity to partner with them on this report. *Investing to Save – Palliative Care* is not a silver-bullet, but instead we hope that the evidence and recommendations presented here can help Governments and others take the next steps towards ensuring palliative care becomes a core component of our health system.



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KPMG and Palliative Care Australia also thank all Palliative Care Australia member organisations who provided feedback on a draft version of the report.

Palliative Care Australia's acknowledgement and gratitude to The Snow Foundation

Palliative Care Australia has been able to commission this important work thanks to the generous support of The Snow Foundation.

Starting in Canberra, The Snow Foundation was established in 1991 by Terry Snow and his brother George to support people experiencing hardships and challenges. Almost 30 years later, The Snow Foundation remains dedicated to the Canberra region coupled with a commitment to back key National initiatives supporting social entrepreneurship and stand out leaders with ambitious agendas for social change.

The Snow Foundation has been particularly generous in supporting people living with life-limiting illness. In approaching The Snow Foundation to assist in financing this report, PCA found an enthusiastic and willing partner in commissioning a major economic study about the value of palliative care – not just the caring value, but the economic imperative to invest in services which people need and also generate savings in other more cost intensive parts of the health system.

The Snow Foundation are also benefactors to Clare Holland House in Canberra and LifeCircle.

Clare Holland House, Canberra ACT

Clare Holland House is a palliative care facility in Canberra. The team at Clare Holland House provide outpatient clinic services, care in the home or residential setting, and also inpatient hospice services.

The service at Clare Holland House is tailored to each patient, with the main objective being to enable each patient to enjoy a fulfilling and comfortable lifestyle while still receiving appropriate and patient-centred care.

Through funding from the Snow Foundation, Clare Holland House is undertaking an exciting expansion to enable an increase in the number of specialist inpatient palliative care beds and expand facilities for families to stay with patients on site and for the development of administration and clinical space. The support will also provide more in-home, palliative care for people who wish to stay in their own home. Already the team at Clare Holland House is providing a widely acclaimed and awarded service to residents in residential aged care facilities. This is known as the Palliative Care Needs Rounds, where a Palliative Care Nurse Practitioner from Clare Holland House meets regularly with staff in residential aged care facilities to discuss residents who are at risk of dying and to put care plans in place.

LifeCircle

LifeCircle is an independent, national social enterprise that prepares families and organisations as they care for people through the last stages of life.

Leveraging 30 years of practice and insights with a global evidence base, contemporary principles of human-centred design and lean scaling, LifeCircle partners as integrators and catalysts to drive a whole-of-system approach, improving the experience for all Australians.

LifeCircle provides online delivery of information, resources, and 1:1 Guided Support Programs for carers and families. The anticipated outcomes of these services include improved wellbeing of those caring; less regret and complex bereavement; less time spent in hospital; and more Australians having an end-of-life experience that is aligned with their preferences.

With LifeCircle's tools and training, organisations can excel in care and communication through the last stages of life, while also improving business metrics such as employee wellbeing, workforce stability, productivity, and customer satisfaction.

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No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by, Palliative Care Australia personnel and stakeholders consulted as part of the process.

KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

The findings in this report have been formed on the above basis.

Third Party Reliance

This report is solely for the purpose set out in the Scope Section and for Palliative Care Australia's information, and is not to be used for any other purpose without KPMG's prior written consent.

This report has been prepared at the request of Palliative Care Australia in accordance with the terms of KPMG's contract dated 25 June 2019. Other than our responsibility to Palliative Care Australia, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. Any reliance placed is that party's sole responsibility.

Glossary

ABS	Australian Bureau of Statistics
ABF	Activity Based Funding
ACFI	Aged Care Funding Instrument
ACP	Advance Care Plan
AIHW	Australian Institute of Health and Welfare
ALOS	Average Length of Stay
BEACH	Bettering the Evaluation and Care of Health
CHD	Coronary Heart Disease
COPD	Chronic Obstructive Pulmonary Disease
ED	Emergency Department
GP	General Practitioner
ICD	International Classification of Disease
ICU	Intensive Care Unit
IHPA	Independent Hospital Pricing Authority
IHPC	Integrated Home-based Palliative Care
MBS	Medicare Benefits Schedule
NHCDC	National Hospital Costs Data Collection
NHMRC	National Health and Medical Research Council
PC	Productivity Commission
PCA	Palliative Care Australia
PCOC	Palliative Care Outcomes Collaboration
RACFs	Residential Aged Care Facilities
ROI	Return on investment
RCT	Randomised controlled trial
SPC	Specialist Palliative Care
WHO	World Health Organisation

Executive summary

This report presents the economic case for increased investment in palliative care. It highlights opportunities for Governments to generate significant returns on their investment in palliative care, focusing on targeted practical interventions where the evidence base about what works is strong.



Executive summary

Background

Palliative care in Australia is amongst the best in the world. State and Federal funding for palliative care services is provided across primary care, community, residential aged care, hospital and specialist palliative care unit settings; patient reported outcome data is collated and published; and there are education and training pathways to become palliative care specialists for both doctors and nurses.

Yet, across the lifespan, too many Australians with life-limiting conditions miss out on appropriate palliative care. Just 2,595 individuals received a Medicare Benefits Schedule (MBS) funded palliative care home visit in 2017-18, less than two per cent of the deaths in that period. Just four to 12 per cent of Australians die at home, despite the majority of people preferring to spend more time at home in their last months of life. Only one in 50 residents of an aged care facility receives palliative care under the Aged Care Funding Instrument (ACFI). Palliative medicine specialist numbers are half of what is expected under a minimum model of care.

Over the last 20 years, a large body of reviews, reports and inquiries have highlighted these shortcomings, and presented recommendations for reform. However, most previous reports have presented the case for reform in terms of the social and moral imperative to improve the end-of-life for all Australians. This report takes a different perspective. It draws on a pragmatic, evidence-based approach to estimate the economic benefits from these reforms. It shows that we can achieve better social and moral outcomes, while also reducing the almost \$8 billion spent on death in Australia each year.

Many of the recommendations presented here are not new. Facilitating people to live well at

home in their last months, ensuring advance care plans are completed and followed, providing integrated palliative care that allows individuals to seamlessly access services, and significantly increasing the number of palliative care specialists in residential aged care facilities (RACFs) are consistent themes across much of the previous research.

However, this report highlights that there are good economic reasons for Government to adopt these interventions. The return on investment (ROI) to Government comes from reducing costly end-of-life emergency department visits and transport, hospitalisation stays and intensive care unit (ICU) admissions. Although not quantified, there are also likely to be cost savings to individuals and employers from reduced bereavement costs and increased productivity of families and carers.

By making the economic case, the report aims to help inform policy makers who are faced with challenging decisions about how to best allocate scarce resources and funding. It recognises that there are always trade-offs when considering complex social issues, and that economic evidence can shine a new light on the nature of these trade-offs.

In addition to recommendations for specific interventions and investments, there are also a range of key system-wide reforms that are required to deliver a more efficient and effective palliative care sector. Palliative care needs clear stewardship and a funding model that promotes rather than hinders integrated and patient-centred care. The health workforce needs clear career pathways to palliative care roles, and community education needs to be systematic and consistent if discussions about death and the role of palliative care are to become core business. These reforms are not simply 'nice to haves' but essential to ensure the benefits from increased investment in palliative care are achieved.

Scope and methodology of this report

KPMG was engaged by Palliative Care Australia (PCA) to model the economic case for increased palliative care by identifying practical recommendations that had a strong economic argument, were supported by the evidence base or offered a practical innovation, and improved the health and wellbeing of Australians.

The methodology for this report involved three distinct stages:

- 1) Evidence gathering, including reviews of the literature and stakeholder consultations, to highlight gaps and opportunities in current palliative care services;
- 2) Analysis and modelling, using a pragmatic evaluation approach that captured the key costs and benefits associated with palliative care reforms;
- 3) Recommendations, prioritised using a set of criteria established with the project steering group, including scope and reach, ROI and feasibility of implementation.

Key recommendations

Following on from the detailed analysis described above, PCA and KPMG have developed the following recommendations, broken down by key setting: home, residential aged care and hospital. The recommendations all deliver strong ROIs, either breaking even and being cost-neutral in the case of home-based care, or providing significant cost savings in the case of the residential aged care and hospital interventions.

In addition, a number of 'enabling' recommendations have been provided. These recommendations address the stumbling blocks that continue to restrict the sector from delivering the patient-centred models of care that have been recommended over decades of research.

Overall, our analysis highlights that investing in better care for those experiencing life-limiting illnesses will reduce rather than increase costs. KPMG estimate that the cost of death in Australia is \$7.8 billion per year, with more than half, \$4.0 billion, in hospital costs. The interventions presented here can significantly reduce the hospitalisation costs of dying by nearly 12 per cent, or \$460 million per year, while also improving the quality of death.

ES Table 1: Key recommendations for this report

Improve access to home and community-based palliative care services	Investment	Return (%)
<p>Recommendation 1.1: Increase funding and timely access to home and community-based palliative care services</p> <p>Recommendation 1.2: Develop a key performance indicator to monitor access to home and community-based palliative care</p>	\$240m	100%
Expand palliative care services in residential aged care	Investment	Return (%)
<p>Recommendation 2.1: Invest in specialist palliative care (SPC) and integrated support across residential aged care</p> <p>Recommendation 2.2 Explicitly identify palliative care in the Aged Care Quality Standards</p>	\$75m	182%
Increase investment in earlier and more integrated palliative care services in hospitals	Investment	Return (%)
<p>Recommendation 3.1: Increase palliative care services in hospitals</p> <p>Recommendation 3.2: Track the incidence of non-beneficial care in end-of-life hospital admissions, and systematically measure the impact of palliative care on hospitalisation costs</p>	\$50m	168%
Deliver system-wide reform to unlock the potential of palliative care	Investment	Return
<p>Recommendation 4.1: Establish a permanent National Palliative Care Partnership Agreement with State and Territory Governments and appoint a National Palliative Care Commissioner</p> <p>Recommendation 4.2: Reform funding models to facilitate integrated, patient centred care</p> <p>Recommendation 4.3: Develop a palliative care minimum dataset</p> <p>Recommendation 4.4: Expand the palliative care workforce and increase palliative care literacy across the wider health sector</p> <p>Recommendation 4.5: Deliver community awareness and education programs</p>		Enabling interventions

Source: KPMG 2019

Limitations

The scope of this report has been necessarily limited to a small number of targeted recommendations. Importantly, the report is not:

- a comprehensive evaluation of the entire palliative care system;
- economic modelling of all prospective palliative care interventions;
- a whole of Government plan for reform.

KPMG and PCA identified a range of potential areas for reform that are worthy of additional

analysis, but are being progressed through other avenues or had considerable complexity that could not be addressed within the scope of this analysis.

Additionally, the scope of this project has limited the report's capacity to focus on the needs of specific cohorts. In particular, it is recognised that Aboriginal and Torres Strait Islanders may require additional targeted, culturally appropriate supports, as will children experiencing life-limiting illnesses (paediatric palliative care) and the carers of such individuals.



Scope and context for this report



This section provides background context for this report and defines the concept of palliative care.

Scope and context for this report

Scope and limitations

KPMG was engaged by PCA to model the economic case for increased palliative care. The scope of this engagement included:

- modelling the need for palliative care in Australia by 2060;
- conducting ROI analyses for various palliative care interventions;
- identifying practical recommendations that had a strong economic argument, were supported by the evidence base or offered a practical innovation, and delivered both improved palliative care and economic outcomes.

It should be noted that the scope of this report does not include:

- a comprehensive evaluation of the entire palliative care system;
- economic modelling of all prospective palliative care interventions;
- a whole of Government plan for reform.

“With a rapidly growing and ageing population, Australian Governments – federal, state and territory – need to invest now if we are to meet the nation’s current, let alone future, palliative care needs.”¹

Professor Meera Agar

Defining palliative care

What is palliative care?

According to the World Health Organisation (WHO), palliative care is:

“An approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification, impeccable assessment, treatment of pain and other problems, physical, psychosocial and spiritual”. ²

Who uses palliative care?

Palliative care is provided to both the young and old with life-threatening (or life-limiting) illness. The term ‘life-limiting illness’ is used to describe illnesses which are expected to directly cause death. ³ This includes individuals with cancer, heart disease, chronic obstructive pulmonary disease (COPD), dementia, frailty, heart failure, neurodegenerative disease, chronic liver disease, renal disease, and more.

Palliative care also includes the provision of bereavement support and capacity building for affected families and carers of those with life-limiting illness. ⁴

Who provides palliative care?

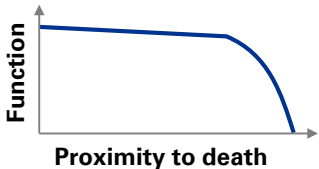

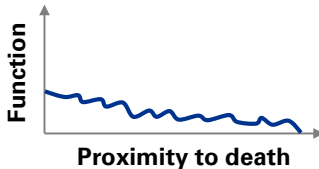
The holistic nature of palliative care means that it is the business of all health care professionals. This includes doctors, nurses, allied health professionals, volunteers, carers and more. The involvement and level of expertise of these health care professionals varies depending on the complexity of patients’ needs. ⁵

What does palliative care involve?

Palliative care includes services and treatments that: ⁶

- provide relief from pain and other distressing symptoms;
- affirm life and regards dying as a normal process;
- neither hasten nor postpone death;
- integrate the psychological and spiritual aspects of patient care;
- offer a support system to help individuals live as actively as possible until death;
- offer a support system to help the family cope during the individual’s illness and in their own bereavement;
- use a team approach to address the needs of individuals and their families, including bereavement counselling, if indicated;
- enhance quality of life, and may also positively influence the course of illness;
- apply care early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

Importantly, the provision of these palliative care services can differ along the pathway to death. For some patients this trajectory is predictable, and for others it is not. Recognising that multimorbidity (the co-occurrence of two or more chronic conditions) creates diverse pathways to death, Box 1 provides three disparate examples of the disease trajectories commonly associated with chronic illness.

Box 1: Pathways to death associated with chronic illness		
Short and severe	Long and episodic	Prolonged and slow
 <p>The graph shows 'Function' on the y-axis and 'Proximity to death' on the x-axis. The line starts at a high level, remains relatively flat for a short period, and then drops sharply to zero.</p>	 <p>The graph shows 'Function' on the y-axis and 'Proximity to death' on the x-axis. The line starts at a high level and shows a series of small, periodic declines followed by recoveries, eventually reaching zero.</p>	 <p>The graph shows 'Function' on the y-axis and 'Proximity to death' on the x-axis. The line starts at a low level and shows a very gradual, almost linear decline towards zero.</p>
According to Lynne et al. (2003), these trajectories represents a typical person with...		
<p><i>Cancer</i></p> <ul style="list-style-type: none"> • Rapid decline; no sign of recovery; short period between functional decline and death. 	<p><i>Heart and lung failure</i></p> <ul style="list-style-type: none"> • Slow decline in function, sharp periodic decline and recovery; longer onset from decline to death. 	<p><i>Dementia</i></p> <ul style="list-style-type: none"> • Low function to start, progresses slowly over time; longest period between decline and death.
According to Sleeman et al. (2019)...		
<ul style="list-style-type: none"> • Palliative care is relevant for 90 per cent of cancer deaths. 	<ul style="list-style-type: none"> • Palliative care is relevant for 35 per cent of deaths related to heart failure; 80 per cent of deaths related to COPD and 50 per cent of deaths lung disease. 	<ul style="list-style-type: none"> • Palliative care is relevant for 80 per cent of dementia related death.

Sources: Lynne et al. (2003), Sleeman et al. (2019)

Palliative care services therefore attend to needs with ranging complexity.

The largest patient cohort are those with non-complex care needs. Typically, these needs can be met by a range of primary care and non-SPC personnel; and can include (but are not limited to) symptom management, case conferencing, care coordination, counselling and after-hours support. ⁷

Patients with complex care have unstable and persistent needs which are not effectively controlled by standard therapies. This cohort requires the regular and active involvement of a multidisciplinary team to assess and manage intense symptoms, provide access to after-hours telephone advice, nursing and medical support, active implementation of advance care planning including effective documentation and communication with other health professionals to ensure concordance with patients' care goals, as well as psychosocial support for the patient, their families and carers. ⁸

Complex care commonly involves 'SPC' services, which can be defined as:

- a multidisciplinary health care service whose substantive work is with individuals who have a life-limiting illness;
- delivery by SPC professionals who have recognised qualifications or accreditation in palliative care; and
- provision of consultative and ongoing care for individuals with a life-limiting illness and provide support for their primary carer and family during and after the individual's illness. ⁹

By definition, SPC is not directly required where needs are uncomplicated. Importantly, where specialist care providers are not directly involved in the care they provide leadership and consultative role to hospital and community care settings.

Where is palliative care provided?

Palliative care is provided across home, RACFs, hospital and SPC units. Each setting serves a different purpose, and provides accommodation for individuals with varying needs. The delivery of palliative care across these settings is therefore diverse (Box 2).

Box 2: Palliative care by setting

1. Home

- Home-based palliative care supports patients who wish to be cared for at home for as long as their needs can be met, and where possible, to die in the place of their choice. General practitioners (GPs) play an important role in this setting to identify palliative care needs, facilitate discussions around treatment goals and develop care management plans.
- Services within this setting can also include symptom management and assessment, specialist nursing, allied health, emotional support, education, bereavement, personal care, food services, transport and more.

2. Residential aged care

- Palliative care in residential aged care consists of long-term care and management of those with life-limiting conditions.
- Residential aged care staff are available to provide personal, health and nursing care at all hours. Patients and staff in this setting have access to SPC support and community palliative care services where needs become complex.

3. Hospital

- Palliative care can be provided in the hospital alongside curative treatment and/or where patients' needs are complex. These services may occur via inpatient care in beds, outpatient clinics, ICUs or EDs.
- Hospital palliative care can include advance care planning, complex symptom management and assessment, psychological bereavement support and more.

4. Specialist palliative care units

- Specialist palliative care units provide short-term care for those with serious illness, near the end of their life, who are in most cases no longer receiving curative treatment. These units aim to provide a home-like environment, including some accommodation for family and significant others when possible, in addition to personal belongings. This care can be provided within hospital and/or community care settings (home/RACFs). Teams of these units can include specialist nurses, doctors, social workers, and other professionals to provide symptom management, psychological bereavement support and more.
- **Note:** Many people in the community may be familiar with the term "hospice". The meaning of the word hospice has changed over the years. What is offered in terms of care at a hospice can be different across countries and even across Australian jurisdictions. In some instances a hospice may include the full suite of services offered by a specialist palliative care unit. In other situations the hospice may be a community facility offering care and support for patients and their families but not always with the full range of clinical care. In this report, specialist palliative care units is used as the term for services that bring together multidisciplinary teams to provide a comprehensive range of clinical and supportive care at the one service.

Source: KPMG analysis of *The Department of Health (2019); PCA (2018)*

Methodology for this report

This section provides an overview of the methodology for this report.



Methodology for this report

Phase by phase

A high-level overview of the methodology used to formulate the recommendations in this report is presented below:

1	Evidence gathering <ul style="list-style-type: none">• Literature review and data collection to understand the current state of the industry, identify the key issues and list potential recommendations for reform from past reports and inquiries;• Consultation with members of industry and the Steering Group Committee to test initial findings and gain detailed insight into palliative care services in Australia.
2	Analysis and modelling <ul style="list-style-type: none">• Assessment of publicly available data to verify the system-wide and setting-specific issues in palliative care;• Generation of a baseline model of palliative care need and cost of death in Australia;• Development of criteria to prioritise palliative care interventions from the literature;• ROI analyses from improved palliative care.
3	Recommendations <ul style="list-style-type: none">• Evaluation of interventions and recommendations against the prioritisation criteria;• Consolidation of findings, identification of limitations and development of recommendations with the Steering Group Committee;• Review and refinement of recommendations in final consultation with the Steering Group Committee.

Evidence gathering

Key reports and inquiries

Extensive research and strategic policy reviews have been undertaken by the Government, Productivity Commission (PC), peak bodies, academics, and leading practitioners over a period of 20 years to

further improve palliative care services in Australia.

Table 1 outlines some of the more recent major reports and key studies that have been considered as part of our analysis. As a whole, recommendations in past reports have been relatively consistent. These have been considered in formulating the recommendations presented here.

Table 1: Key past reports and inquiries

Year	Author and Title	Summary
2019	Royal Commission into Aged Care Quality and Safety ¹⁰ <i>"A history of aged care reviews"</i>	<ul style="list-style-type: none"> • Background of the reviews conducted on aged care in Australia. • Review of national aged care quality and regulatory processes. • Review of funding, accreditation and effectiveness of the aged care.
2018	Palliative Care Australia ¹¹ <i>"Palliative Care 2030: Working towards the future of quality palliative care for all"</i>	<ul style="list-style-type: none"> • Guiding principles for palliative care 2030. • The principles include whole of Government involvement, strengthening of the workforce, community awareness and mobilisation, research and technology, access to medicine, service on grief and bereavement, effective funding models, best practice and innovative models.
2018	Department of Health ¹² <i>"National Palliative Care Strategy 2018"</i>	<ul style="list-style-type: none"> • Evaluated the vision, principles and goals of palliative care in Australia. • Aligned a strategic framework for all stakeholders to achieve goals. • Ensured that goals are based on the principles of understanding, capability, access and choice, collaboration, investment, data and evidence and accountability.
2018	Department of Health and Human Services, Victoria State Government ¹³ <i>"Palliative care funding model review"</i>	<ul style="list-style-type: none"> • Outlined a new funding framework for community and hospital-based palliative care services to improve and integrate between care settings. • Forming service system support for short-term funding models (1-2 years) and medium-term funding models (3-5 years).
2017	Productivity Commission ¹⁴ <i>"Introducing competition and informed user choice into human services: Reforms to human services. Chapter 3: End-of-life care in Australia"</i>	<ul style="list-style-type: none"> • The inquiry assessed palliative care and provided recommendations. • Recommendations included interventions to increase access of community-based palliative care, promote advance care planning, set the standard of care, and improve the funding model.

Year	Author and Title	Summary
2016	Gomes et al. ¹⁵ <i>"Effectiveness and cost-effectiveness of home palliative care services for adults with advanced illness and their caregivers (Review)"</i>	<ul style="list-style-type: none"> • The systematic review provided evidence of cost-effectiveness of home-based palliative care for people with malignant conditions. • The review also demonstrated that home-based care helps individuals to die at home with reduced symptom burden and less grief on caregiver.
2015	Goldsbury et al. ¹⁶ <i>"Acute hospital-based services used by adults during the last year of life in New South Wales, Australia: a population-based retrospective cohort study"</i>	<ul style="list-style-type: none"> • Measured health care utilisation of hospital-based services in the last year of life in NSW.
2014	Grattan Institute ¹⁷ <i>"Dying well"</i>	<ul style="list-style-type: none"> • The report reviewed the changing trend and patterns of death in Australia. • Provided recommendations that include a national public education campaign of palliative care, transparency in end-of-life plans, better coordination and implementation of care and support for carers in home-based setting.
2014	Burbeck et al. ¹⁸ <i>"Understanding the role of the volunteer in specialist palliative care: a systematic review and thematic synthesis of qualitative studies"</i>	<ul style="list-style-type: none"> • Systematic review to understand the role of volunteers in palliative care in both settings. • The key result highlighted that the role was distinctive and volunteers may act as mediator between the individual and health specialists.
2010	Australian Health Ministers ¹⁹ <i>"Supporting Australians to live well at the end of life"</i>	<ul style="list-style-type: none"> • The focus of the paper was palliative care including improved awareness and understanding, appropriateness and effectiveness, leadership and governance, and capacity and capability. • It highlighted the need for a skilled workforce in palliative care, and recommended improved funding models.
2004	Department of Human Services Victoria ²⁰ <i>"Promoting Partnerships in Palliative Care Services"</i>	<ul style="list-style-type: none"> • The review provided a strategic framework to promote partnership in palliative care. • The key objective was to enhance services in which providers at every level of care (hospital and community) can provide high-quality pathways to people in their end-of-life stage.
1999	Calder et al. and Department of Human Services Victoria ²¹ <i>"Separating payments to integrate care: A palliative care classification and funding model"</i>	<ul style="list-style-type: none"> • The report proposed improved access to palliative care, integrated with community and hospital services. • Suggested to establish a classification system and funding model for providers and Governments.

Source: KPMG analysis (2019)

Steering Group Committee and stakeholder consultation

Table 2 lists the members of the Steering Group Committee consulted throughout this report. The methodology for this report also included a broader consultation with other key

stakeholders. These consultations are also summarised in Table 2.

Importantly, the majority of recommendations presented here have built on recommendations in previous PCA research, which have been extensively tested with PCA members and others in the sector.

Table 2: Stakeholders consulted for this report

Personnel	Description	Discussion points
Meera Agar	Professor Meer Agar, Palliative Medicine, IMPACCT, University of Technology Sydney	<ul style="list-style-type: none"> • Timeliness of palliative care services; • Preference for dying at home – place of death versus time spent at home.
Jane Fischer	Dr Jane Fischer, General Manager and Medical Director, Calvary Health Care Bethlehem	<ul style="list-style-type: none"> • Awareness of palliative care in Australia; • Workforce capacity and skill gaps in palliative care; • Improved models of care in the community.
Gregory Crawford	Professor Gregory Crawford, Senior Consultant in Palliative Medicine and Director of Research and Education, Northern Adelaide Palliative Service	<ul style="list-style-type: none"> • Key State-based issues in today's care models; • Strengths of the current system in South Australia; • Research into the economics of palliative care.
Rosemary Calder	Professor Rosemary Calder, Health Policy at Mitchell Institute, Victoria University	<ul style="list-style-type: none"> • Effective and ineffective funding models in palliative care; • Minimum datasets and KPIs; • Stigma of palliative care.
Helen Walker	Helen Walker, Nurse Unit Manager, Laurel Hospice	<ul style="list-style-type: none"> • Addressing patient need in the community (person-centred care); • Triage and fragmentation; • Funding models.
Palliative Care Outcomes Collaboration (PCOC)	Dr Barbara Daveson, Manager, PCOC Samuel Allingham, Statistician and Data Manager, PCOC	<ul style="list-style-type: none"> • Variation in outcomes across regions of Australia; • Data reporting and coverage.
St Vincent's Hospital	Associate Professor Mark Boughey, Director of Palliative Medicine, St Vincent's Melbourne	<ul style="list-style-type: none"> • After-hours palliative care in Victoria; • Funding and consultative services; • Timely palliative care which individuals can trust.
Australian Institute of Health and Welfare (AIHW)	Gary Hanson, Unit Head for Mental Health and Palliative Care, AIHW	<ul style="list-style-type: none"> • Data challenges (coding, availability, reporting); • National Best Endeavours Dataset; • Research and data.

Source: KPMG (2019)

Analysis and modelling

Need for palliative care in Australia

The need for palliative care in Australia will increase significantly as the number of old people, and very old people, continues to grow.²² To determine the need for palliative care in Australia, we first estimated the current and future deaths from the Australian Bureau of Statistics (ABS) population projections and life table data.²³

The next step was to identify the proportion of deaths that were associated with palliative care need. This was informed by the Lancet Commission's report on Palliative Care and Pain Relief which estimated physical and psychological symptom prevalence in 20 conditions (International Classification of Disease (ICD)) most commonly related to palliative care up to the year 2060.²⁴ These estimates were then applied to the Australian population and death projections.

Overall, the model estimated palliative care need in Australia from 2017 to 2060 in context of Australia's ageing population and the increasing burden of non-communicable disease in high income countries.

Cost of death in Australia

The methodology for estimating the cost of death by care setting followed a study by the Grattan Institute.²⁵

- Cost of death in RACFs and home care was derived from Part F of the 2018 Report on Government Services.²⁶ The data included the average annual subsidy per occupied residential aged care place and average expenditure per home care resident. Cost of death in hospital was estimated from Activity Based Funding (ABF) and the associated hospital care costs informed by Kardamanidis et al.²⁷
- Cost of death in the last year of life was estimated from patient utilisation data in Goldsbury et al. (2015); and health care

costs from the National Hospital Costs Data Collection (NHCCDC) – Independent Hospital and Pricing Authority (IHPA) – including costs per separation and day, ED presentations, and ICU days.²⁸

Assessment of the evidence base

Appendix A outlines the evidence base for the ROI modelling and interventions. KPMG and PCA have not attempted to undertake a systematic review or identify all available evidence. Rather, a pragmatic approach to collecting evidence has been taken, relying on systematic reviews and meta-analyses where possible. Evidence has been rated according to the National Health and Medical Research Council (NHMRC)'s levels of evidence hierarchy.

Quality ratings of the evidence base have been adapted from the Cochrane GRADE Working Group grades of evidence:

- **High quality:** Further research is very unlikely to change our confidence in the estimate of effect.
- **Moderate quality:** Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
- **Low quality:** Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
- **Very low quality:** We are very uncertain about the estimate.

The outcomes of the evidence base have been rated as one of: Effective; Mixed; and Not effective.

Return on investment analysis

The ROI methodology for this report differs from the traditional intervention cost approach as it does not seek to estimate all potential costs of palliative care, but rather to quantify the major direct returns potentially available across the health system through investment

in effective palliative care interventions and services.

The specific methods used for modelling the ROIs varied according to the intervention being assessed. Intervention costs were sourced from the literature with unit cost data from relevant agencies such as the AIHW, IHPA and NHCDC or the ABS. Savings were considered mainly in health care cost savings achieved through a reduction in care costs and health service utilisations, e.g. reduced ED visits, hospitalisation and ICU admissions. Savings were only included in the modelling when the evidence base and magnitude of impact were significant and allowed for quantification. Sensitivity analyses were then conducted to highlight how the ROI may vary under different conditions. For more technical details on the ROI analysis, see Appendix B.

The context of return on investment

This report focuses on interventions that show a positive ROI (ROI greater than 1). As palliative care helps to reduce the high health care costs associated with death, and to improve quality of life for people with life-limiting illness, many investments in palliative care have the potential to deliver a strong ROI. In health economics, these interventions are known as 'dominant' because they deliver both better outcomes and reduced costs. Across the wider health sector, dominant interventions are unusual because normally it costs money to improve health. In that context, an intervention with an ROI of just 1.0 is a very attractive intervention because it delivers health benefits with no net costs.

The overlap of interventions and the potential for double counting

One of the challenges with palliative care is the complexity between care setting and the model of care available to the individual. There are a range of causal factors that contribute to palliative care, and therefore a range of potential areas to intervene. This means that interventions have the potential to overlap with each other: it could be that the effectiveness of one intervention is enough to render another intervention obsolete. For example, an advance care plan intervention in a hospital setting could be part of the service provision of an integrated home-based service.

These complexities with palliative care are difficult to untangle: individual interventions are typically evaluated within a narrow scope rather than as part of a collective within a wider health system. We have attempted to avoid 'double counting' by focusing on specific care settings (home, residential aged care and hospital) and ensuring our recommendations for expansion are realistic at the overall level.

Recommendations

Prioritisation framework

Table 3 outlines the criteria used to prioritise recommendations outlined in Phase 3 based on findings from Phase 1 (evidence gathering) and Phase 2 (analysis and modelling).

Table 3: Criteria for prioritisation

Criterion	Key questions	Where is this analysis evident in the recommendations?
Prevalence	<ul style="list-style-type: none"> How many people could this intervention potentially impact? 	<ul style="list-style-type: none"> Each recommendation has introductory text that considers this criterion.
Economic impact	<ul style="list-style-type: none"> What are the costs of this intervention? What are the economic benefits of this intervention? What is the ROI for this intervention? 	<ul style="list-style-type: none"> Each sub-recommendation has the sub-heading 'What is the economic impact of intervening in this area?'
Strength of evidence base	<ul style="list-style-type: none"> What is the quality of the available evidence base? How effective have the outcomes been in the identified evidence base? 	<ul style="list-style-type: none"> Each sub-recommendation has the sub-heading 'What does the intervention involve, and how strong is the evidence base?'
Alignment with existing policy directions	<ul style="list-style-type: none"> Is this recommendation aligned with existing policy directions, or is it a recommendation that could be contentious? 	<ul style="list-style-type: none"> Each sub-recommendation has the sub-heading 'Is this intervention aligned with existing policy directions?'
Ease of implementation	<ul style="list-style-type: none"> Are there existing opportunities that could be leveraged to implement this recommendation? What are the challenges of implementing this recommendation? 	<ul style="list-style-type: none"> Each sub-recommendation has the sub-heading 'What are the opportunities or challenges of implementation?'

Source: KPMG (2019)

Death, dying
and palliative
care in
Australia
today



Death, dying and palliative care in Australia today

Death and dying in Australia today

Mortality and morbidity

In 2017, there were 160,000 deaths in Australia, with 82 per cent aged over 65 years.²⁹ While indicators of mortality suggest Australians are living longer, measures of quality show we are not necessarily living 'better'. Since 2012, years of life lost due to disability from non-communicative diseases have increased from 19,664 to 20,400 per 100,000 population in Australia in 2017.³⁰

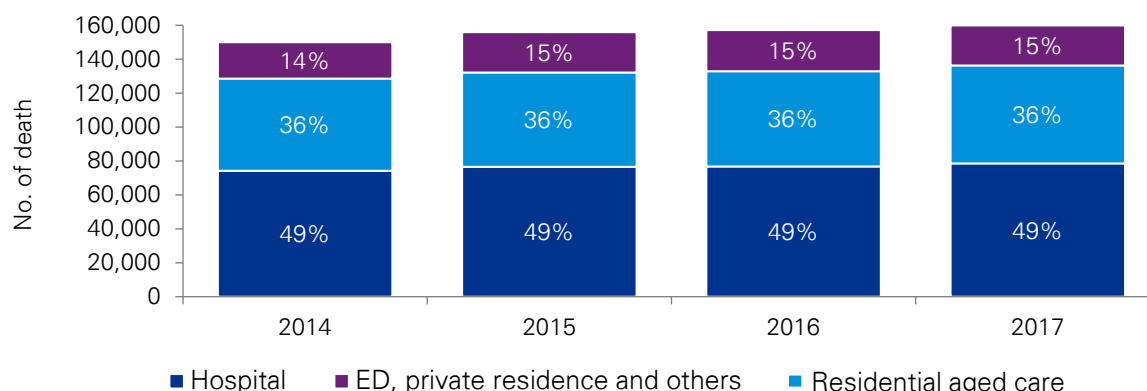
Place of death

Under Australia's current health system, the most common place of death are hospital and residential aged care. In 2017, almost half of all deaths in Australians occurred as an admitted patient (78,525); 36 per cent in residential aged care (57,769), four per cent in home care (6,813); three per cent in EDs (4,705); while the remaining eight per cent cannot be identified in the current data collections (12,099). See Figure 1 and Table 4.^{31 32}

Previous estimates suggested that the proportion of deaths occurring in the home setting was approximately 14 per cent. However, this was calculated as the residual deaths after accounting for deaths in the hospital and aged care settings.³³ The PC Inquiry into Human Services notes that this overstates the true rate as it omits those who died in EDs.³⁴ Accounting for this, KPMG estimates that the proportion of deaths at home range between four (home care only) and 12 per cent (home care plus 'other') of all deaths in Australia for 2017.

Estimates suggest that this rate contrasts starkly with patients' preferences, with 70 per cent of Australians wishing to die at home.³⁵ Studies also show that preferences for location of care can change across time, particularly as pain becomes more acute. In the last week of life preferences for home care fell from 90 to 52 per cent of patients, most often due to the factors related to symptom management and control.³⁶ This indicates that while patients wish to die at home, they do not feel comfortable doing so. This is a failure on behalf of the healthcare system.

Figure 1: Place of death by setting 2014-2017



Sources: KPMG Analysis of AIHW (2019)

Causes of death

Chronic and progressive illnesses are the leading contributor to death in Australians. Between 2015 and 2017, older individuals were most often subject to lung cancer, coronary heart disease (CHD), dementia, COPD, cerebrovascular disease, colorectal cancer, heart failure, in addition to influenza

and pneumonia.³⁷ As Figure 2 shows, these diseases impact a range of people across the age profile. From 2015 to 2017, the prevalence of those with dementia or CHD was much greater in those aged over 85 compared to 65-74 year olds – who were more likely to die due to lung cancer or COPD.

Figure 2: Leading causes of death in Australians aged over 65 (2015-2017)

Age	1	2	3	4	5
65-74	Lung cancer 7,885	CHD 7,704	COPD 4,614	Colorectal cancer 3,525	Cerebrovascular disease 3,106
75-84	CHD 13,864	Dementia 9,588	Cerebrovascular disease 8,370	Lung cancer 7,531	COPD 7,381
85-94	CHD 23,165	Dementia 22,054	Cerebrovascular disease 14,444	COPD 7,062	Heart failure and other 5,262
95+	Dementia 5,656	CHD 5,654	Cerebrovascular disease 3,358	Influenza and pneumonia 1,774	Heart failure and other 1,640

Sources: KPMG analysis (2019); AIHW (2019)

The cost of dying in Australia

While less than one per cent of the Australian population dies in a given year, the economic cost of death is significant. Previous studies have estimated that the cost of death to Government is AU\$5 billion per year.³⁸

KPMG analysis suggests that this has since grown to AU\$7.8 billion in 2016-17, 94 per cent of which stemmed from deaths in hospital and aged care settings (48 and 46 per cent, respectively), while just two per cent of costs were attributable to deaths at home (see Table 4). As in previous analyses, the cost of dying in hospital exceeds that of both residential aged care and home care settings.

Table 4: The cost of death in Australia by setting (2016-2017)

Setting	Deaths	%	Unit cost	AU\$ million	%
Acute inpatient	55,502	35%	\$66,868	\$3,711	48%
Subacute	23,023	14%	\$14,601	\$336	4%
Residential aged care	57,769	36%	\$62,124	\$3,589	46%
Home	6,813	4%	\$22,821	\$155	2%
Emergency departments	4,705	3%	\$969	\$4	0%
Other	12,099	8%	-	-	-
Total	159,911	100%		\$7,796	100%

Source: KPMG analysis (2019)

The cost of bereavement in Australia

The cost of bereavement in Australia has not been rigorously quantified. Research is scarce, and highlights the general lack of information and data about the effects of bereavement.³⁹ Nonetheless, the following literature and evidence identify a range of costs associated with bereavement:

- A systematic review⁴⁰ of the health outcomes of bereavement found that people who have been bereaved are more likely to have health problems and higher rates of medication use and hospitalisation than the non-bereaved;
- A randomised controlled trial (RCT) study⁴¹ applied cost-utility analysis to a community bereavement intervention by adding regular specialist and counselling services. The examined costs included direct medical costs and non-medical costs such as the ability to perform domestic tasks. The results indicated that the intervention group used fewer health care services than the control group;
- A recent study⁴² of bereavement in Scotland showed that the primary care cost of bereavement was estimated at around AU\$4.2 million.⁴³ The average individual health care cost of a bereaved person, including GP consultations, was estimated between AU\$95 and AU\$135;⁴⁴
- There is some evidence that productivity losses including increased absence from work (absenteeism) and reduced output while at work (presenteeism) can be significant for bereaved people;^{45 46}
- Individual counselling provided by a specialist bereavement counsellor in Australia may cost between AU\$160 and AU\$230 per session.⁴⁷ A Government carer allowance payment is also available where a bereaved person or carer can receive a lump sum payment of up to AU\$6,509 for up to 14 weeks after a person's death.⁴⁸

Need and provision of palliative care service

Need for palliative care services in Australia

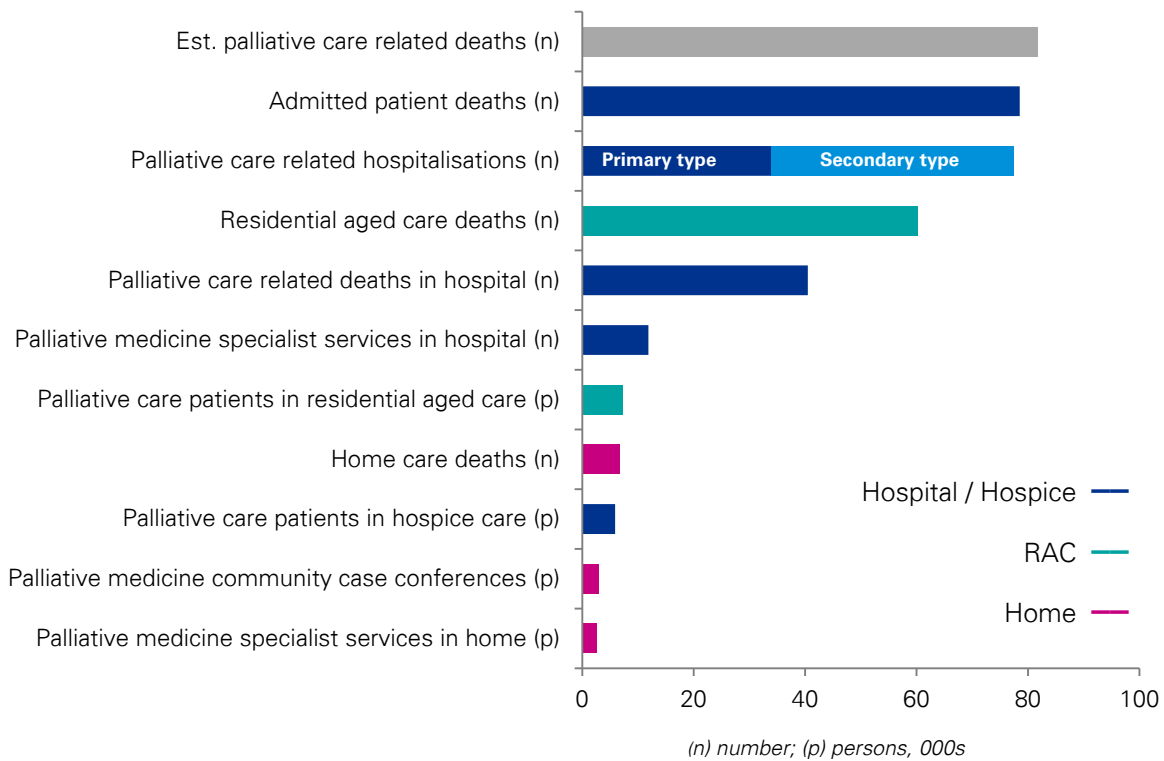
Several studies⁴⁹ have attempted to quantify the need for palliative care. Estimates range from 50 to 90 per cent of total deaths, based on low medium and high assumptions. More recently, Sleeman et al.⁵⁰ conducted a study into serious health related suffering in the top 20 conditions (ICD-10) associated with palliative care. Using this as a proxy for palliative care need, the authors suggested that around 51 per cent of deaths required palliative care in 2016 for high income countries (including Australia). Adopting this value in today's context suggests that there are 82,000 deaths in Australia which would benefit directly from palliative care each year.

Provision of palliative care services in Australia

Palliative care services in Australia are considered among the best in the world.⁵¹ Nonetheless, comparing the need for palliative care services with provision of services highlights some stark gaps, particularly in non-hospital settings such as RACFs, the community and the home. Key statistics for 2017, highlighted in Figure 3, include:

- There were approximately 77,000 palliative care related hospitalisations (primary care diagnosis – 44,484; secondary care diagnosis – 33,885);
- 40,490 deaths were recorded in subacute care – equivalent to half of the 'estimated' need for palliative care (82,000).
- The number of individuals receiving MBS subsidised specialist palliative medicine services was 14,930 – 12,000 of which occurred in hospital or surgery; and 2,600 by home visit;
- Nearly 6,000 individuals were admitted to hospice care units in private acute and psychiatric hospitals – staying for an average of 11.7 days.

Figure 3: Utilisation of palliative care services in Australia for 2017



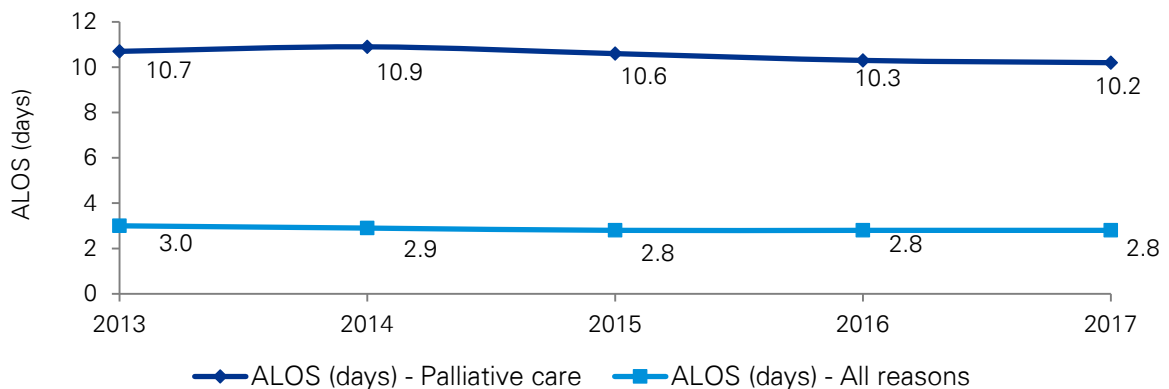
Source: KPMG analysis of AIHW (2019)

Palliative care in hospitals

The number of palliative care related hospitalisations in 2017 was 77,369 or 0.7 per cent of all hospitalisations. By age group, 75 per cent of palliative care hospitalisations are for people aged 65 years and older, and this has remained steady over time. By gender, the number is also stable with males higher than females at 54 per cent. The majority of palliative care related hospitalisations were in

public hospitals (85 per cent) and in major cities (68 per cent). Cancer is the principal diagnosis for close to 50 per cent of services. Palliative care patients were involved in at least one overnight stay with average length of stay (ALOS) of 10.5 days from 2013 to 2017. This is more than three times the ALOS of hospitalisation for all reasons (Figure 4).

Figure 4: Length of stay palliative care-related hospitalisation

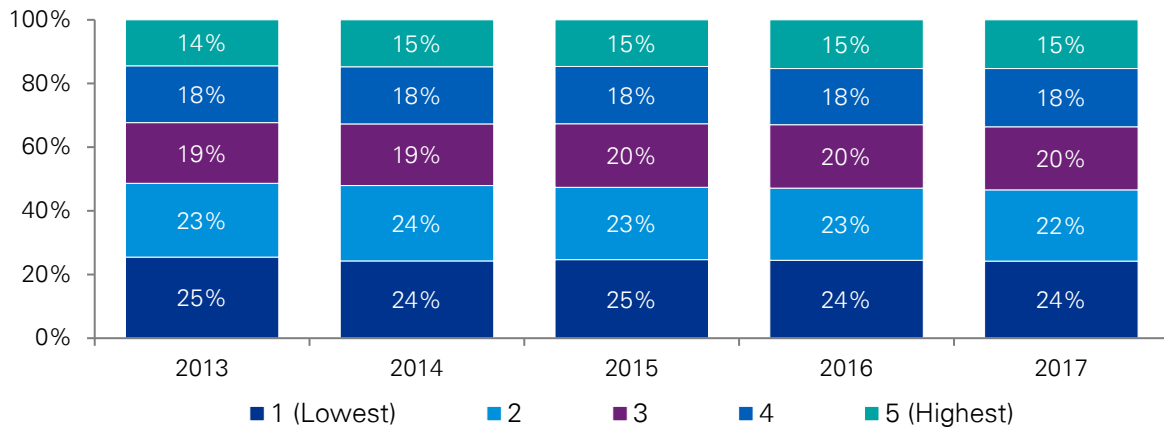


Source: AIHW (2019)

Data stratified by the socio-economic indexes for areas (SEIFA) shows that close to half of palliative care related hospitalisations come from low socio-economic areas. About a

quarter of palliative care patients come from the lowest SEIFA quintile, compared with 16 per cent of patients for all hospitalisations (Figure 5).

Figure 5: Palliative care related hospitalisations by socio-economic status 2013-2017



Sources: AIHW (2019)

Palliative care in residential aged care

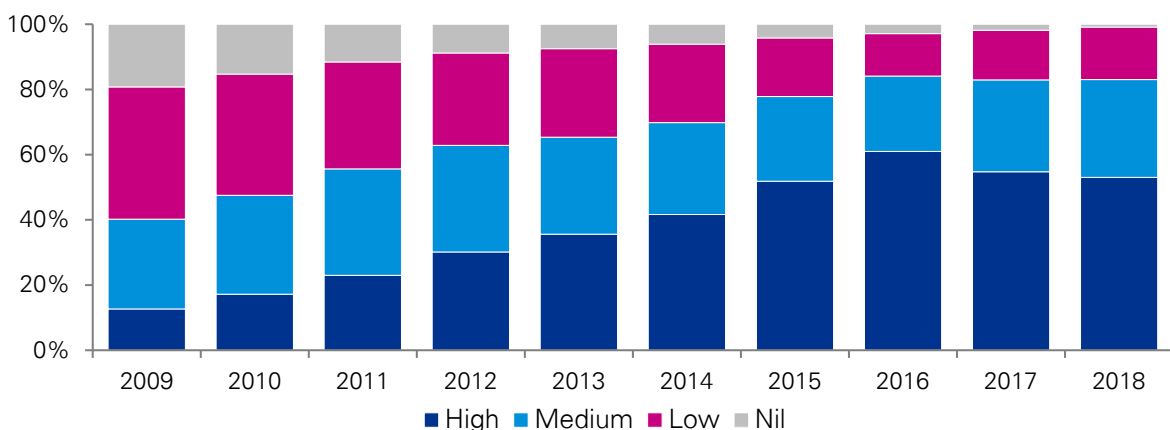
The number of permanent residential aged care admissions and residents related to palliative care has been on the decline. Between 2013 and 2018, permanent admissions dropped from 5,488 (eight per cent of total admissions) to 3,024 (four per cent) and residents decreased from 12,107 (five per cent of total residents) to 4,793 (two per cent). The AIHW analysis of the ACFI asserted that changes in aged care funding arrangements

may have affected these numbers where only one in 50 of residents received ACFI funded palliative care services.⁵²

The volume of people with complex care needs in residential aged care, and with highly complex needs in particular, has grown rapidly in the last ten years. As seen in Figure 6, 10 per cent of residents in aged care during 2008-09 had highly complex needs; today (2017-18) this rate has surged to 53 per cent.⁵³

Combined, these data highlight that the provision of palliative care has been declining while complexity of need has been growing.

Figure 6: Complexity of care need in permanent aged care residents at first assessment (2009 - 2018)



Source: GEN Aged Care Data 2018

Palliative care in primary care

Primary care palliative medicine services funded under the MBS covered 16,159 individuals for 2017-18, or around 10 per cent of deaths for that year, and 20 per cent of deaths estimated to benefit from palliative care. These individuals received a total of 87,805 services, on average approximately five per individual.

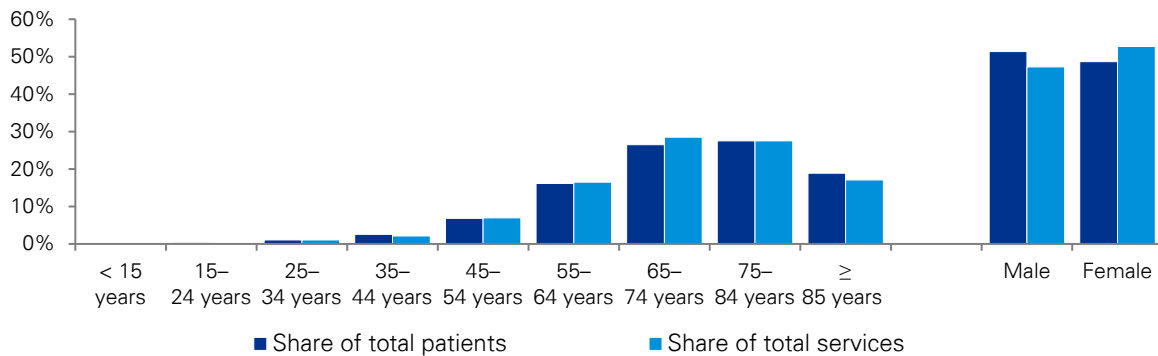
MBS-funded palliative care is evenly split across gender, and provided predominantly but not exclusively to the older population, with 73 per cent of individuals and services provided to those aged 65 or above.

Since 2013-14, MBS-funded palliative care activity per 100,000 population has grown by 4.3 per cent per annum. Encouragingly, home

attendances (10.8 per cent) and case conferences (15.0 per cent) have grown faster than hospital or surgery attendances (1.4 per cent), albeit of a much lower base.

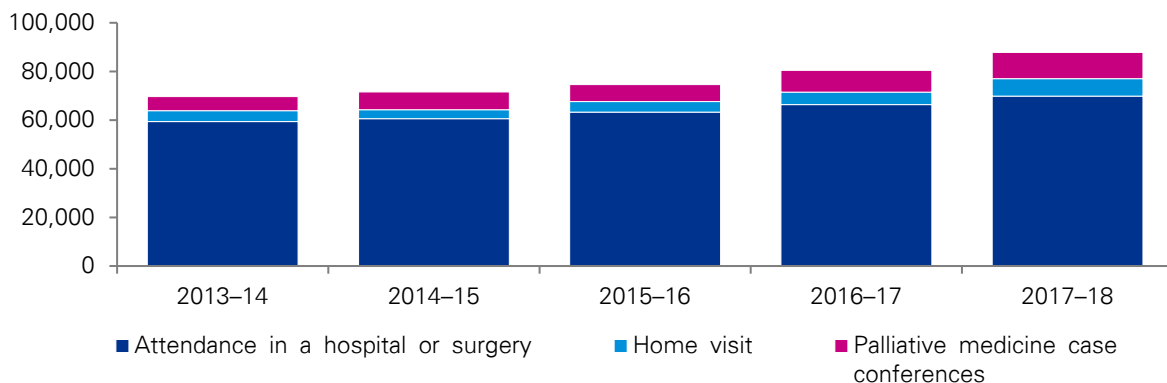
Total expenditure on MBS-funded palliative care services totalled AU\$6.8 million in 2017-18, with the average costs of AU\$69.25, AU\$112.28 and AU\$107.44 for a hospital or surgery attendance, a home visit and a case conference, respectively (KPMG analysis of AIHW Palliative care services in Australia: Medicare-subsidised palliative medicine services. 2017-18. Tables MBS.7-9). The Aged Care Access Incentive provides \$1,500/\$3,500 to GPs who provide at least 60 out-of 140 eligible MBS services within aged residential care facilities each year.

Figure 7: Distribution of MBS-funded Palliative Care



Sources: AIHW Palliative care services in Australia: Medicare-subsidised palliative medicine services. 2017-18. Table MBS.2.

Figure 8: Growth in MBS-funded palliative care activity



Sources: AIHW Palliative care services in Australia: Medicare-subsidised palliative medicine services. 2017-18. Table MBS.7.

Non-admitted palliative care

In the last five years non-admitted palliative care services have doubled to 794,000 (2017-18). This accounted for only two per cent of all non-admitted service events in 2017-18 (39 million). When provided, 83 per cent of palliative care events received allied health and/or clinical nurse specialist interventions, while the remaining were described as medical consultations provided by palliative medicine specialists, medical oncologists, or medical practitioners providing palliative care (as per Tier 2 classification 20.13 and 40.35). See Figure 9.

These events include care delivered to ED patients, outpatients or those treated by hospital employees off the hospital site (excluding non-clinical care services). Part of this care is facilitated through State and Territory Government's funding of community based palliative care. Some examples of this funding include:

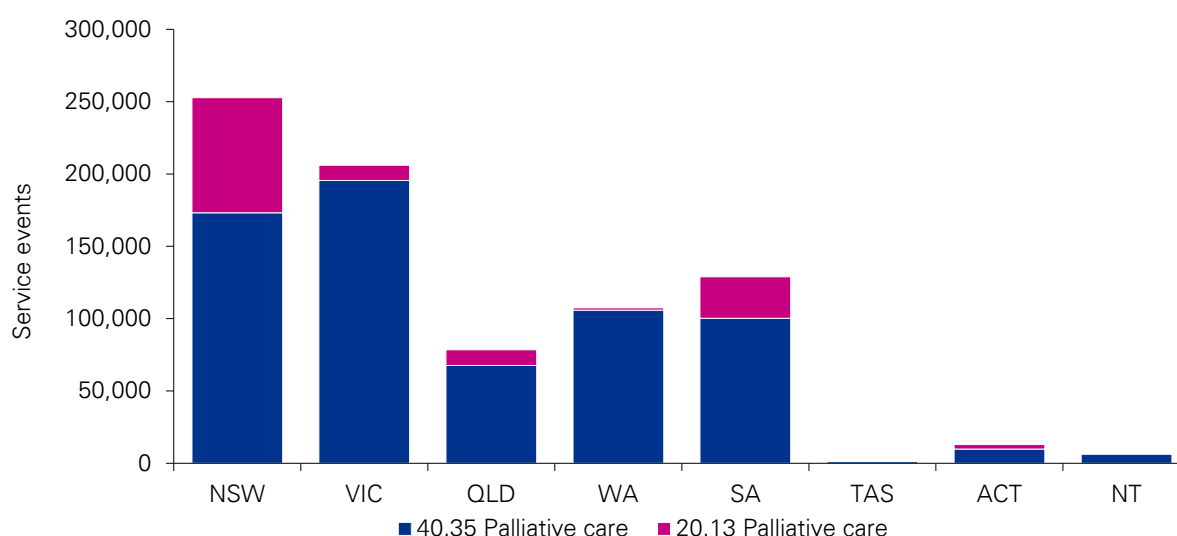
- \$58.7 million in block funding allocated to support patients and families in their usual place of residence in Victoria in 2017-18;⁵⁴
- Western Australia's 2019-20 State budget announced an additional \$41 million

investment in enhanced community-based palliative care across the region;⁵⁵

- \$17 million of funding over two years announced in the Queensland Health Budget to support community based palliative care services;⁵⁶
- \$100 million in funding for palliative care funding in NSW in 2017-18 to increase the number of community health workers and 'round-the-clock' services, and support the integration of services in line with community expectations and need;⁵⁷
- \$16 million over four years was announced in the 2018-19 State budget to extend palliative care community outreach services operating hours to 24/7.⁵⁸

Importantly however, visibility of the activity which results from this funding is limited. The current data does not support the disaggregation from total non-admitted palliative care service events to those that are community-based (e.g., in day centres, community facility, GP clinics, residential aged care, private residence and other hospital). So while the data reported captures the activity, it is difficult to determine exactly 'how much'.

Figure 9: Non-admitted palliative care service events by State and Territory 2017-2018



Source: AIHW (2019)

Note: Tier 2 classifications categorise the nature of delivered non-admitted services. Classifications 20.13 and 40.35 refer to non-admitted palliative care services categorised as medical consultation and allied health/clinical nurse specialist interventions, respectively.

The palliative care workforce

Palliative medicine specialists

The number of employed palliative medicine specialists in 2017 was 249, up from 171 in 2013. Relative to population, the number of employed FTE palliative medicine specialists has grown by 5.9 per cent per annum. Relative to total medical practitioners, palliative medicine specialists have grown at 7.8 per cent per annum, and now make up 0.25 per cent of total medical practitioners.⁵⁹

The age demographic of palliative medicine specialists has improved over the last 5 years, with 32 per cent aged over 55 in 2018, versus 39 per cent in 2013. The replacement rate of palliative care workers is also considered strong.⁶⁰ In 2017, 11 university graduates specialised in palliative care. In 2018, 40

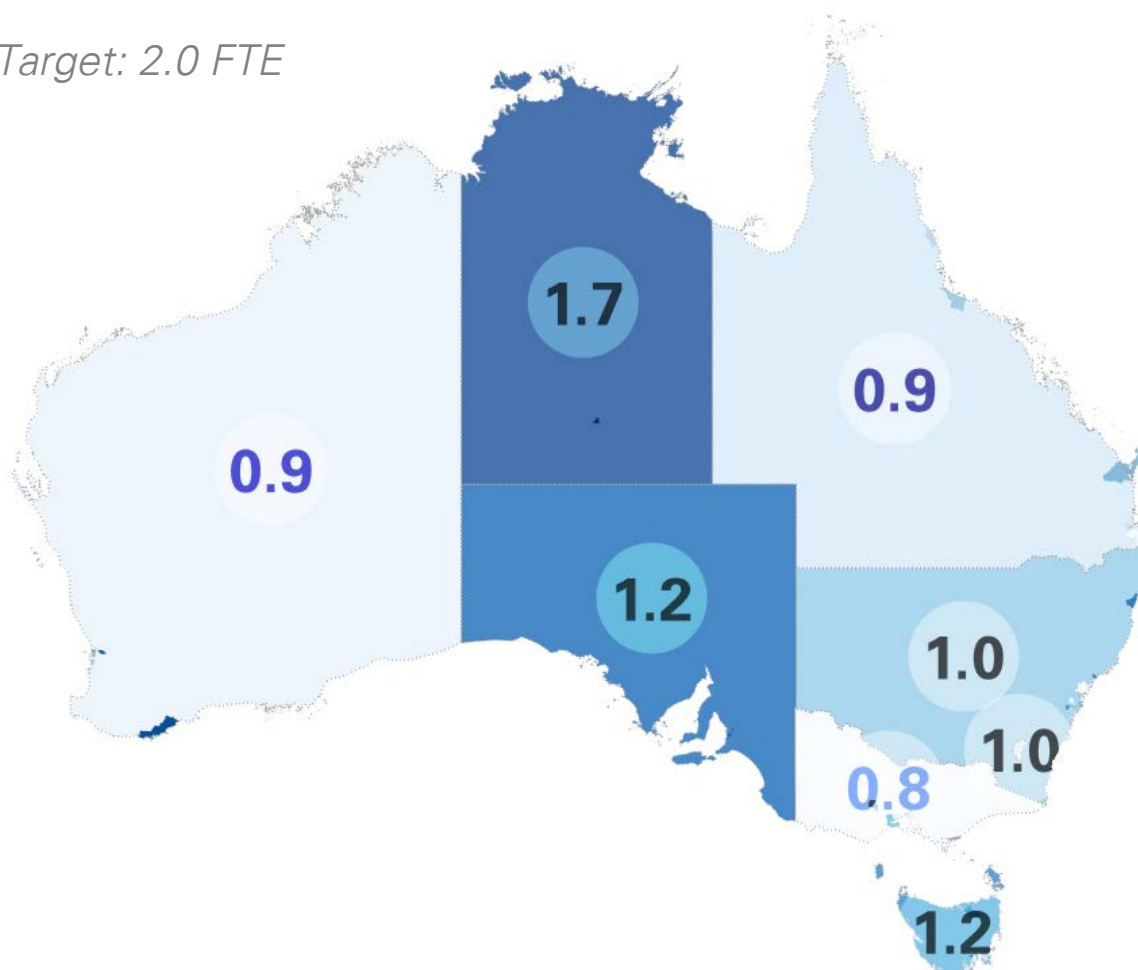
advanced trainees specialised in palliative care, allowing them to practice in the field.⁶¹

The majority of palliative medicine specialists are employed in hospitals (74 per cent), community health care services (eight per cent) and outpatient services (six per cent). Nearly 60 per cent of palliative medicine specialist were located in New South Wales and Victoria.⁶²

Importantly however, the current level of palliative care workforce is still below the minimum benchmark set by PCA in 2018 of two full-time equivalent palliative medicine specialists per 100,000 population.⁶³ This deficit is present across all Australian States and Territories. See Figure 10.

Figure 10: FTE employed palliative medicine specialists per 100,000 population (2017)

Target: 2.0 FTE



Source: KPMG analysis of the National Health Workforce Data Set (2017)

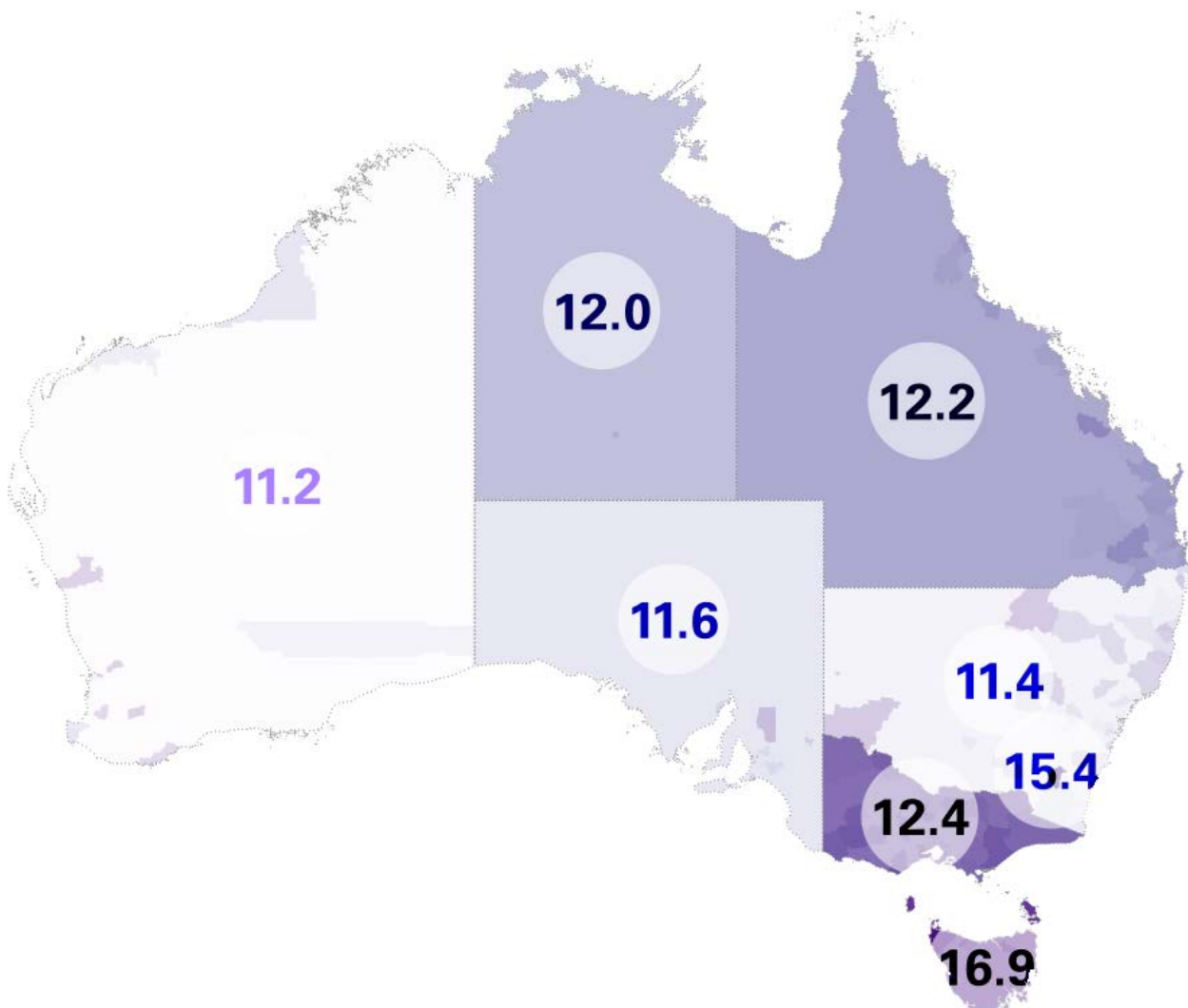
Nurses in palliative care

The number of employed nurses with a palliative care job area in 2017 was 3,430, up slightly from 3,203 in 2013. Relative to population, this number has remained constant. Relative to total nurses, nurses with a palliative care job area have declined slightly to just over one per cent of all nurses, as total nurse growth over the last five years (2.3 per cent per annum) has outstripped growth in those working in palliative care (1.2 per cent).⁶⁴

The age demographic of nurses working in palliative care has a moderate level of ageing, with 33 per cent of nurses aged over 55 in 2017, versus 30 per cent in 2013. The majority of these nurses are employed in hospitals (53 per cent), community health care services (24 per cent) and hospices (14 per cent).⁶⁵

In 2017, there were 12 FTE employed nurses with a palliative care job area across Australia per 100,000 population, based primarily in major cities and inner regional areas.⁶⁶ See Figure 11.

Figure 11: FTE employed nurses with a palliative care job area per 100,000 population (2017)



Source: KPMG analysis of the National Health Workforce Data Set (2017)

Note: The reported data is based on the nurse labour force survey. In this case the data illustrates the number of nurses working in a specific job area (i.e. palliative care) at a point in time: 1) this does not perfectly capture 'palliative care nurses' (certified palliative care nurses); 2) the data may be understated, as some nurses that have a primary responsibility for palliative care are not recognised (i.e. aged care and community settings).

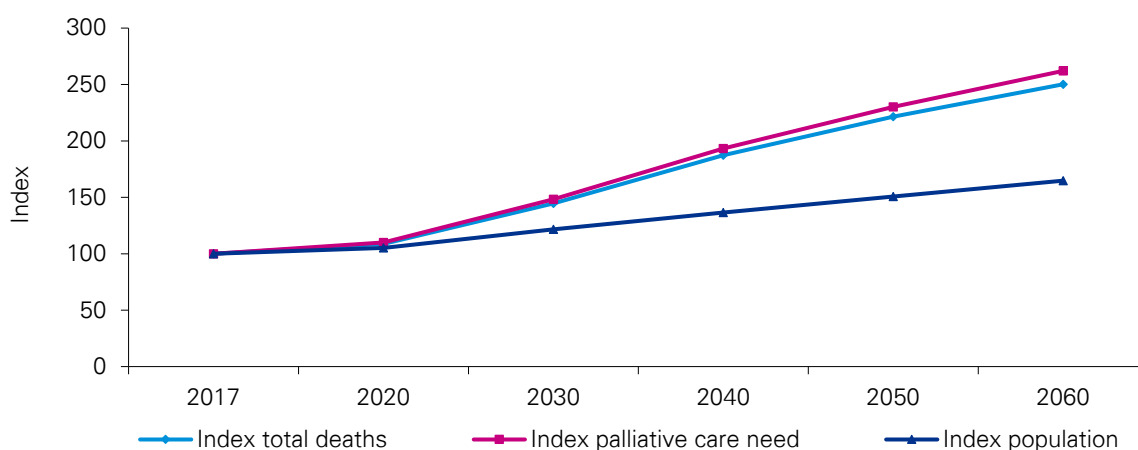
The increasing need for palliative care

In 2017, 15 per cent of all Australians were aged 65 years and over. Of the 160,000 deaths in 2017, 82 per cent were aged in this cohort.⁶⁷ With expectations that 8.2 million individuals aged 65 and over will be added to the population by 2060 (approximately 20 per cent of the estimated population in that period), death will become increasingly prevalent in Australian society.⁶⁸

Following the method from Sleeman et al.⁶⁹, combined with WHO mortality projections, KPMG estimate that between now (2019) and 2060:

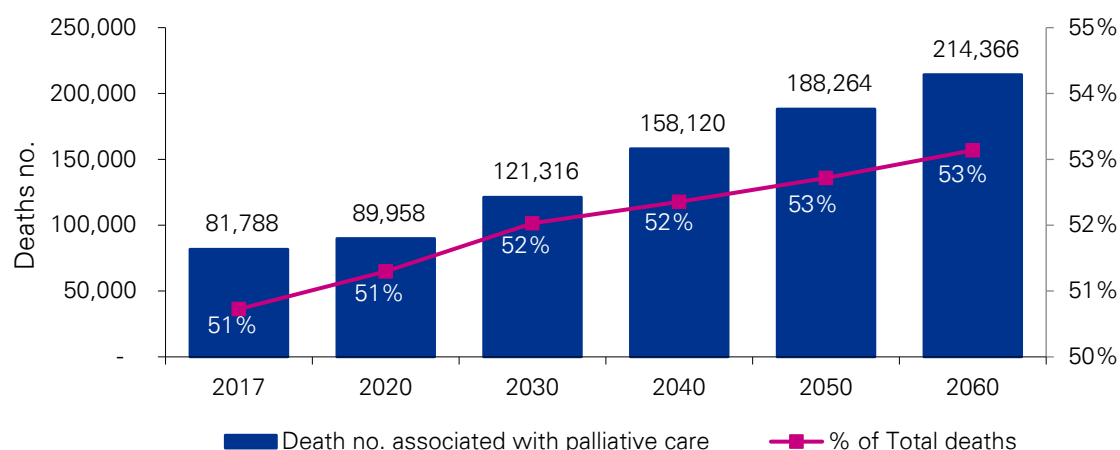
- The population will increase by 60 per cent to 40.5 million individuals;
- Total deaths will surge by 135 per cent to 400,000, of which 214,000 will require palliative care services.
- Need for palliative care will grow faster than both the population and total deaths.

Figure 12: Growth in the estimated population, total deaths, and palliative care need (2017-2060)



Sources: KPMG analysis (2019); ABS cat. no. 3303 (2018)

Figure 13: Estimates of need for palliative care in Australia 2017-2060



Source: KPMG analysis (2019); Sleeman et al. (2019)

The economic case for increased investment in palliative care in Australia



The economic case for increased investment in palliative care in Australia

There are strong economic arguments for increased investment in palliative care. A scan of the research into palliative care services and medicines highlights a range of key benefits that palliative care can provide. These include:

- **Reduced health service utilisation**

Palliative care services provided by multidisciplinary specialists can result in less hospitalisations.⁷⁰ Studies reviewing the impact of coordinated care for symptom management and improved pain control can lead to fewer ED visits and ICU admissions.^{71 72} An experimental study in Australia of palliative care involving active SPC, which includes support from nurses in clinical decision-making and timely access to medicine, highlighted reduced length of hospital stays for residents in aged care.^{73 74 75}

- **Improved coordination of the healthcare system**

A systematic review of RCTs demonstrated that palliative care integrated with oncology services can provide better allocative efficiency of health care resources.⁷⁶ This can also extend to medications: a study of palliative care interventions administered by pharmacists within a multidisciplinary team suggested improved medication prescribing that might reduce direct medical costs.⁷⁷

- **Improved wellbeing and productivity for carers**

Psychological and educational support from palliative care specialists can deliver positive outcomes for carers.⁷⁸ In one example, family and informal carers of individuals with incurable cancers that received regular visits by a trained nurse showed a reduction in emotional

distress.⁷⁹ In another example, palliative nurses that provided health promotion and assisted carers were associated with lower caregiving hours which can reduce productivity losses of carers.⁸⁰

- **Lower bereavement costs**

Inclusive palliative care can provide better coping mechanisms for carers during their bereavement.⁸¹ A review of the literature indicated that bereaved people are likely to have health problems.⁸² Providing emotional support for carers during the end-of-life suggested lower costs of bereavement in health care providers.⁸³

The following section highlights a number of examples of palliative care that provide not only positive social and health outcomes, but also deliver wider economic benefits:

- Integrated home-based palliative care;
- Advance care planning;
- Palliative care Nurse Practitioners in residential aged care;
- Integrated palliative care teams in hospitals.

In health economics, these interventions are called 'dominant' interventions because they dominate the status quo models of care on both cost and outcome measures. Health interventions are often able to provide improved patient outcomes, but doing so while also reducing costs is much rarer. When health interventions can do both, they provide a clear economic rationale for investment.

These analyses are then used to inform the recommendations in the next chapter.

Integrated home-based palliative care

What is integrated home-based palliative care?

Integrated home-based palliative care services (hereafter 'IHPC') support individuals, families and caregivers outside institutional settings of care. The aim of this care is to afford individuals the greatest chance to live well at home and achieve their preferred place of death.⁸⁴ To do this, IHPC recipients are surrounded by a multidisciplinary team of personnel who are led and proactively coordinated by a GP. These personnel (e.g. nurses, allied health professionals, volunteers and other community workers) provide a range of services as the individuals' needs change. In the event that needs are complex, SPC services can also be enlisted to support the team and manage the patients' symptoms.⁸⁵

Examples of this care include but are not limited to:

- Symptom management and assessment;
- Case conferencing, care management planning and coordination;
- Access to after-hours care;
- Knowledge and skill sharing for all those involved in patients' care;
- Spiritual and psychosocial support for patients, carers and families;^{86 87}
- Personal care, food and transport services.

Who is this intervention targeted towards?

IHPC services are for individuals with life-limiting disease whose preference for place of care is in the home.⁸⁸ While these services are vital and utilised across all regions of Australia, IHPC services can be particularly valuable to those in rural and remote areas – or where alternative providers or services are limited.⁸⁹

What are the benefits of integrated home-based palliative care and how strong is the evidence base?

The Cochrane Collaboration published a systematic review of 23 studies on the effectiveness of home palliative care services for adults with advanced illness and their caregivers.⁹⁰ 16 of these studies were RCTs, of which six were deemed high quality. Since their review, a number of studies have been reported in Australia, both in Western Australia (SilverChain) and New South Wales (PEACH pilot).^{91 92 93}

A synthesis of the local and international literature provides strong evidence that these services are twice as likely to fulfil individuals' wishes to die at home and can do so without impacting their symptom burden or caregivers' grief.^{94 95} Studies reporting on the subsequent impact of this on resource usage have found that timely integrated home care can:

- **Reduce presentations to the ED:** individuals receiving IHPC services visited the ED by between two and 13 per cent less in the last year of life.^{96 97}
- **Lead to less time spent in hospital:** studies of IHPC recipients have reported fewer average total bed days of between 4.5 and 7.5 in the last year of life;⁹⁸ rates of hospitalisation were also seen to fall by between one and 66 per cent.⁹⁹

What are the costs of integrated home-based palliative care in the Australian setting?

Past inquiries have had much to say about the cost of implementing integrated home care services.^{100 101 102} The PC's assessment of 12 not-for-profit providers of these services suggests that this cost is between AU\$6,000 and AU\$10,000 per person – or AU\$8,000 on average (Australian Dollars, price year not reported). The Grattan Institute's 'Dying well' reported the cost of community care at \$6,000 per person (Australian Dollars 2013/14) – adjusting for a three-month length of stay. In

the Senate Community Affairs References Committee’s (SCARC) 2012 inquiry, Eastern Palliative Care Association Inc. highlighted that the per person cost in the community was much lower than in the sub-acute setting (\$7,700) at \$2,567 (Australian Dollars 2009). A trial of specialist home-based care intervention yielded similar results, reporting a costs ranging from \$2,170 to \$4,943, and a mean of \$3,489 per person (Australian Dollars 2010).¹⁰³

Overall, the Australian evidence suggest that IHPC can be delivered from as low as \$2,000 to as high as \$10,000 per person. In current prices (2019), KPMG estimate that implementation of IHPC is likely to cost between \$3,913 and \$8,516, with an average of \$6,508, per person.

What is the potential return on investment for integrated home-based palliative care in Australia?

Based on the resource savings calculated above, in the last year of life IHPC is expected to save between \$4,544 and \$6,109 (2019 Australian Dollars) per person from reduced ED and hospitalisation costs. Compared with the implementation cost associated with these interventions, **KPMG estimates that a \$1.00 investment in IHPC can return between \$0.53 and \$1.56 – or cost neutral on average (2019 Australian Dollars).** See Table 5.

Table 5: ROI per person for IHPC (2019 Australian Dollars)

Scenario	Low case	Medium case	High case
Cost of implementation	\$8,516	\$6,508	\$3,913
Average health savings	\$4,544	\$6,032	\$6,109
Bereavement savings	-	-	-
Employment savings	-	-	-
ROI	\$0.53	\$0.93	\$1.56

Source: KPMG analysis 2019

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Advance care planning

What is advance care planning?

Advance care planning allows patients to express how they would like to receive care in the event they are unable to communicate this themselves. Advance care planning includes the development of an advance care plan (ACP), which is a living document of the individuals' personal values and care preferences. Some ACPs also appoint a substitute decision maker (i.e. a family member) who will be responsible for guiding care decisions. ACPs can help to inform the clinical decision-making process most effectively where the document is well-maintained and is legally binding (i.e. an advance care directive).¹⁰⁴

Overall, ACPs can facilitate:¹⁰⁵

- Discussions related to prognosis and treatment with the inclusion of family, friends, and health practitioners who understand the individual;
- The appointment of a substitute decision maker;
- The concordance between care received and patients' goals of treatment.

Who is this intervention targeted towards?

While these interventions are particularly relevant for older aged individuals with life-limiting disease, ACPs are an important document for anyone who wishes to articulate their preferences for treatment and care. This can include people:¹⁰⁶

- who are aged or frail;
- of any age with chronic progressive and life-limiting conditions;
- approaching the end-of-life;
- with multiple comorbidities and/or at risk of conditions such as stroke or heart failure;
- with early cognitive impairment; and
- who are isolated or vulnerable.

What are the benefits of advance care plans and how strong is the evidence base?

Nine systematic reviews and meta-analyses have assessed the efficacy of ACPs. Across low, moderate and high grade analyses, there is a general consensus that ACPs positively impact the concordance between individual preferences and care, quality of life, and family and carer burden.

The evidence also suggests that compared to a control group ACPs can generate savings from reduced:

- **Hospitalisations and length of stay** – ACPs can reduce rates of hospitalisations from nine to 26 per cent;¹⁰⁷ and length of stay between 0.35 to 3.5 days in the last year of life.¹⁰⁸
- **ICU admissions and usage** – For individuals at high risk of death, ACPs can generate a mean reduction of 37 per cent in the probability of ICU admission.¹⁰⁹ More broadly, ACPs have the capability to reduce the overall use of the ICU by nine per cent in the last six months of life.¹¹⁰
- **Emergency calls to ambulance** – Improved understanding of treatment goals can also reduce unnecessary calls to emergency services and subsequent admission to the ED in nursing home residents by around 20 per cent.¹¹¹

What are the costs of advance care plans in the Australian setting?

Two studies have evaluated the cost of ACPs in the Australian context.^{112 113} While different in methodology, estimates were consistent, ranging from \$250 per person for small packages; up to \$1,000 for large packages (2015 Australian Dollars). The average per person cost of an ACP ranged between \$516 and \$820 depending on the authors' assumptions.

After inflating these estimates by the ABS Health CPI and the June 2019 MBS item

schedule (where applicable), KPMG estimate that the cost of implementing an ACP is likely to range from \$596 (low), \$684 (medium), and \$833 (high) per person in 2019 Australian Dollars.

What is the potential return on investment for advance care planning in Australia?

Using the resource savings informed from the literature, investment in ACPs is estimated to save between \$395 and \$1,783 per person in health costs during the last year of life from reduced hospitalisations costs; ICU costs (captured in reduced hospitalisations); and ED costs. Combining the implementation cost associated with delivering these benefits, **KPMG estimates that a \$1.00 investment in ACPs can return an average between \$0.47 and \$2.99 (2019 Australian Dollars).** See Table 6.

Table 6: ROI per person for advance care planning (2019 Australian Dollars)

Scenario	Low case	Medium case	High case
Cost of implementation	\$833	\$683	\$596
Average health savings	\$395	\$1,096	\$1,783
Bereavement savings	-	-	-
Employment savings	-	-	-
ROI	\$0.47	\$1.60	\$2.99

Source: KPMG analysis (2019)

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Specialist palliative care in residential aged care

What is specialist palliative care in residential aged care?

Palliative care services in residential aged care provide support to residents to better manage their health and disease trajectory, and help for carers and the residential aged care workforce to improve their palliative care literacy. A particularly effective model appears to be SPC that includes both:

- Direct support in the form of clinical support for residents;
- Indirect support such as a 'needs round' that bring together staff, palliative care nurses and other health professionals to provide improved symptom management, advance care planning, and medication management.¹¹⁴

Who is this intervention targeted towards?

This model of care focuses primarily on those with complex care needs in a residential aged care facility.

What are the benefits of specialist palliative care in residential aged care and how strong is the evidence base?

A recent stepped wedge Australian trial across 12 residential aged care sites (the INSPIRED trial) found that SPC services and needs rounds in residential aged care can:

- **Reduce presentations to hospital** – hospitalisation admissions reduced from 5.6 to 4.3 per facility per month (observed);
- **Lead to less time spent in hospital** – total bed days reduced from 39 to 27 per facility per month (observed).¹¹⁵

It is important to note that these benefits are not necessarily exclusive to the INSPIRED model of care. Alternative models may be more appropriate to deliver these clinical competencies depending on remoteness, workforce capability and other demographics characteristics which impact the nature of care. As in the case of the INSPIRED model, these approaches must also be evaluated from an economic perspective.

What are the costs of providing specialist palliative care in residential aged care?

The Australian trial used two Nurse Practitioners across the 12 sites, at a total cost of \$381,716 per annum, covering both salaries and on-costs.¹¹⁶ In addition, KPMG estimate that the increased utilisation of wider health services (for example, GP visits at needs rounds, and case-conferencing) adds costs of approximately \$250 per person discussed at a needs round, based on the lower end of the costs of ACP discussed previously. The lower end of the ACP is used as it is assumed that the Nurse Practitioner roles cover part of the increased service demand. This adds an extra \$180,000 per annum in associated health service costs, for an estimated total cost of \$561,716.

What is the potential return on investment for specialist palliative care in residential aged care in Australia?

Based on the estimated resource savings of \$1,286 per hospital bed day, ¹¹⁷ and transport costs of \$983 per hospital admission, ¹¹⁸ this intervention is expected to save:

- \$941,920 (adjusted) to \$2,140,727 (observed) in hospitalisation costs per annum;

- \$80,885 (adjusted) to \$183,830 (observed) in reduced emergency transport costs per annum.
- In the low case, transportation savings have been excluded to represent regions where these benefits may not accrue.

KPMG estimates that a **\$1.00 investment in palliative care nurses in residential aged care can return between \$1.68 and \$4.14** (2019 Australian Dollars).

Table 7: ROI per annum for palliative care Nurse Practitioners in 12 RACFs (2019 Australian Dollars)

	Low case	Medium case	High case
Cost of implementation	\$561,716	\$561,716	\$561,716
Health savings:			
Reduced bed days	\$941,920	\$941,920	\$2,140,727
Reduced ICU admissions	-	-	-
Reduced ED transport costs	-	\$80,885	\$183,830
Other savings:			
Bereavement savings	-	-	-
Employment savings	-	-	-
Total savings	\$941,920	\$1,022,805	\$2,324,557
Net savings	\$380,204	\$461,089	\$1,762,841
ROI	1.68	1.82	4.14

Source: KPMG analysis (2019)

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Palliative care in hospitals

What palliative care services are provided in hospitals?

Palliative care services in hospital can provide an increased level of targeted support to individuals, and carers of individuals, with complex health needs.

In the hospital setting, palliative care can be provided both in SPC beds, as well as in other beds for individuals receiving treatment or other types of care in acute or sub-acute beds. Both types of palliative care are associated with reduced costs and health service utilisation compared to hospitalisations without palliative care.^{119 120}

Importantly, palliative care in the hospital need not be confined to the last hours of life. The benefits of palliative care in hospital increase the earlier the palliative care is introduced.¹²¹

Who is this intervention targeted towards?

This model of care is targeted at individuals admitted to hospital with life-limited illnesses.

What are the benefits of palliative care in the hospital and how strong is the evidence base?

- A recent Australian study identified an incidence rate of non-beneficial end-of-life admissions of 12.1 per cent, with an average length of stay of 15 days for these admissions, with an associated cost of \$12.4 million.¹²²
- Another Australian retrospective cohort study of almost 20,000 DVA clients found the cost of death for those with access to palliative care services was on average \$5,364 cheaper (\$6,776 in 2019 dollars) than those without access to palliative care¹²³. While the study did match with and without palliative care access cohorts for disease, complexity or other factors

associated with costs of death, they featured similar proportions of cancer.

- International studies have also reported significant reductions in inpatient costs. A systematic review of 10 inpatient consultation programs reported statistically significant cost savings from hospital palliative care teams of between nine and 25 per cent.¹²⁴
- A recent meta-analysis found cost savings from hospital palliative care consultations of US 2015 \$3,237 (CI: \$2,893 to \$3,581)¹²⁵ or \$5,511 (\$4,925 to \$6,096) in current Australian Dollars, although we note that costs in the United States health system are appreciably higher than Australia.
- There is also evidence to suggest that the timing of palliative care in hospital has an impact on the cost savings it delivers. One study found cost savings increased by 71 per cent when palliative care was integrated within two days of admission instead of after six days from admission.¹²⁶ A randomised trial of early palliative care integrated with oncology care found improved patient and economic outcomes, although the small sample size meant many of the cost savings were not significant at the 10 per cent level.¹²⁷

What are the costs of providing palliative care in the hospital?

The literature above tends not to report specific palliative care interventions that deliver cost saving, but simply notes hospitalisation costs for those with and without access to palliative care. It is therefore difficult to directly cost the intervention.

The Independent Hospital Pricing Authority report sub-acute palliative care costs of \$410 million across 277 hospitals and 53,000 separations. The national average cost of a separation is \$7,697 for an ALOS of six days¹²⁸, however this varies dramatically across jurisdictions: in Victoria the cost is \$12,131 per separation; while in New South Wales, the cost is \$5,087.

Palliative care teams that provide services to individuals in other hospital beds may be cheaper. For example, one study reported integrating palliative care into oncology treatment added US\$1,250 in palliative care costs¹²⁹, or approximately \$3,000 in current Australian dollars.

Similarly, the literature is unclear as to how much of the costs of palliative care is captured within the reported overall cost savings. Correspondence with one study author suggests that the cost savings are 'net' of the direct costs of palliative care including staff costs spent with the patient, but the author noted there may be further indirect costs associated with setting up the services such

as land, capital and training that can add around 20 per cent to direct costs.¹³⁰

What is the potential return on investment for palliative care in hospitals in Australia?

Based on the cost savings identified in the literature, and low, mid and high cost assumptions based on the IHPA cost of sub-acute palliative care, KPMG estimates that a **\$1.00 investment in palliative care in hospital delivers a return of between \$1.36 and \$2.13** (2019 Australian Dollars).

Table 8: ROI per admission for palliative care services in hospitals (2019 Australian Dollars)

	Low case	Mid case	High case
Cost of implementation	\$12,131	\$7,697	\$5,087
Health savings	\$16,481	\$12,933	\$10,845
<i>Reduced bed days</i>	-	-	-
<i>Reduced ICU admissions</i>	-	-	-
<i>Reduced ED transport costs</i>	-	-	-
Other savings:			
<i>Bereavement savings</i>	-	-	-
<i>Employment savings</i>	-	-	-
Total savings	\$16,481	\$12,933	\$10,845
Net savings	\$4,350	\$5,236	\$5,758
ROI	1.36	1.68	2.13

Source: KPMG analysis (2019)

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Recommendations



Recommendations

This section outlines recommendations for reform, each with several specific sub recommendations and enablers. These recommendations were selected in accordance with the criteria highlighted in the methodology.

Table 9: Summary of recommendations for reform

Improve access to home and community-based palliative care services

Recommendation 1.1: Increase funding and timely access to home and community-based palliative care services

Recommendation 1.2: Develop a key performance indicator to monitor access to home and community-based palliative care

Expand palliative care services in residential aged care

Recommendation 2.1: Invest in SPC and integrated support across residential aged care.

Recommendation 2.2 Explicitly identify palliative care in the Aged Care Quality Standards

Increase investment in earlier and more integrated palliative care services in hospitals

Recommendation 3.1: Increase palliative care services in hospitals

Recommendation 3.2: Track the incidence of non-beneficial care in end-of-life hospital admissions, and systematically measure the impact of palliative care on hospitalisation costs

Deliver system-wide reform to unlock the potential of palliative care

Recommendation 4.1: Establish a permanent National Palliative Care Partnership Agreement with State and Territory Governments and appoint a National Palliative Care Commissioner

Recommendation 4.2: Reform funding models to facilitate integrated, patient centred care

Recommendation 4.3: Develop a palliative care minimum dataset

Recommendation 4.4: Expand the palliative care workforce and increase palliative care literacy across the wider health sector

Recommendation 4.5: Deliver community awareness and education programs

Source: KPMG (2019)

Recommendation 1

Improve access to home and community-based palliative care services

In the current system, palliative care needs are not always met with the appropriate access to services. Living well at home is commonly desired, yet of the \$6.8 million worth of palliative care services subsidised by the MBS in 2017-18, only 20 per cent of activity occurred outside the hospital. In the same period, just 2,595 individuals received a MBS-funded palliative care home visit, less than two per cent of the deaths in that period. See Figure 14.

Most Australians prefer to die at home, however only four to 12 per cent do (KPMG estimate). This is low compared to countries like the United Kingdom and New Zealand where between 23.5 and 30 per cent of deaths occur at home each year.^{131 132}

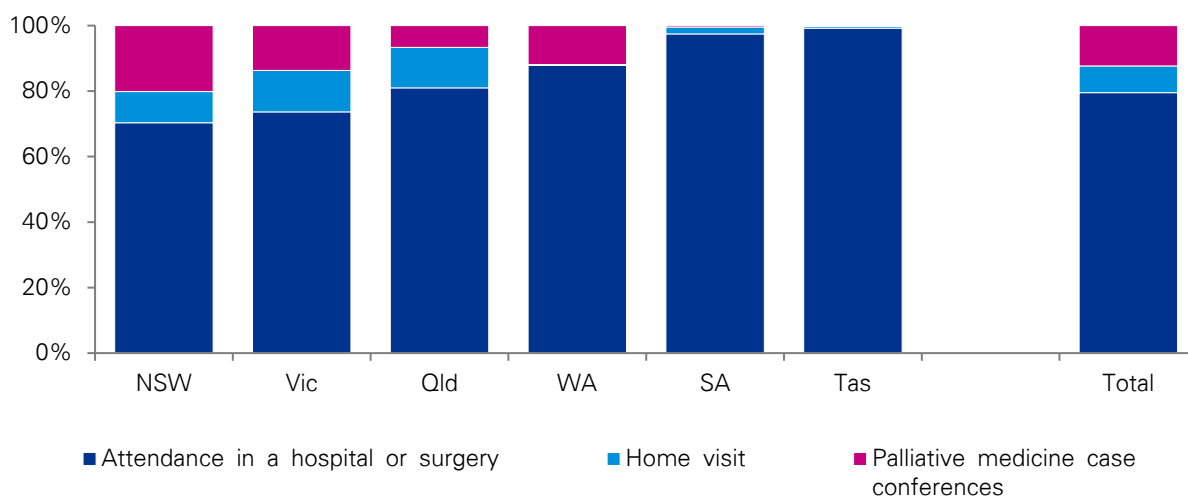
While the cost of death in Australia is almost AU\$8 billion per annum, State funding for community palliative care services are sporadic

and insufficient, totalling to approximately AU\$90 million across the country for 2019-20 (KPMG estimate from budget announcements).

Importantly, the PC has noted that many of those who could benefit from palliative care did not know of its existence or missed out as a result of no coordination between the primary carer and the provider.¹³³ The Victorian Auditor General also highlights that community palliative care services are struggling to meet the increasing demand.¹³⁴

The National Palliative Care Standards 2018 (5th Edition) recognises that much of patients' expectations and needs have changed in the past decade. Their revision to the Standards suggests that service delivery models of today must organise capabilities (general and specialist) to support a framework which provides timely, person-centred palliative care irrespective of the level or location of need.¹³⁵

Figure 14: MBS-funded palliative care services



Sources: AIHW Palliative care services in Australia: Medicare-subsidised palliative medicine services.

Recommendation 1.1 Increase funding and timely access to home and community-based palliative care services

The rationale for this recommendation

From a patient perspective, there is a large discrepancy between Australian's preference for place of care, and where people actually receive care. Improving access to timely and coordinated home and community-based palliative care services will allow thousands more Australians to live well at home during their last months of life, and achieve their preferred place of death at little cost to Government. ¹³⁶

The recommendation

We recommend an increase in funding of AU\$240 million per annum for integrated home and community-based services based on models of care that have been shown to be effective.

The evidence base

- There is strong international and domestic literature suggesting the efficacy of home-based palliative care. Not only does home-based care improve concordance with individual preferences, but it can do so without impact on quality of life or caregiver burden. ^{137 138}
- Examples in Australia have also found this can generate health care savings from reduced hospital length of stay and presentations to the ED in the last year of life. ¹³⁹

The potential savings from this recommendation

KPMG estimate that the funding increase of AU\$240 million would be fully offset by equivalent savings from:

- 37,000 more people dying at home;
- 230,000 less hospital bed days;
- 47,500 fewer ICU days; or
- 225,000 fewer presentations to the ED.

Recommendation 1.2 Develop a key performance indicator to monitor access to home and community-based palliative care

The rationale for this recommendation

Current reporting and monitoring of palliative services that are delivered in the home and community is poor.

The New South Wales Auditor General noted that NSW Health has a limited understanding of the quantity and quality of palliative care provided across the State. ¹⁴⁰

MBS data covers but a fraction of total expenditure on home and community-based palliative care. State-based reporting of expenditure on palliative care is ad-hoc and inconsistent across the country.

The recommendation

We recommend the development of a specific metric to track access to home and community-based palliative care across Australia. This would allow stakeholders to clearly monitor current levels of access and track improvement over time.

Such a metric may be derived from a sample estimate initially, and develop over time to an administratively derived metric as funding models are aligned to the service capability frameworks currently being developed.

We suggest that PCOC and the AIHW are natural homes for this indicator.

The opportunities and challenges of implementation

The opportunities from the implementation of these recommendations include:

- Delivering a patient-centred service that brings care to the individual;
- Clear reporting and understanding of levels of access of palliative care in the home and community.

Challenges for implementation include:

- Living and dying at home can increase the burden on informal carers. To ensure this recommendation delivers a cost saving, and not simply a cost shift from the healthcare system to individuals and their families, support must be provided to informal carers. This form of support has been well demonstrated by organisations such as LifeCircle. See Box 3;

- A person who chooses to die at home is not excluded from traditional health services. Care must still be integrated, and funded in a way that promotes coordination;
- Discussing death is still not core business;
- Current State-based reporting and monitoring systems may not easily integrate;
- Full coverage of access outcomes remains difficult without the consistent funding models that provide administrative data.

Box 3: LifeCircle

When palliative care is provided in the home and community, caregivers of the palliative care patient play a critical role: as key influencers in decision-making, while also providing a range of practical and emotional support. As cited by research, one of the core capabilities required to deliver systemic and structural change is support for caregivers, as they can have a significant impact on the end-of-life experience.

LifeCircle exists to prepare and support the carers of people who have a life-limiting illness or are elderly and frail (<https://www.lifecircle.org.au/>). LifeCircle's Guided Support Programs facilitate acceptance, conversations, preparation and planning, and address the complex behavioural barriers that exist around the end-of-life. This work helps families and carers who are unaware of the essential role of palliative care, or who may be too frightened or anxious to engage with it, to be referred to appropriate services.

Recommendation 2

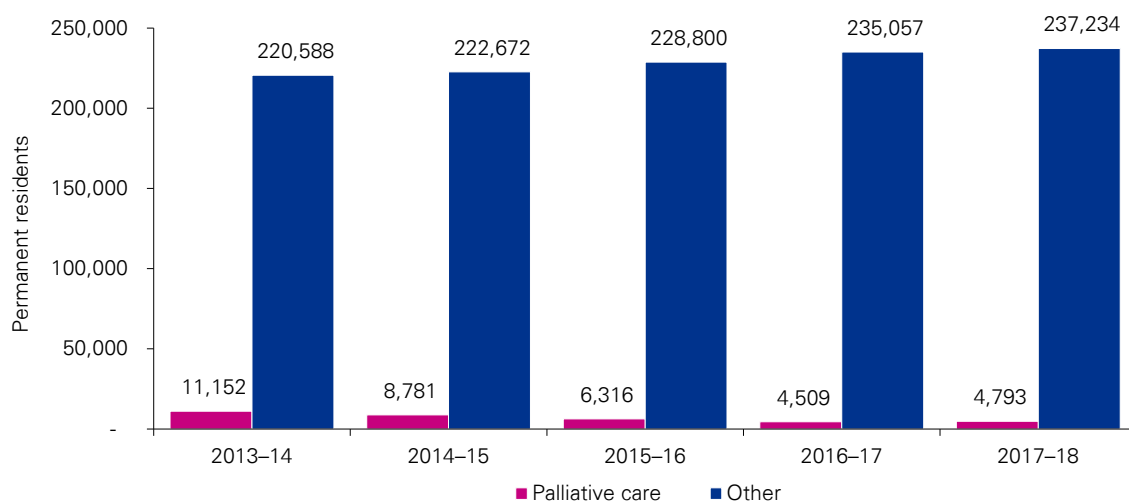
Expand and fund increased palliative care services in residential aged care

Palliative care services in RACFs are underfunded and underserved. Through ACFI, palliative care is only funded for the last days of life. As a result, only a token amount of palliative care services are provided in residential aged care, with just one in 50 permanent residents receiving ACFI-funded palliative care.¹⁴¹ A new funding model has been proposed (the Australian National–Aged Care Classification (AN–ACC)), but its ability to ensure residents’ palliative care needs are met is still being evaluated. Despite growth in palliative medicine specialists, the number per 100,000 population remains half of the target rate, and is predominantly provided in hospitals.¹⁴²

Poor integration of residential aged care with hospital settings leads to high-cost low-value care. The overlap between systems and boundaries across settings promotes confusion, conflict of responsibility, and inequitable care management. These problems are exacerbated further by the opaque funding models. The intensity of care and poor conditions are often inconsistent with individuals’ care preferences – and typically lead to sub-optimal outcomes.

Palliative care requires coordination from the primary carer, palliative care specialists, and health workers, in deciding the plan of care. Uptake of advance care planning, even with RACFs, remains relatively low.¹⁴³

Figure 15: ACFI appraised palliative care permanent residents in aged care (2013-14 to 2017-18)



Sources: AIHW Palliative care services in Australia: Palliative care in residential aged care

Note: Changes in the ACFI are involved in the declining trend of palliative care recognised residents.

Recommendation 2.1 Invest in specialist palliative care and integrated support across residential aged care

The rationale for this recommendation

Nearly as many people die in residential aged facilities as in hospitals, yet the provision of palliative care remains low. ACFI is available only for the last days of life, and as a result integrated and proactive palliative care is not incentivised.

The recommendation

- Invest \$75 million per annum to increase the provision of palliative care within residential aged care. The investment should include both direct SPC support, and integrated support that includes residential aged care workforce and other health professionals such as GPs. Clinical palliative care expertise should be provided as a 'core business' of residential aged care.
- A specific example of models of care that have been shown to work in the Australian setting are the INSPIRED trial 'needs round' concept.¹⁴⁴ This model used Nurse Practitioners to provide proactive, integrated palliative care to high complex needs individuals in RACFs. A \$75 million investment would fund 265 extra staff to provide SPC support.

The evidence base

- Successful recent stepped-wedge randomised control trial run across 12 Australian sites;¹⁴⁵
- Observed hospitalisation bed day reductions and ROI as highlighted in the previous chapter.

The potential savings from this recommendation

Currently around 53 per cent of residents in aged care facilities have high complex needs.¹⁴⁶ Each of these individuals deserves access to SPC services. Using the INSPIRED trial as an exemplar model of care, an

investment of around \$75 million per annum would provide funding for an extra 150 Nurse Practitioners and wider multidisciplinary services. Such an investment would deliver between \$135 and \$310 million in reduced hospitalisation and emergency transportation costs, and free up between 100,000 and 220,000 hospital bed days, or up to 600 beds at full utilisation.

Importantly, this model is offered as an example of how increased availability of staff with clinical palliative care competencies in residential aged care can generate positive outcomes. Alternative models may be more appropriate to deliver these competencies depending on factors of remoteness, workforce capability and other demographics characteristics which impact the nature of care.

Recommendation 2.2 Explicitly identify palliative care in the Aged Care Quality Standards

The rationale for this recommendation

Palliative care in residential aged care is often confined to the last hours of life and not systematically integrated into core business residential aged care services.

While the current Aged Care Quality Standards contain components of palliative care (for example Standard 3c), it does not effectively describe the expectations for palliative care in a holistic or systematic manner.¹⁴⁷ In light of the clear need for palliative care for this population cohort, and the high degree of complex needs with residential aged care, the Standards should be altered such that they define what 'good care should look like', and include specific minimum competencies for palliative care.

An important way to drive quality improvements is to require systematic reporting and measurement of key indicators, as per the National Aged Care Mandatory Quality Indicator Program. The development of palliative care quality indicators, while not straight-forward, would enable such an approach to be used to improve the provision

of quality palliative care across residential aged care.

The recommendations

- The Aged Care Quality Standards be revised to include a specific palliative care standard.
- The development of National Mandatory Quality Indicator/s for Palliative Care.

The opportunities and challenges of implementation

Improving the provision of palliative care services in residential aged care would deliver significant economic gains. However, to achieve these benefits would require a range of key factors, including, but not limited to:

- **Ensuring fidelity of the model of care** - the trial found that reductions in hospital bed days were dependant on fidelity to the model of care; low fidelity sites achieved much poorer outcomes. Similarly, a recent white paper highlighted that good practice can be lost once key actors (managers and staff) depart. To ensure turnover does not impede on the model of care, changes must be imbedded in day-to-day practice. ¹⁴⁸
- **Delivering the required workforce** – such an expansion of new Nurse Practitioners is a significant increase for a registered current workforce of just 1,904. ¹⁴⁹ Growing these numbers would require further investment in education and training, and a more coordinated and strategic approach to the development of growth of Nurse Practitioner roles. This is similarly true should the competencies be provided by other types of palliative care staff.

Recommendation 3

Increase investment in earlier and more integrated palliative care services in hospitals

The majority of Australians die in a hospital. Providing integrated palliative care that commences early on in the individual's pathway to death can increase satisfaction and quality of dying, and reduce the associated hospitalisation costs.^{150 151}

In the hospital setting, palliative care can be provided both in SPC beds, as well as in beds for individuals receiving treatment or other types of care in acute or sub-acute beds. Both types of palliative care are related with reduced costs and health service utilisation.^{152 153}

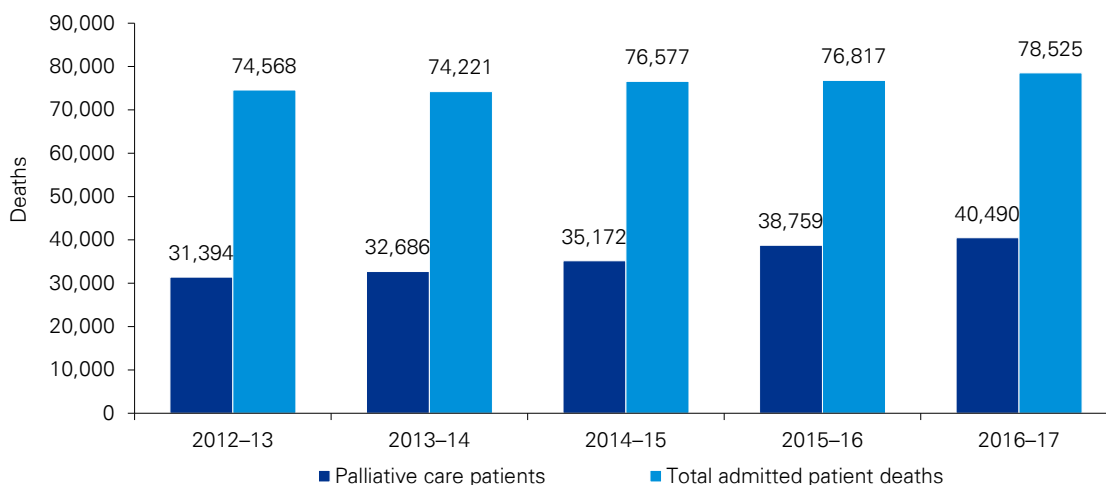
Importantly, palliative care in the hospital need not be confined to the last hours of life. The benefits of palliative care in hospital increase the earlier the palliative care is introduced.¹⁵⁴

However the levels of palliative care workforce in hospitals falls well short of minimum

targets.¹⁵⁵ As a result, of the 80,000 deaths in Australian hospitals each year, only around half receive palliative care (see Figure 16). The minimum model of care recommends that 6.7 designated specialist inpatient palliative care beds are required for every 100,000 population, equating to 1,650 beds for 2016-17.^{156 157} By comparison, current data suggests there were 281 designated specialist inpatient palliative care beds in private acute and psychiatric hospitals across Australia in that period.¹⁵⁸

While this count does not represent the total number of specialist inpatient palliative care beds in Australia, there is an opportunity to increase both the number of these beds and the number of palliative care teams to better support those dying in hospitals.

Figure 16: Palliative care individuals who died as an admitted patient (2012-13 to 2016-17)



Sources: AIHW Palliative care services in Australia; Palliative care in residential aged care

Note: Palliative care individuals refers to individuals for whom palliative care was the principal clinical intent during part or all of the hospitalisations that ended with their death.

Recommendation 3.1 Increase palliative care services in hospitals

The rationale for this recommendation

Over 80,000 people die in Australian hospitals each year. The use of palliative care services has grown steadily in hospitals but still lags well short of minimum ratios, where 6.7 specialist inpatient palliative care beds are required for every 100,000 population.¹⁵⁹ Palliative care services make up less than one per cent of total hospitalisations.¹⁶⁰

The recommendation

- Invest an extra \$50 million per year to support more dedicated specialist inpatient palliative care beds, broader in-hospital palliative care teams, and ED triaging directly to specialist inpatient palliative care beds.

The evidence base

- A recent Australian retrospective cohort study, international studies and a recent meta-analysis all highlight statistically significant reductions in hospitalisation costs^{161 162} when palliative care is provided in hospitals. The cost savings are greater the earlier palliative care is provided.

The potential savings from this recommendation

Currently 51 per cent of hospital deaths occur in palliative care.¹⁶³ An investment of \$50 million on inpatient palliative care services could help increase this to 60 per cent, and provide palliative care support to a further 6,500 deaths each year. KPMG estimate such an investment would deliver savings of around \$84 million per year in wider hospitalisation costs.

Recommendation 3.2 Track the incidence of non-beneficial care in end-of-life hospital admissions, and systematically measure the impact of palliative care on hospitalisation costs

The rationale for this recommendation

National standards for hospitals already include a range of actions around comprehensive care at the end-of-life (e.g. Actions 5.15-5.20 of the National Safety and Quality Health Service Standards)¹⁶⁴, yet the incidence of non-beneficial care in hospitals remains high. Regularly tracking non-beneficial care would ensure a focus on actioning the Standards.

Similarly, while the economic case for early inpatient palliative care is strong, there is little systematic Australian evidence that supports the case for inpatient palliative care.

The recommendation

- Fund and complete Australian-based research to measure the incidence of non-beneficial care in Australian hospital settings. This could follow methodologies already adopted in Australia¹⁶⁵, and be repeated over time to monitor progress against the Standards.
- Fund and complete Australian-based research to highlight the economic savings that inpatient palliative care delivers. This could follow the methodologies from similar studies conducted overseas and on veteran cohorts, and be repeated at regular intervals to highlight and monitor the ongoing impact of inpatient palliative care.^{166 167}

The opportunities and challenges of implementation

The opportunities from implementation of these recommendations include:

- Ensuring palliative care teams are appropriately funded so that hospitals will be incentivised to invest;
- Providing robust and current Australian evidence of the impact of inpatient palliative care on wider hospitalisation costs.

Challenges of implementation include:

- One of the challenges with expanding the use of palliative care in hospital is ensuring that the extra costs of palliative care are not born by the hospital.
- To complete a retrospective cost comparison across one or more hospitals will require a clear study design, good administrative data and ethics approval.
- Streamlined processes and dedicated specialist inpatient palliative care beds are important for early and cost-effective integration of palliative care in inpatients settings. Current processes may hinder the ability to keep palliative patients out of hospital.

Recommendation 4

System-wide reform to unlock the potential of palliative care

The final set of recommendations are enabling recommendations that foster and support the earlier recommendations, and ensure that they can be delivered. There is strong consensus on the models of care that deliver better health and economic outcomes, yet the problems of under provision of palliative care remain. These recommendations directly address the stumbling blocks that restrict the sector.

Recommendation 4.1 Establish a permanent National Palliative Care Partnership Agreement and appoint a National Palliative Care Commissioner

The rationale for this recommendation

A consistent theme across the various reviews into palliative care is the lack of coordination across Federal, State and Local stakeholders,

They are not specific palliative care interventions and do not directly generate a return on investment, but they are essential levers to maximise the health and economic benefits from increased investment in palliative care.

resulting in difficulty for patients and indeed providers to navigate the complex web of funding models and service provision. A review of National Aged Care Quality Regulatory Processes identified that the fragmented regulatory system resulted in miscommunication between care providers and authorities.¹⁶⁸ The Royal Commission into Aged Care Quality and Safety asserted that the lack of service coordination has resulted in poor access across the aged care system, especially for those who require palliative care.¹⁶⁹

The recommendation

Table 10: Recommendations for a coordination across Federal, State and Local stakeholders

#	Recommendations for change
1	We recommend a State and Federal partnership agreement that defines the levels of responsibility across each stakeholder, and forms a united front for promotion and delivery of palliative care across Australia.
2	We recommend the appointment of a National Palliative Care Commissioner to act as a champion for improved awareness and promotion of palliative care. The Commissioner should be overseen by an independent board of experts and policy makers.

Source: KPMG (2019)

The opportunities and challenges of implementation

The opportunities from implementation of these recommendations include:

- The ability to reform the sector to provide coordinated, patient-centred palliative care.

Challenges of implementation include:

- Status quo bias (despite clear consensus on the current problems with overlapping and unclear ownership) and an unwillingness to forego current funding.
- Costs associated with transitioning from current arrangements.

Recommendation 4.2 Reform funding models to provide integrated, patient-centred care

The rationale for this recommendation

Funding mechanisms for palliative care are varied and complex across jurisdictions. State and Territory Governments apply different end-of-life care policies. There is no flexibility for funding to move across settings and no linkage with outcomes assessment.

In residential aged care, Federal funding under ACFI is restricted to the last days of life, limiting any possibility for earlier and more integrated palliative care services.

In primary care, there is no MBS-item for advance care planning, and uptake of case-conferencing has been low. ¹⁷⁰

The recommendation

Table 11: Recommendation for generalised funding mechanisms in palliative care

#	Recommendations for change
1	In conjunction with recommendation 4.1 ('A National Palliative Care Partnership'), we recommend a formal review of current palliative care funding, with the potential for overall stewardship to be transferred to either the States or the Commonwealth. This could then result in a reformed funding model that deletes ACFI funding of palliative care in RACFs, and revises block funding of community and home-base care to fund, measure and report palliative care services using a common unit that can span service complexity and setting.

* The sequence of care refers to the concept of "triangle of care", recognising that a person with life-limiting illness often move between care settings: home, specialist palliative care units and acute hospital.

In the home, the Commonwealth Home Support Programme explicitly excludes palliative care services as these are deemed out-of-scope 'because funding is already provided for them through other Government programs.' ¹⁷¹

Moving to more integrated and flexible funding arrangements have been shown to have a positive impact on access and quality of services. ¹⁷² A recent white paper reiterates this point further, stating that national and regional organisations must prioritise effective funding mechanisms to support palliative care in long-term facilities. ¹⁷³

One of the common issues with activity-based funding services in health care is the potential for over-servicing, including supplier-induced demand. However palliative care is limited by death numbers, and is less susceptible to this type of behaviour.

Importantly, much of the thinking has been done, including funding model reviews completed in Victoria ¹⁷⁴, a wide range of discussion documents and research papers. ¹⁷⁵ Similarly, experience with Hospital in the Home (HITH) has highlighted that funding models can adapt across settings, and benefit from existing administrative frameworks. HITH is funded in a Weighted Inlier Equivalent Separation basis and reported in standard admitted episode datasets, as per inpatient activity.

The opportunities and challenges of implementation

The opportunities and challenges of implementation

The opportunities from implementation of these recommendations include:

- Equitable access of funding for palliative care will facilitate better care coordination and reduce gaps in service provision as many people with life-limiting illness have the ability to set their care preferences;
- Transparency and easy access of funding will provide individuals and carers with clinically cost-effective and credible providers which in turn deliver better palliative care services;
- A consistent funding model would support more effective reporting of what services are provided in each setting.

Challenges of implementation include:

- Current models are diverse and varied; gaining agreement on reforms and stewardship is likely to be difficult;
- Transitioning may cause some providers to lose funding.

Recommendation 4.3 Develop a palliative care minimum dataset

The rationale for this recommendation

Routine collection of a wide range of palliative care service data, such as hospital activity, primary care services and death registry can be used to improve service delivery.¹⁷⁶ Yet in Australia, the collection of data on palliative care is unusual. For most health services, detailed administrative data on services is available, but little outcomes data is collected. However for palliative care, the reverse is true. PCOC collect detailed patient level outcomes data at admission and discharge, and their coverage, already excellent, continues to expand.

As acknowledged by PCA:

“The Palliative Care Outcomes Collaboration (PCOC) is a national program that utilises standardised clinical assessment tools to measure and benchmark patient outcomes in palliative care. Based within the Australian Health Services Research Institute at the

University of Wollongong, PCOC is a world leader in data collection and research related to palliative care. Palliative care providers can voluntarily participate in PCOC’s outcome data collection and be part of a patient outcome improvement framework.

PCA is grateful for the work of PCOC in identifying the need for palliative care in Australia and for supporting palliative care providers benchmark their services and work towards quality improvement.”

Despite this, there is less data on the level of palliative care service provision, perhaps because palliative care in many settings is not directly funded.

The AIHW recognised that data and information related to palliative care are not integrated or complete.¹⁷⁷ For example, the discontinuation of the Bettering the Evaluation and Care of Health (BEACH) survey has limited information on GPs’ palliative care-related activity that is not explicitly billed as palliative care.

The recommendation

Table 12: Recommendations for a national minimum dataset for palliative care

#	Recommendations for change
1	Following on from a revision to the funding models in palliative care, we recommend the development of a national minimum dataset to capture service provision by setting, stage and provider; linked with patient outcomes data through PCOC. Ideally this dataset would be collected by the AIHW and able to be linked with other AIHW datasets across inpatient and community settings.

Source: KPMG (2019)

The opportunities and challenges of implementation

The opportunities from implementation of these recommendations include:

- Development of a fundamental source of evidence for palliative care research, evaluation and training that can foster continual and long-lasting improvement.

- Sufficient data will assist all stakeholders including whole Governments in shaping health policy for palliative care.

Challenges of implementation include:

- Compliance requirements for a national minimum dataset can be difficult to achieve in the short-term; an interim goal might be the development of a survey-based sample of key jurisdictions.

Recommendation 4.4 Expand the palliative care workforce and increase palliative care literacy across the wider health sector

The rationale for this recommendation

The current palliative care workforce is well below required minimum staffing ratios, and the projected increase in need for palliative care will exacerbate the shortage.¹⁷⁸ The economic benefits highlighted earlier are all dependent on the availability of a trained and educated workforce to deliver the increased levels of palliative care services. Workforce planning from across the country seems to acknowledge these issues, yet the shortages remain.¹⁷⁹

Palliative care is everyone’s business, and is provided across the spectrum of health

professions. Yet palliative care literacy and skills amongst non-palliative care specialists remains varied. For example, a 2017 Department of Health study found that GPs are doing more palliative care than what is commonly thought, with 25 per cent of GPs providing expert palliative care services.

However that still leaves 75 per cent of GPs who either avoid palliative care (14 per cent) or do not feel skilled enough or inclined to offer increased levels of palliative care services (61 per cent).¹⁸⁰ Research shows that doctor’s discomfort with dying and limited understanding of patient goals (among other factors) can contribute significantly to non-beneficial treatment.¹⁸¹ Further educating the healthcare workforce to better identify and refer palliative care need would improve the value, quality and comprehensiveness of care.

The recommendation

Table 13: Recommendations for increased health workforce awareness of palliative care

#	Recommendations for change
1	Development of specific palliative care pathways to drive more nurses and allied health workers into palliative care and SPC. Nurse Practitioners, for example, are typically left to build their own ad-hoc business case for advancement. This needs to be replaced with national strategic support to help train and place palliative care Nurse Practitioners across Australia. Similarly, positions for allied health workers in SPC are currently limited, and support for up-skilling allied health workers is required ¹⁸² .
2	Following the recommendation from the PC ¹⁸³ that end-of-life care should be a core business for RACFs, we recommend compulsory education and training of palliative care for staff in RACFs. Vocational education and training (VET) for aged care workers, specifically Certificate III in Individual Support and Certificate IV in Ageing Support should include palliative care as mandatory units in recognition that palliative care is core business in aged care.
3	Extension of funding for education of the wider health workforce such as <i>CareSearch</i> , past 2020, to utilise and build on the National Palliative Care Workforce Development Framework and the level of palliative care literacy that has already been achieved. Ensure palliative care is a standard part of the health workforce training curriculum.

Source: KPMG (2019)

The opportunities and challenges of implementation

The opportunities from implementation of these recommendations include:

- An increased provision of appropriately trained palliative care staff will help meet the projected increase in need of services and deliver the cost savings associated with increased palliative care, particularly in residential aged care and community settings.
- Compulsory education and training for nurses or carers in aged care facilities will help to provide more integrated, patient-centred care.
- Continued funding of education and training programs for the wider health workforce will continue to raise palliative care literacy across other health professionals such as GPs and community workers.

Challenges of implementation include:

- Workforce shortages are not confined to palliative care, but are present in some other parts of the health workforce. In a tight labour market, attracting more staff is difficult. Palliative care must be seen as an attractive profession, with appropriate remuneration, flexibility and career progression.
- Large scale training volumes are difficult to implement, particularly when on-site resident training is required.

Recommendation 4.5 Deliver community awareness and education programs

The rationale for this recommendation

Continuous education and awareness are essential to mobilise appropriate use of palliative care. As the National Palliative Care Strategy 2018, notes, ideally: ¹⁸⁴

“ People understand the benefits of palliative care, know where and how to access services, and are involved in decisions about their own care ”

Palliative Care Strategy 2018, p12.

Palliative care and discussions about dying need to become core business so that people and their families and carers feel empowered to be active participants in their end-of-life decisions. For example, in Victoria, a one-off grant round funded 17 organisations to support home and community-based services and palliative care literacy. ¹⁸⁵ While this community funding is welcome, a rapid review of the evidence base for public awareness campaigns highlights the need to situate local investments within broader national public health campaigns. ¹⁸⁶

There are also lessons to be learned from the strategies and funding models applied to the mental health sector over the last decade to improve community education and awareness of mental health issues. Importantly, funding did not simply focus on interventions and treatments, but also on ‘core’ awareness and de-stigmatisation activities. For example, *BeyondBlue*’s core national operational funding covers activities to ‘bring about positive change concerning depression, anxiety and suicide prevention through activities such as promotion, community awareness and de-stigmatisation, information and community support and research.’ (*BeyondBlue* Annual Report 2014/15).

The recommendation

Table 14: Recommendations for community education and awareness for palliative care

#	Recommendations for change
1	We recommend multi-year, multi-pronged core funding for palliative care for national community education activities to help increase awareness and reduce the stigma around palliative care.
2	In addition, innovative solutions should supplement the national campaign, including the use of social media, and education in schools to promote positive dying to tomorrow's adults. ¹⁸⁷

Source: KPMG (2019)

The opportunities and challenges of implementation

The opportunities from implementation of these recommendations include:

- Consistent public awareness programs will help people to better understand palliative care. In turn, carers, families and communities will be able to talk more openly of an individual's wishes and specific needs to live well during end-of-life care.
- A better-informed population will demand and benefit from increased utilisation of palliative care services. This will compliment a better-informed health workforce recognising and supplying an increased level of palliative care.

Challenges of implementation include:

- Consistency messaging requires core funding that extends past traditional short-term budgetary cycles.

The overall impact of investing in palliative care



The overall impact of investing in palliative care

This report has highlighted evidence-based palliative care interventions that provide significant ROI. The ROI to Government comes from reducing ED visits, ICU admission and hospitalisation stays. Other cost savings to individuals and employers, although not quantified as evidence was not yet mature, are from reduced bereavement cost and increased productivity of families and carers.

Our estimations suggested that a \$1.00 investment in integrated home-based care can return between \$0.53 and \$1.56; Advance care planning can return an average between \$0.47 and \$2.99; SPC services and 'needs rounds' in RACFs can deliver a return of \$1.68 to \$4.14; and palliative care in hospital can deliver a return of between \$1.36 and \$2.13 (2019 Australian Dollars).

Following on from the detailed analysis described above, PCA and KPMG have developed the following recommendations,

broken down by key setting: home and community, RACFs and hospital. The recommendations all deliver strong ROIs, either breaking even and being cost-neutral in the case of integrated home-based care, or providing significant cost savings in the case of the residential aged care and hospital interventions.

In addition, a number of 'enabling' recommendations have been provided.

Overall, our analysis highlights that investing in better care for those experiencing life-limiting illnesses will save rather than increase costs. KPMG estimate that the cost of death in Australia is \$7.8 billion per year, with over half, \$4.0 billion, in hospitalisation costs. The interventions presented here can significantly reduce the hospitalisation costs of dying by nearly 12 per cent, or \$460 million per year, while also improving the quality of death.

Table 15: ROI from key recommendations

Improve access to home and community-based palliative care services	Investment	Return (%)
Recommendation 1.1: Increase funding and timely access to home and community-based palliative care services	\$240m	100%
Recommendation 1.2: Develop a key performance indicator to monitor access to home and community-based palliative care		
Expand palliative care services in residential aged care	Investment	Return (%)
Recommendation 2.1: Invest in SPC and integrated support across residential aged care	\$75m	182%
Recommendation 2.2: Explicitly identify palliative care in the Aged Care Quality Standards		
Increase investment in earlier and more integrated palliative care services in hospitals	Investment	Return (%)
Recommendation 3.1: Increase palliative care services in hospitals	\$50m	168%
Recommendation 3.2: Track the incidence of non-beneficial care in end-of-life hospital admissions, and systematically measure the impact of palliative care on hospitalisation costs		

Source: KPMG (2019)

Appendices

Evidence for interventions and
ROI estimations



Appendix A: Evidence for the ROI modelling and interventions

Intervention	Studies	Description	Method	Setting	Participants
Advance care planning	Martin et al. (2019)	The objective was to determine whether the “Goals of patient care” (GOPC) medical treatment orders were more effective than advance care planning alone in preventing ED visits (no hospitalization), ED visits (with hospitalization), and deaths outside the RACFs.	The study was a prospective cluster RCTs, with the intervention being the completion of GOPC process by a geriatrician, following a shared decision-making process, incorporating ACP documents or residents’ preferences.	The study took place in six RACFs in Northern Metropolitan Melbourne, Australia. With the follow-up assessment after 6-12 months.	Eligible participants included all permanent residents in participating RACFs for whom written informed consent could be obtained. Intervention n = 181, control n = 145.
	Molloy et al. (2000)	The study examines the effect of systematically implementing an advance care directive in nursing homes on individual and family satisfaction with involvement in decision making on health care costs.	Conducted RCTs between 1994 and 1998. The intervention (<i>Let Me Decide</i>) is an advance care directive program which includes the education of staff in local hospitals and nursing homes. The main outcomes included resident and family care satisfaction with health care and health service utilisation over 18 months compared to the control group.	The study involves six nursing homes in the US.	A total of 1,291 residents in 6 Ontario nursing homes with more than 100 residents in each.
	Caplan et al. (2006)	The study evaluates a system of educating residents, their families, staff and GPs about outcomes of dementia, advance care planning (ACP) and hospital in the home.	The method applied a controlled evaluation monitoring emergency admissions to hospital by comparing hospitals and nursing homes based in different locations.	Two hospitals and 21 nursing homes to be compared with one hospital and 13 nursing homes in NSW, Australia.	1000+ yearly nursing home residents between 2000 and 2004.
	Bond et al. (2018)	Advance care planning (ACP) documents individual wishes and increases awareness of palliative care options. The study aims to assess the association of outpatient ACP with advanced directive documentation, utilization, and costs of care.	The method used a case-control study (matched 1:1) with ACP cases who died versus a control group. It used 12 months of data pre-ACP/pre-match and pre-death, then compared rates of documentation with <i>logit</i> model regression and conducted a difference-in-difference analysis using generalized linear models for utilization and costs. It reduced the overall cost.	Large rural-suburban-small metro multi-site accountable care organization in the US.	Medicare beneficiaries attributed to a large rural-suburban-small metro multisite accountable care organization from January 2013 to April 2016. Intervention n = 325; control n = 325.

Intervention	Studies	Description	Method	Setting	Participants
	Chapman et al. (2015)	This study examined whether the addition of a proactive model of SPC reduced resident transfer to the acute care setting, and achieved a reduction in hospital deaths.	A quasi-experimental design was adopted, with participants at 4 residential care facilities. The intervention involved a palliative care nurse practitioner leading 'Palliative Care Needs Rounds' to support clinical decision making, education and training. Outcome measures included participants' hospitalisation in the past 3 months of life and the location of death.	Residential aged care in Canberra ACT, Australia.	Participants were matched with historical decedents using propensity scores based on age, sex, primary diagnosis, comorbidities and the Aged Care Funding Instrument rating. Resident sample (Nov 2014 - May 2015). Intervention n = 104, control n = 173.
	Khandelwal et al. (2015)	A systematic review which included studies that reported RCTs assessing the impact of advance care planning of primary and specialty palliative care interventions on ICU admissions and ICU length of stay for critically ill adult individuals.	Most of reviewed studies applied RCTs	ICUs.	Numerous participants based on each study included within the systematic review.
	Nicholas et al. (2011)	The study examines the association between advance care use, end-of-life Medicare expenditure and use of intensive palliative care in the context of regional variation.	Survey data from the Health and Retirement Study for Medicare beneficiaries linked to Medicare claims and advance care use who died between 1998 and 2007.	Hospital setting in the US	3,302 of Medicare beneficiaries.
	Sellars et al. (2019)	The study aimed to examine hospital costs and outcomes of a nurse-led ACP intervention compared with usual care in the last 12 months of life for older people with end-stage kidney disease managed with haemodialysis.	The method simulated the natural history of decedents on dialysis, using hospital data, and modelled the effect of nurse-led ACP on end-of-life care. Outcomes were assessed in terms of individuals' end-of-life treatment preferences being met or not, and costs included all hospital based care. Model inputs were obtained from a prospective ACP cohort study among dialysis individuals and the published literature.	Australia	Hypothetical cohort of individuals who were receiving dialysis; one half received the ACP intervention and the other half did not.
	Nguyen et al. (2016)	This study aims to evaluate the cost-effectiveness of delivering a nationwide ACP program within the Australian primary care setting.	A decision analytic model was developed to identify the costs and outcomes of an ACP program for people aged 65+ years who were at risk of developing dementia. Inputs for the	Primary care, Australia wide	Individuals at risk of dementia.

Intervention	Studies	Description	Method	Setting	Participants
			model was sourced and estimated from the literature. The reliability of the results was thoroughly tested in sensitivity analyses.		
	Wright et al. (2008)	The study determines whether end-of-life discussions with physicians are associated with fewer aggressive interventions.	A US multisite, prospective, longitudinal cohort study of individuals with advanced cancer and their informal caregivers (September 2002-February 2008). Individuals were followed up from enrolment to death, a median of 4.4 months later. Bereaved caregivers' psychiatric illness and quality of life was assessed a median of 6.5 months later	Multisite in the US.	Individuals with advanced cancer and their informal caregivers (n = 332 dyads), September 2002-February 2008.
	Teo et al. (2014)	The study evaluates the economic impact of Project Care at the End-of-Life for Residents in homes for the Elderly (CARE) programme on nursing home residents compared to usual end-of-life care.	Project CARE was introduced in seven nursing homes to provide advance care planning and palliative care for residents identified to be at risk of dying within 1 year. The cases consisted of nursing home residents enrolled in the Project CARE programme for at least 3 months. A historical group of nursing home residents not in any end-of-life care programme was chosen as the matched controls. Cost differences between the two groups were analysed over the last 3 months and final month of life. Substantial cost savings associated with this program.	Nursing homes in Singapore.	Intervention in nursing homes n = 48 ; control n = 197 participants
	O'Sullivan et al. (2016)	The study assessed the economic impact (gross savings) of the <i>Let Me Decide</i> (LMD) ACP programme in Ireland, specifically the impact on hospitalisations, bed days and location of resident deaths, before and after systematic implementation of the LMD-ACP combined with a palliative care education programme.	The LMD-ACP was introduced into three long-term care (LTC) facilities in Southern Ireland and outcomes were compared pre and post implementation. In addition, 90 staff were trained in a palliative care educational programme. Economic analysis including probabilistic sensitivity analysis was performed.	Nursing homes in Ireland.	Three LTC facilities were recruited from the south of Ireland. These included two private and one publically funded (community nursing unit) nursing homes, totalling 290 beds at baseline. All residents, aged ≥65 years, in participating units were eligible for inclusion in the programme. Residents

Intervention	Studies	Description	Method	Setting	Participants
Integrated home-based palliative care					were recruited throughout the study period.
	Youens et al. (2016)	Community-based palliative care may potentially benefit individuals by offering their preferred care at the end of life and benefit systems by reducing hospital use. The study compares place of death and acute care hospital use in the last year of life between cancer decedents who did and did not access a community-based palliative care service (PCS).	Retrospective observational cohort study is applied using linked individual administrative records from cancer registry, hospital, ED, mortality, and PCS databases. Propensity score-weighted regression methods were used.	Health system in Western Australia	Whole of population study incorporating 28,561 West Australian cancer decedents from 2001 to 2011.
	Spilsbury et al. (2017)	The study objective was to determine how the association of community-based palliative care with reduced ED visits in the last year of life varied by individual factors.	A retrospective cohort study of decedents who died with neoplasms, heart failure, renal failure, chronic obstructive pulmonary disease and/or liver failure in Western Australia 2009-2010. Outcome measures were adjusted hazard ratios (HR) and daily (hazard) rates of ED visits.	Health system in Western Australia	11,875 decedents who died with neoplasms, heart failure, renal failure, chronic obstructive pulmonary disease and/or liver failure in Western Australia 2009-2010.
	McCaffrey et al. (2013)	The aim of this study was to evaluate the cost-effectiveness of a home-based palliative care model relative to usual care in expediting discharge or enabling individuals to remain at home.	Mean costs and effectiveness were calculated for the Palliative Care Extended Packages at Home (PEACH) and usual care arms including: days at home; place of death; PEACH intervention costs; SPC service use; acute hospital and palliative care unit inpatient stays; and outpatient visits.	Community care in South West Sydney, NSW.	The PEACH trial was a pilot, Phase II, parallel arm RCT involving 32 consented participants with predominantly advanced cancer. Individuals were eligible if they had complex or unstable symptom management and high care needs.
Brumely et al. (2007)	The study aimed to determine whether an in-home palliative care intervention for terminally ill patients can improve patient satisfaction, reduce medical care costs, and increase the proportion of individuals dying at home.	RCT: Usual versus in-home palliative care plus usual care delivered by an interdisciplinary team providing pain and symptom relief, individual and family education and training, and an array of medical and social support services.	Health system in Colorado and Hawaii, USA	Homebound, terminally ill individuals (N = 298) with a prognosis of approximately 1 year or less to live plus one or more hospital or emergency department	

Intervention	Studies	Description	Method	Setting	Participants
					visits in the previous 12 months.
	Ling et al. (2018)	The study objective is to compare annual costs of an intervention for acutely unwell older residents in residential age care facilities (RACFs) with usual care. The intervention, the Aged Care Emergency (ACE) program, includes telephone clinical support aimed to reduce avoidable ED presentations by RACF residents.	The method used costing estimation from providers. ACE was implemented in 69 RACFs in the Hunter region of NSW, Australia. Analysis used 14 weeks of ACE and ED service data (June–September 2014). The main outcome measure was the net cost and saving from ACE compared with usual care. It is based on the opportunity cost of implementing ACE and the opportunity savings of ED presentations avoided.	Residential Aged Care in New South Wales, and EDs in the Hunter New England Local Health District.	Aged care residents in NSW. N = 5922 beds.
	Cassel et al. (2016)	The study aimed to evaluate the nonclinical outcomes of a proactive palliative care program funded and operated by a health system for Medicare Advantage plan beneficiaries.	Observational, retrospective study using propensity-based matching. Outcomes included hospital costs, other health care costs, readmission rates, hospital admissions and bed days, ICU use in final 30 days of life, and death within 30 days of an admission.	Health system in Southern California.	There were 368 participants who received the intervention between 2007 and 2014. These individuals were paired with 1,075 other individuals (non-intervention group)
	Rabow et al. (2004)	The study aimed to assess the use of palliative care for outpatients who continue to pursue treatment for their underlying disease or whether outpatient palliative medicine consultation teams improve clinical outcomes.	The study conducted a year-long controlled trial involving 50 intervention individuals and 40 control individuals in a general medicine outpatient clinic. Primary care physicians referred individuals with chronic conditions. In the intervention group, the primary care physicians received multiple palliative care team consultations, and individuals received advance care planning, psychological support, and family caregiver training. Clinical and health care utilisation outcomes were assessed at 6 and 12 months.	Outpatient clinic, USA.	50 intervention individuals and 40 control individuals in a general medicine outpatient clinic. Primary care physicians referred individuals with advanced congestive heart failure, chronic obstructive pulmonary disease, or cancer who had a prognosis ranging from one to five years.
	Higginson et al. (2009)	This study evaluated the cost-effectiveness of a new palliative care service (multi-professional palliative care team) for people with multiple sclerosis (MS).	The method used a randomized fast-track Phase II controlled trial. Individuals in South East London who were severely affected by MS were referred by clinicians to the trial. After baseline interview, individuals were	South East London, UK.	Individuals in South East London who were severely affected by MS; 52 interviewed individuals.

Intervention	Studies	Description	Method	Setting	Participants
			randomly allocated to either a multi-professional palliative care team (PCT) immediately (fast track) or the control care group who continued best usual care for three months and then were offered the PCT. Data were collected at baseline, 6, 12, 18, and 26 weeks on use of services, patient symptoms, other outcomes, and caregiver burden.		
Specialist in residential aged care	Forbat et al. (2020)	The study analysed the impact of providing palliative care specialist on the quality of death and dying of patients in residential aged care.	RCTs were applied by randomly assigned control and intervention groups from 12 participating home cares. The findings is a reduced time in acute hospital submissions.	12 care homes in the ACT Canberra were involved in the study.	Around 1,700 participants were reviewed between 2017 and 2018. Of the total residents 471 had completed the review for data analysis.
	Chapman et al. (2016)	A pilot study of SPC intervention in Australian aged care, which is not a standardised component of service delivery in the nursing home care. New approach of SPC is to support nursing home residents to avoid unnecessary hospitalisation and improve dying and death.	The study implemented a quasi-experimental design from four RACFs. It involved a palliative care nurse practitioners to implement the program. The data demonstrated that the intervention is associated with significant reductions in the length of hospital stays.	Resident from four RACFs were assigned for the study. Participants were matched using historical decedents.	104 residents were included in the intervention group and 173 residents as a control group.
	Johnston et al. (2016)	The study aimed to improve access for older adults in residential care of palliative care services using integrated SPC.	The study applied a qualitative approach of focus group followed by thematic analysis to the data. Three major themes were identified: normalising death and dying in the aged care, timely access to SPC and better decision-making and plan care for residents.	Criteria was set for recruited participants by sending invitations to families or relatives.	From four RACFs, 57 participants were selected of 104 invitations.
Palliative care in Hospitals	May et al. (2018)	The study estimated the relationship between palliative care consultations (PCC) with direct hospital cost for patients with serious illness.	The method was reviewing systematic review and meta analyses over the period 2013-2017, with study selection applying economic evaluation in the hospital setting of palliative care consultation (PCC) versus usual care only. The key finding was patients receiving PCC have a significant reduction of hospital costs.	Inpatient setting of patients that receive palliative care consultation and patients receive usual care.	Participants were from 6 samples from selected studies with a total of 133,118 patients.

Intervention	Studies	Description	Method	Setting	Participants
	Greer et al. (2016)	The study analysed several trials of integrated palliative care and oncology care to improve quality of life from patients with advanced cancers.	The method used secondary data from trials in hospital setting. Costs were estimated from intravenous chemotherapy and hospice costs in hospital refer to Medicare reimbursement rate. It appears that the integrated palliative care service in the oncology department does not increase overall medical care expenses.	Hospital setting from trials of palliative care in the oncology department.	Participants from samples were 151 patients.

Appendix B: Technical details for the ROI analysis

The following section provides the technical step-by-step details for the ROI calculations.

Key inputs

- Baseline utilisation data were informed by Goldsbury et al, which contained data on health care utilisation in the last year of life in New South Wales, Australia. ¹⁸⁸
- The unit cost of this utilisation was informed by IHPA's National Hospital Cost Data Collection 2016-17. ¹⁸⁹
- Costs were inflated to current 2019 Australian Dollars using the ABS Health CPI. ¹⁹⁰
- Currency conversions were completed using the Purchasing Power Parity obtained from the OECD. ¹⁹¹

Table: Baseline utilisation and costs in the last year of life

Baseline Input	Utilisation	Nominal cost	2019 (\$)
Hospitalisations	Median 2 hospitalisations	\$8,027 per hospitalisation	\$8,545
	<i>Total median stay of 17 days</i>	<i>\$944 per day</i>	<i>\$1,005</i>
ICU admissions	Median 1 ICU admission	\$14,625 per admission	\$14,625
	<i>Total median stay of 3 days</i>	<i>\$4,895 per day</i>	<i>\$4,875</i>
ED presentations	Median 1 ED presentation	\$969 per presentation	\$1,031
	<i>Total median stay of 6 hours</i>	<i>\$162 per hour</i>	<i>\$172</i>

Intervention	Benefits	Costs
Integrated home-based palliative care	<ul style="list-style-type: none"> Reducing presentations to the ED: individuals receiving IHPC services visited the ED by between two and 13 per cent less in the last year of life. ^{192 193} Given the unit cost per ED presentation is AU\$1,031 (2019) the minimum and maximum savings in reduced ED visits is between AU\$21 (2 per cent x \$1,031) and AU\$134 (13 per cent x \$1,031), respectively. Less time spent in hospital: studies of IHPC recipients have reported fewer average total bed days of between 4.5 and 7.5 in the last year of life; ¹⁹⁴ rates of hospitalisation were also seen to fall by between one and 66 per cent. ¹⁹⁵ Based on the average hospitalisation costs presented above, the savings from reduced days per hospitalisation therefore ranges between \$4,524 (\$1,005 x 4.5 days) and \$7,540 (\$1,005 x 7.5 days), average of \$6,032; Overall – the treatment yields a minimum savings of ~AU\$4,544 (\$4,524 + \$21) and a maximum of AU\$7,674 (\$7,540 + \$134). On average the treatment yields a savings of AU\$6,109 $(\\$4,544 + \\$7,674) / 2$. For the ROI analysis, a conservative range of benefits was used – low \$4,544 (minimum savings); medium \$6,032 (average hospitalisation savings only); high \$6,109 (average total savings). 	<p>Overall, the Australian evidence suggest that IHPC can be delivered from as low as \$2,000 to as high as \$10,000 per person. ^{196 197 198 199} The average cost across all estimates was \$5,396 per person (various price years).</p> <p>Inflating these estimates by the appropriate ABS 2019 Health CPI, KPMG estimate that implementation of IHPC is likely to cost \$6,508, per person on average. A low and high range of \$3,913 and \$8,516 was then derived after deeming the upper bound of the PC estimate too high for the intervention.</p>

Return on investment

Based on the resource savings calculated above, in the last year of life IHPC is expected to save between \$4,544 and \$6,109 (2019 Australian Dollars) per person from reduced ED and hospitalisation costs. Compared with implementation cost associated with these interventions, KPMG estimates that a **\$1.00 investment in IHPC can return between \$0.53 and \$1.56 – or cost neutral on average (2019 Australian Dollars).**

ROI per person for IHPC (2019 Australian Dollars)

Scenario	Low case	Medium case	High case
Cost of implementation	\$8,516	\$6,508	\$3,913
Average health savings	\$4,544	\$6,032	\$6,109
ROI	\$0.53	\$0.93	\$1.56

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Advance care planning

- **Hospitalisations and length of stay** – ACPs can reduce rates of hospitalisations from nine to 26 per cent;²⁰⁰ and length of stay between 0.37 to 3.5 days in the last year of life.²⁰¹ From above, the unit cost per hospital day is AU\$1,005 (2019). Estimated savings from reduced days per hospitalisation therefore ranges between \$372 (\$1,005 x 0.37 days) and \$3,518 (\$1,005 x 3.5 days);
- **ICU admissions and usage** – For individuals at high risk of death, ACPs can generate a mean reduction of 37 per cent in the probability of ICU admission.²⁰² More broadly, ACPs have the capability to reduce the overall use of the ICU by nine per cent in the last six months of life.²⁰³ For this analysis, the benefits from reduced admission to ICU were conservatively deemed captured in hospitalisations savings;
- **Emergency calls to ambulance** – Improved understanding of treatment goals can also reduce unnecessary calls to emergency services and subsequent admission to the ED in nursing home residents by around 22 per cent.²⁰⁴ Given the unit cost per ED presentation is AU\$1,031 (2019) the savings in reduced ED visits is around AU\$227 (22 per cent x \$1,031). As the study did not report confidence intervals, we have calculated 10 and 50 per cent of the treatment effect to inform low (\$23) and medium (\$113) savings from reduced ED visits, respectively.
- **Overall** – the treatment yields a minimum savings of AU\$395 (\$372 + \$23) and a maximum of AU\$3,773 (\$3,518 + \$227). The average hospital savings is \$1,662 $(\$372 + \$1,096 + \$3,518) / 3$; while the average ED savings was \$121 $(\$23 + \$113 + \$227) / 3$. The sum of average hospital and ED savings informed the high case savings – totalling to \$1,783.
- For the ROI analysis, a conservative range of benefits was used – low \$395 (minimum savings); medium \$1,096 (medium hospitalisation savings only); high \$1,783 (average total savings).

Two studies have evaluated the cost of ACPs in the Australian context.^{205 206} While different in methodology, estimates were consistent, ranging from \$250 per person for small packages; up to \$1,000 for large packages (2015 Australian Dollars). The average per person cost of an ACP ranged between \$516 and \$820 depending on the authors' assumptions.

After inflating these estimates by the ABS Health CPI²⁰⁷ and the June 2019 MBS item schedule (item 131, 732), KPMG estimate that the cost of implementing an ACP is likely to range from \$596 (low), \$684 (medium), and \$833 (high) per person in 2019 Australian Dollars.

Return on investment

Using the resource savings calculated above, investment in ACPs is estimated to save between \$395 and \$1,783 per person in health costs during the last year of life from reduced hospitalisations costs; ICU costs (captured in reduced hospitalisations); and ED costs. Combining the implementation cost associated with

delivering these benefits, **KPMG estimates that a \$1.00 investment in ACPs can return an average between \$0.47 and \$2.99 (2019 Australian Dollars).**

ROI per person for advance care planning (2019 Australian Dollars)

Scenario	Low case	Medium case	High case
Cost of implementation	\$833	\$683	\$596
Average health savings	\$395	\$1,096	\$1,783
ROI	\$0.47	\$1.60	\$2.99

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Nurse practitioners in RACFs

A recent stepped wedge Australian trial across 12 residential aged care sites (the INSPIRED trial) found that SPC services and needs rounds in residential aged care can:

- **Reduce presentations to hospital** – hospitalisation admissions reduced from 5.3 to 4.6 per facility per month (observed). The cost per bed day was estimated at \$1,286 (higher than our baseline but we stay consistent with the study); multiplied by the bed days saved per month per facility (5.09 – adjusted; 11.56 observed) yields hospital savings per month per facility between \$6,541 and \$14,866. Annualised across 12 facilities, hospital savings equate to between \$941,920 and \$2,140,727.
- **Transport savings** – transport savings were included for the medium and high scenarios based on the assumption that a reduction in hospital presentations from the RACF also delivered transportation savings. The cost per trip to the ED was \$982; ²⁰⁸ multiplied by the reduction in hospital admissions (0.57 – adjusted; 1.3 – observed) yields transport savings per month per facility between \$562 and \$1,277. Annualised across 12 facilities, transport savings equate to between \$80,885, and \$183,830.
- **Overall** - for the ROI analysis, the following estimation of benefits was used – low \$941,920 (adjusted hospitalisation savings only); medium \$1,022,805 (adjusted hospitalisation savings and transport savings); high \$2,324,557 (observed hospitalisation savings and transport savings).

The Australian trial used two Nurse Practitioners across the 12 sites, at a total cost of \$381,716 per annum, covering both salaries and on-costs. ²⁰⁹ In addition, KPMG estimate that the increased utilisation of wider health services (for example, GP visits at needs rounds, and case-conferencing) adds costs of approximately \$250 per person discussed at a needs round, based on the lower end of the costs of ACP discussed previously. The lower end of the ACP is used as it is assumed that the Nurse Practitioner roles cover part of the increased service demand. This adds an extra \$180,000 per annum in associated health service costs, for an estimated total cost of \$561,716.

Return on investment

Based on the estimated resource savings of \$1,286 per hospital bed day, and transport costs of \$983 per hospital admission, this intervention is expected to save: \$941,920 (adjusted) to \$2,140,727 (observed) in hospitalisation costs per annum; \$80,885 (adjusted) to \$183,830 (observed) in reduced emergency transport costs per annum; In the low case, transportation savings have been excluded to represent regions where these benefits may not accrue.

KPMG estimates that a \$1.00 investment in palliative care nurses in residential aged care can return between \$1.68 and \$4.14 (2019 Australian Dollars).

ROI per annum for palliative care Nurse Practitioners in 12 RACFs (2019 Australian Dollars)

	Low case	Medium case	High case
Cost of implementation	\$561,716	\$561,716	\$561,716
Health savings:			
<i>Reduced bed days</i>	\$941,920	\$941,920	\$2,140,727
<i>Reduced ICU admissions</i>	-	-	-
<i>Reduced ED transport costs</i>	-	\$80,885	\$183,830
Other savings:			
<i>Bereavement savings</i>	-	-	-
<i>Employment savings</i>	-	-	-
Total savings	\$941,920	\$1,022,805	\$2,324,557
Net savings	\$380,204	\$461,089	\$1,762,841
ROI	1.68	1.82	4.14

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.

Integrated palliative care in hospitals

Two studies were used to estimate the difference in hospitalisation costs where palliative care was available versus where it was not available.

- An Australian study of 19,907 elderly patients dying in hospital found a cost difference of \$5,364, which when converted to 2019 dollars using the Health CPI equates to \$6,776.
- A meta-analysis of 6 studies and 133,118 patients with serious illness from the United States found a statistically significant difference in costs of \$3,237 (95% CI \$3,581 to \$2,893)²¹⁰ when palliative care was available. When converted to Australian 2019 dollars using the PPP and Australian health CPI, this equates to \$5,511.
- After discussion with the one of the paper's authors, it was established that the cost-differentials presented above were net of the cost of providing the 80 per cent palliative care. The overall benefits from palliative care for the ROI analysis, we therefore needed to add 80 per cent of the

The costs of providing palliative care in hospitals is particularly disparate and dependent on the type of models adopted. We therefore used a range of costs based on average subacute palliative care separation costs from IHPA²¹¹:

- Low: \$5,087 – New South Wales average (lowest of major states)
- Mid: \$7,697 – national average
- High: \$12,131 – Victorian average (highest of major states)

cost of providing palliative care (estimated in the next section) to the cost differentials provided above. While the cost differentials from both studies were similar, the figure from the Australian study was adopted for the calculations.

Return on investment

Based on the cost savings identified in the literature, and low, mid and high cost assumptions based on the IHPA cost of sub-acute palliative care, KPMG estimates that a **\$1.00 investment in palliative care in hospital delivers a return of between \$1.36 and \$2.13** (2019 Australian Dollars).

Table 8: ROI per admission for palliative care services in hospitals (2019 Australian Dollars)

	Low case	Mid case	High case
Cost of implementation	\$12,131	\$7,697	\$5,087
Health savings	\$15,774	\$12,933	\$10,845
<i>Reduced bed days</i>	-	-	-
<i>Reduced ICU admissions</i>	-	-	-
<i>Reduced ED transport costs</i>	-	-	-
Other savings:	-	-	-
<i>Grief and productivity</i>	-	-	-
Total savings	\$15,774	\$12,933	\$10,845
Net savings	\$4,350	\$5,236	\$5,758
ROI	1.36	1.68	2.13

Note: In this analysis, potential bereavement and employment benefits are acknowledged but not quantified.



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